

Leadership and the Enneagram Personality
Model: A Multiple Rater, Multiple Outcome
Perspective

C A NARIO

PhD 2024

Leadership and the Enneagram Personality
Model: A Multiple Rater, Multiple Outcome
Perspective

CLAUDIA ANDREA NARIO

A thesis submitted in partial fulfilment of the
requirements of Manchester Metropolitan University
for the degree of Doctor of Philosophy

Department of People and Performance
Manchester Metropolitan University

2024

Acknowledgements

I would like to express my sincere thanks to my supervisors, Sarah Crozier, Anna Sutton, and Sumona Mukhuty, for their inspiration, encouragement, insights, and thoughtful feedback, which have taught me so, so much along the way. I also want to thank the University and Professor Andrew Rowe, for having believed in this project since its inception.

Thanks also to the HR professionals, the study participants, and the thousands of raters, without whose selfless collaboration, this thesis would not have been possible.

I also want to express my gratitude and love to my parents, who have always given me their unconditional love and support, whether near or far. They gave me the drive, determination, and constant pursuit of excellence, without which I would not have been able to complete this project.

Finally, my personal thanks to my husband and my daughter, the joy of my life. I am grateful for their company, their sense of humour, for their patience in supporting me along the way, and for always being there to remind me to enjoy the process.

Abstract

The Enneagram is a personality model that describes nine personality types characterised by a distinct pattern of traits, values and motives (Sutton, 2007). Despite its growing level of adoption among practitioners in the fields of clinical, organisational and educational psychology, it is still not recognized by the scientific community (Hook *et al.*, 2021). The purpose of this thesis is to examine the relationship between the Enneagram and Leadership, by exploring the associations between this personality model and three sets of leadership variables: leadership behaviours, perceived leadership outcomes, and leadership performance indicators.

The nine Enneagram types were measured through nine subscales of a self-assessment questionnaire, the Halin-Prémont Enneagram Inventory or HPEI (Delobbe, Halin and Prémont, 2012) answered online by a group of 133 senior leaders of a multinational business organisation. The leadership behaviours and perceived outcomes were measured using the Multifactor Leadership Questionnaire (Avolio and Bass, 1991), a 360-degree survey, answered by the leaders themselves, their superiors, peers and followers. More than 1,600 leadership ratings were collected online. Their performance indicators were obtained from company data. Preliminary analysis of the Enneagram questionnaire indicated that three of its nine subscales reached alpha reliability coefficients $>.7$, five were $>.65$, while one had an internal consistency of $.55$; suggesting that the HPEI needs further development as a measurement tool. The relationship between the Enneagram and the different leadership variables was examined through multiple regression analyses.

Findings indicated that: (1) the overall relationship between the Enneagram personality model and Leadership was weak to insignificant; (2) the Enneagram's relationship with self-assessed leadership variables was, on average, statistically stronger than that with leadership measures obtained from other raters or provided by the company; (3) only a few of the numerous relationships examined between the Enneagram personality types (subscales) and the leadership variables were found to be significant, and most of these relationships were statistically weak; and (4) each of the nine Enneagram types (subscales) presented distinct patterns of relationships with some leadership variables

rated by others or provided by the company, from the perspective of specific rater-groups. Although most of these relationships were weak, they were also mostly consistent with Enneagram theory.

In summary, the low number and weakness of the associations found do not support the expected relationship between the Enneagram personality model and Leadership. On the other hand, the alignment of distinctive patterns of associations between each personality type and specific leadership variables did suggest some support for Enneagram theory.

Despite its limitations, this study has been the first to examine the relationship between Enneagram and Leadership, providing a rich database on numerous leadership variables obtained from multiple sources. Additional research will be necessary to establish whether the relationships found here are replicated by future studies.

These results have theoretical implications for research on the validity of the Enneagram in relation to workplace outcomes, and practical implications for professionals who are using or considering using the Enneagram in their organisational practice.

Table of Contents

Contenido

Acknowledgements	iv
Abstract	v
Table of Contents	vii
List of Tables	xiii
List of Figures.....	xvii
Summary of Enneagram Types.....	xviii
List of Abbreviations	xix
Chapter 1. Introduction	1
Chapter 2. Personality: a Review of the Literature	5
2.1 Setting the Stage	5
2.1.1 Assessing the Quality of Personality Theories	6
2.1.2 The Jingle-Jangle in Personality Literature.....	10
2.1.3 Setting the Stage: Conclusion	11
2.2 Personality Theories.....	11
2.2.1 The Psychoanalytic Approach	12
2.2.2 Behaviourism, Social-Cognitivism and Situational Approaches to Personality.....	15
2.2.3 The Humanistic Approach.....	18
2.2.4 Trait Personality Theories	20
2.2.5 The Five-Factor Model	26
2.2.6 Type Personality Theories.....	40
2.2.7 New Trends: Using Big Data to Integrate Trait and Type Theories	51
2.3 The Enneagram Personality Model	53
2.3.1 Introduction and potential contribution.....	53
2.3.2 Development of the Enneagram Model.....	53
2.3.3 Characteristics of the Enneagram Personality Model.....	55
2.3.4 Description of the Enneagram Types	59
2.3.5 Validity and Usefulness of the Enneagram Model	64
2.3.6 Strengths and Weaknesses of the Enneagram Personality Model	86
2.3.7 The Enneagram Personality Model: Conclusion	89
2.4 Measuring Personality: Critical Review.....	90
2.4.1 Reliability of Psychological Measurement Tools.....	90
2.4.2 Validity of a Measurement Tool.....	91
2.4.3 Specific Issues Regarding Self-assessment Questionnaires	94

2.4.4 Measuring Personality: Conclusions	99
2.5 Personality, a Review of the Literature: Conclusion	99
Chapter 3. Leadership: a Review of the Literature	101
3.1 Leadership Theories	101
3.1.1 Trait theories of Leadership	103
3.1.2 Behavioural theories of Leadership	105
3.1.3 The Situational Approach and Contingency theories of Leadership	106
3.1.4 The Social-Cognitivist approach to Leadership	107
3.1.5 Process theories of Leadership	107
3.1.6 Leadership theories today	108
3.1.7 Leadership Theories: Conclusion	109
3.2 Leadership Behaviour: this Study's Approach.....	109
3.2.1 The Full Range Theory of Leadership	110
3.2.2 The Instrumental Leadership Model and the "Extended" Full-Range Theory	116
3.2.3 Measuring Leadership Behaviour: A Critical Review.....	118
3.2.4 Leadership Behaviour, this Study's Approach: Conclusion	121
3.3 Defining and Measuring Leadership Outcomes: A Review of the Literature.....	122
3.3.1 Defining Leadership Outcomes	123
3.3.2 Measuring Leadership Outcomes	125
3.3.3 Defining and Measuring Leadership Outcomes: Conclusion	136
3.4 Leadership, a Review of the Literature: Conclusion	137
Chapter 4. The Enneagram and Leadership: Conceptual Framework	139
4.1 The Enneagram and Leadership: a "bridge" through the Five-factor model.....	139
4.1.1 Empirical connections between the Enneagram Model and the FFM.....	140
4.1.2 Empirical connections between the Five-factor model and Leadership.....	152
4.1.3 The Enneagram and Leadership: Conclusion	168
4.2 Conceptual Framework.....	169
4.2.1 Research Aims and Objectives	169
4.2.2 Research Questions.....	170
4.2.3 Research Propositions.....	170
4.3 The Enneagram and Leadership, Conceptual Framework: Conclusion	173
Chapter 5. Research Methodology.....	174
5.1 Research Philosophy	175
5.1.1 Ontology of this Research	175
5.1.2 Epistemology of this Research:	176
5.1.3 Nature of this Research.....	177
5.2 Research Methods	178

5.2.1 Sampling.....	179
5.2.2 Measurement Instruments.....	182
5.2.3 Data Collection in Compliance with Ethical Standards.....	190
5.2.4 Data Analysis.....	193
5.3 Research Methodology: Conclusions.....	196
Chapter 6. Data Treatment and Descriptives.....	197
6.1 Data Treatment and preliminary analyses.....	197
6.1.1 Data Cleaning.....	197
6.1.2 Reliability of the Scales.....	200
6.2 Descriptive Analysis.....	204
6.2.1 Characteristics of the Sample.....	204
6.2.2 Descriptive Statistics of Independent and Dependent Variables.....	208
6.3 Correlations between the Variables.....	213
6.3.1 Enneagram Scales and Leadership Behaviours: Correlations between the Variables.....	214
6.3.2 Enneagram Scales and Perceived Leadership Outcomes: Correlations between the Variables.....	225
6.3.3 Enneagram Scales and Leadership Performance Indicators: Correlations between the Variables.....	233
6.3.4 Correlations between the Variables: Summary and Conclusions.....	236
6.4 Ex Post Analysis: Checking for Common Method Variance.....	239
6.5 Data Treatment and Descriptives: Conclusion.....	240
Chapter 7. Results: The Enneagram Model and Leadership Behaviour.....	241
7.1 Leadership Behaviour: Analysing Independence between Rater Groups.....	243
7.2 The Enneagram Model and Self-Ratings of Leadership Behaviour.....	246
7.2.1 Detail of Findings.....	246
7.2.2 The Enneagram Model and Self-Ratings of Leadership Behaviour: Summary.....	252
7.3 The Enneagram Model and Superiors' Ratings of Leadership Behaviour.....	257
7.3.1 Detail of Findings.....	257
7.3.2 The Enneagram Model and Superiors' Ratings of Leadership Behaviour: Summary.....	261
7.4 The Enneagram Model and Peers' Ratings of Leadership Behaviour.....	263
7.4.1 Detail of Findings.....	263
7.4.2 The Enneagram Model and Peers' Ratings of Leadership Behaviour: Summary.....	269
7.5 The Enneagram Model and Followers' Ratings of Leadership Behaviour.....	270
7.5.1 Detail of Findings.....	270
7.5.2 The Enneagram Model and Followers' Ratings of Leadership Behaviour: Summary.....	275
7.6 The Enneagram Model and Leadership Behaviour: Summary and Conclusion.....	276
Chapter 8. Results: The Enneagram Model and Perceived Leadership Outcomes.....	281

8.1 Perceived Leadership Outcomes: Analysing Independence between Rater Groups	282
8.2 The Enneagram Model and Self-Ratings of Perceived Leadership Outcomes.....	284
8.3 The Enneagram Model and Superiors' Ratings of Perceived Leadership Outcomes.....	288
8.4 The Enneagram Model and Peers' Ratings of Perceived Leadership Outcomes	291
8.5 The Enneagram Model and Followers' Ratings of Perceived Leadership Outcomes	293
8.6 The Enneagram Model and Perceived Leadership Outcomes: Summary and Conclusion	296
Chapter 9. Results: The Enneagram Model and Leadership Performance Indicators .	300
9.1 The Enneagram Model and a Performance Indicator of Leadership Emergence	301
9.2 The Enneagram Model and Performance Indicators of Task Effectiveness	302
9.3 The Enneagram Model and Performance Indicators of People Effectiveness	303
9.4 The Enneagram Model and Leadership Performance Indicators: Summary and Conclusion	305
Chapter 10. The Enneagram Types and Leadership: Results and Discussion	311
10.1 Leadership & Enneagram Type 1, The Reformer	313
10.2 Leadership & Enneagram Type 2, The Giver.....	316
10.3 Leadership & Enneagram Type 3, The Achiever	319
10.4 Leadership & Enneagram Type 4, The Romantic.....	322
10.5 Leadership & Enneagram Type 5, The Investigator	325
10.6 Leadership & Enneagram Type 6, The Loyalist	328
10.7 Leadership & Enneagram Type 7, The Enthusiast.....	331
10.8 Leadership & Enneagram Type 8, The Challenger	333
10.9 Leadership & Enneagram Type 9, The Peacemaker.....	337
10.10 The Enneagram Types and Leadership: Conclusion.....	340
Chapter 11. Overview and Final Discussion	342
11.1 Preliminary Findings: the Difference between Rater Groups	343
11.2 The Enneagram and Leadership: Summary of Findings.....	346
11.2.1 The Enneagram and Leadership Behaviour	346
11.2.2 The Enneagram and Perceived Leadership Outcomes.....	348
11.2.3 The Enneagram and Leadership Performance Indicators	349
11.3 The Enneagram and Leadership: Discussion.....	350
11.3.1 Possible Explanation 1: The Enneagram might not be an accurate representation of personality	353
11.3.2 Possible Explanation 2: The weak results could be due to measurement problems.....	355
11.3.3 Possible Explanation 3: Relationships may have been obscured by unmeasured intervening variables.....	356
11.3.4 Possible Explanation 4: Results could reflect the real relationship between the variables.	360

Chapter 12 Conclusions	365
12.1 Suggestions for Future Research	365
12.2 Limitations.....	367
12.2.1 Limitations to the Validity and Reliability	367
12.2.2 Limitations to Generalisability	368
12.3 Implications of this Study’s Findings	369
12.3.1 Theoretical implications.....	369
12.3.2 Methodological implications.....	371
12.3.3 Practical implications	371
12.4 In Conclusion.....	373
APPENDIX.....	374
Appendix A: The Enneagram Types	375
Type 1: The Reformer	375
General Characteristics	375
Type 1 as a Leader	376
Type 2: The Giver	377
General Characteristics	377
Type 2 as a Leader	378
Type 3: The Achiever.....	379
General Characteristics	379
Type 3 as a Leader	380
Type 4: The Romantic	381
General Characteristics	381
Type 4 as a Leader	382
Type 5: The Investigator	384
General Characteristics	384
Type 5 as a Leader	385
Type 6: The Loyalist.....	386
General Characteristics	386
Type 6 as a Leader	387
Type 7: The Enthusiast.....	389
General Characteristics	389
Type 7 as a Leader	390
Type 8: The Challenger	391
General Characteristics	391
Type 8 as a Leader	392
Type 9: The Peacemaker	394

General Characteristics	394
Type 9 as a Leader	395
Appendix B: Research Evidence on the Relationship between FFM & Leadership	397
Evidence Connecting FFM & Leadership Behaviour	397
Evidence Connecting FFM & Leadership Outcomes	400
Appendix C: Summary of Variables and Measurement Instruments.....	403
Appendix D: Sample items of Measurement Instruments.....	404
Halin-Premont Enneagram Inventory (HPEI)	404
Multifactor Leadership Questionnaire (MLQ) Sample items.....	407
MLQ Leader Form 5X (Self-rating)	407
MLQ Raters Form 5X (Others' ratings).....	408
Instrumental Leadership Questionnaire: items	409
IL questionnaire - Leader Form (Self-rating)	409
IL questionnaire - Raters Form (Others' ratings)	410
Leadership Performance Indicators provided by the Company.	411
Appendix E: Distribution of Types as Highest Scores in the Sample	412
Appendix F: Ethics, Information Sheets & Consent Forms.....	414
English Versions	414
Spanish Versions	418
Portuguese Versions:	424
Appendix G: Licenses and Agreements to use Assessment Tools.....	430
License to use MLQ.....	430
Authorisation to use ILQ.....	435
Permission to use HPEI	437
Appendix H: Ex Post Harman Single-Factor Test Analysis: Tables of Results.....	439
References	450

List of Tables

TABLE 1: SUMMARY OF THE ENNEAGRAM TYPES.	62
TABLE 2 PRINCIPAL AXIS FACTORING ANALYSIS IF ENNEAGRAM (USING WEPSS) AND NEO PI-R CLINICAL DOMAINS (STEVENS, 2011, P.104).	69
TABLE 3 STUDY’S PEARSON R CORRELATIONS BETWEEN THE NEO PI-R DOMAIN SCALES AND WEPSS STYLES’ TOTAL SCORES (STEVENS, 2011, P.104).	70
TABLE 4: PEARSON CORRELATION COEFFICIENTS BETWEEN THE IPSATIVE RHETI AND THE NEO PI-R (NEWGENT, 2001). ...	72
TABLE 5: PEARSON CORRELATION COEFFICIENTS BETWEEN THE IPSATIVE RHETI AND THE NEO PI-R (GIORDANO, 2008, TABLES 4, E1-E8).....	74
TABLE 6: PEARSON CORRELATION COEFFICIENTS BETWEEN THE NON-IPSATIVE RHETI AND THE NEO PI-R (GIORDANO, 2008, TABLES 4, E1-E8).....	75
TABLE 7: PEARSON CORRELATION COEFFICIENTS FOR THE HPEI SCALES AND THE BB5 (DELOBBE ET AL., 2009).....	78
TABLE 8: PEARSON CORRELATION COEFFICIENTS FOR THE NTTM SCALES AND THE FFPI (YILMAZ ET AL., 2016).....	79
TABLE 9: MULTIPLE REGRESSIONS BETWEEN THE HPEI AND THE CAREER ANCHORS BY SCHEIN (DELOBBE ET AL., 2009). ...	81
TABLE 10: HIERARCHICAL MULTIPLE REGRESSIONS BETWEEN THE BB5, THE HPEI AND THE CAREER ANCHORS BY SCHEIN (DELOBBE ET AL., 2009).	81
TABLE 11: BEHAVIOURS COMPRISED IN TRANSFORMATIONAL LEADERSHIP STYLE (ANTONAKIS, AVOLIO AND SIVASUBRAMANIAM, 2003).	111
TABLE 12: BEHAVIOURS COMPRISED IN TRANSACTIONAL LEADERSHIP STYLE (ANTONAKIS, AVOLIO AND SIVASUBRAMANIAM, 2003)	112
TABLE 13: BEHAVIOUR COMPRISED IN PASSIVE-AVOIDANT LEADERSHIP STYLE (ANTONAKIS, AVOLIO AND SIVASUBRAMANIAM, 2003)	113
TABLE 14: BEHAVIOURS COMPRISED IN INSTRUMENTAL LEADERSHIP STYLE.	117
TABLE 15: RELATIONSHIP BETWEEN FFM AND ENNEAGRAM TYPE 1.	143
TABLE 16: RELATIONSHIP BETWEEN FFM AND ENNEAGRAM TYPE 2.	144
TABLE 17: RELATIONSHIP BETWEEN FFM AND ENNEAGRAM TYPE 3.	145
TABLE 18: RELATIONSHIP BETWEEN FFM AND ENNEAGRAM TYPE 4.	146
TABLE 19: RELATIONSHIP BETWEEN FFM AND ENNEAGRAM TYPE 5.	147
TABLE 20: RELATIONSHIP BETWEEN FFM AND ENNEAGRAM TYPE 6.....	148
TABLE 21: RELATIONSHIP BETWEEN FFM AND ENNEAGRAM TYPE 7.	149
TABLE 22: RELATIONSHIP BETWEEN FFM AND ENNEAGRAM TYPE 8.	150
TABLE 23: RELATIONSHIP BETWEEN FFM AND ENNEAGRAM TYPE 9.	151
TABLE 24: SUMMARY OF TRAITS OF THE ENNEAGRAM TYPES.	184
TABLE 25: SUMMARY OF MEASUREMENT TOOLS INCLUDED IN THIS STUDY.	189
TABLE 26: SUMMARY OF MAIN DATA ANALYSIS TECHNIQUES USED TO EXAMINE THE RESEARCH PROPOSITIONS.....	195
TABLE 27: CRONBACH’S ALPHA FOR ENNEAGRAM PERSONALITY SUBSCALES, PER RATER GROUP.	202
TABLE 28: CRONBACH’S ALPHA FOR LEADERSHIP SUBSCALES (MLQ AND ILQ) PER RATER GROUP.	203
TABLE 29: SOCIODEMOGRAPHIC AND ORGANISATIONAL CHARACTERISTICS OF THE RATERS, BY RATER GROUP.	207
TABLE 30: DESCRIPTIVE STATISTICS FOR THE ENNEAGRAM PERSONALITY SUBSCALES.	209
TABLE 31: MEANS AND STANDARD DEVIATIONS FOR THE ENNEAGRAM PERSONALITY SUBSCALES, PER RATER GROUP.....	210
TABLE 32: DESCRIPTIVE STATISTICS FOR LEADERSHIP BEHAVIOURS (MLQ AND ILQ) PER RATER GROUP.....	211
TABLE 33: DESCRIPTIVE STATISTICS FOR PERCEIVED LEADERSHIP OUTCOMES SUBSCALES (MLQ) PER RATER GROUP.	212
TABLE 34: DESCRIPTIVE STATISTICS FOR THE LEADERSHIP PERFORMANCE INDICATORS (LPI).	213
TABLE 35: PEARSON CORRELATIONS OF SELF-RATED ENNEAGRAM PERSONALITY TYPE SCORES WITH LEADERSHIP BEHAVIOURS ACCORDING TO THE SELF-PERCEPTION OF THE LEADERS.	215
TABLE 36: PEARSON CORRELATIONS OF SELF-RATED ENNEAGRAM PERSONALITY TYPE SCORES WITH SUPERIORS’ RATINGS OF LEADERSHIP BEHAVIOURS.	218
TABLE 37: PEARSON CORRELATIONS OF SELF-RATED ENNEAGRAM PERSONALITY TYPE SCORES WITH PEERS’ RATINGS OF LEADERSHIP BEHAVIOURS.	221
TABLE 38: PEARSON CORRELATIONS OF SELF-RATED ENNEAGRAM PERSONALITY TYPE SCORES WITH FOLLOWERS’ RATINGS OF LEADERSHIP BEHAVIOURS.	224
TABLE 39: PEARSON CORRELATIONS OF SELF-RATED ENNEAGRAM PERSONALITY TYPE SCORES WITH SELF-RATED PERCEIVED LEADERSHIP OUTCOMES.....	226

TABLE 40: PEARSON CORRELATIONS OF SELF-RATED ENNEAGRAM PERSONALITY TYPE SCORES WITH SUPERIORS' RATINGS OF PERCEIVED LEADERSHIP OUTCOMES.	228
TABLE 41: PEARSON CORRELATIONS OF SELF-RATED ENNEAGRAM PERSONALITY TYPE SCORES WITH PEERS' RATINGS OF PERCEIVED LEADERSHIP OUTCOMES.	230
TABLE 42: PEARSON CORRELATIONS OF SELF-RATED ENNEAGRAM PERSONALITY TYPE SCORES WITH FOLLOWERS' RATINGS OF PERCEIVED LEADERSHIP OUTCOMES.	232
TABLE 43: PEARSON CORRELATIONS OF SELF-RATED ENNEAGRAM PERSONALITY TYPE SCORES WITH LEADERSHIP PERFORMANCE INDICATORS.	235
TABLE 44: SUMMARY OF PEARSON CORRELATIONS OF SELF-RATED ENNEAGRAM PERSONALITY TYPE SCORES WITH LEADERSHIP BEHAVIOURS, ACCORDING TO THE DIFFERENT RATER GROUPS.	236
TABLE 45: SUMMARY OF PEARSON CORRELATIONS OF SELF-RATED ENNEAGRAM PERSONALITY TYPE SCORES WITH PERCEIVED LEADERSHIP OUTCOMES, ACCORDING TO THE DIFFERENT RATER GROUPS.	237
TABLE 46: SUMMARY OF PEARSON CORRELATIONS OF SELF-RATED ENNEAGRAM PERSONALITY TYPE SCORES WITH LEADERSHIP PERFORMANCE INDICATORS, GROUPED PER CATEGORY.	238
TABLE 47: MEANS, STANDARD DEVIATIONS AND ONE-WAY ANOVAS FOR THE SUBSCALES OF THE LEADERSHIP BEHAVIOURS (MLQ AND ILQ) PER RATER GROUP.	244
TABLE 48: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND SELF-ASSESSED LEADERSHIP BEHAVIOURS COMPRISED BY THE TRANSFORMATIONAL LEADERSHIP STYLE.	248
TABLE 49: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND SELF-ASSESSED LEADERSHIP BEHAVIOURS COMPRISED BY THE TRANSACTIONAL LEADERSHIP STYLE.	250
TABLE 50: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND SELF-ASSESSED LAISSEZ-FAIRE (OR PASSIVE) LEADERSHIP BEHAVIOUR.	251
TABLE 51: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND SELF-ASSESSED INSTRUMENTAL LEADERSHIP BEHAVIOUR.	251
TABLE 52: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND SUPERIORS' RATINGS ON LEADERSHIP BEHAVIOURS COMPRISED BY THE TRANSFORMATIONAL LEADERSHIP STYLE.	258
TABLE 53: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND SUPERIORS' RATINGS ON LEADERSHIP BEHAVIOURS COMPRISED BY THE TRANSACTIONAL LEADERSHIP STYLE.	260
TABLE 54: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND SUPERIORS' RATINGS ON LAISSEZ-FAIRE (OR PASSIVE) LEADERSHIP BEHAVIOUR.	261
TABLE 55: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND SUPERIORS' RATINGS ON INSTRUMENTAL LEADERSHIP BEHAVIOUR.	261
TABLE 56: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND PEERS' RATINGS ON LEADERSHIP BEHAVIOURS COMPRISED BY THE TRANSFORMATIONAL LEADERSHIP STYLE.	265
TABLE 57: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND PEERS' RATINGS ON LEADERSHIP BEHAVIOURS COMPRISED BY THE TRANSACTIONAL LEADERSHIP STYLE.	267
TABLE 58: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND PEERS' RATINGS ON LAISSEZ-FAIRE (OR PASSIVE) LEADERSHIP BEHAVIOUR.	268
TABLE 59: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND PEERS' RATINGS ON INSTRUMENTAL LEADERSHIP BEHAVIOUR.	268
TABLE 60: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND FOLLOWERS' RATINGS ON LEADERSHIP BEHAVIOURS COMPRISED BY THE TRANSFORMATIONAL LEADERSHIP STYLE.	272
TABLE 61: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND FOLLOWERS' RATINGS ON LEADERSHIP BEHAVIOURS COMPRISED BY THE TRANSACTIONAL LEADERSHIP STYLE.	273
TABLE 62: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND FOLLOWERS' RATINGS ON LAISSEZ-FAIRE (OR PASSIVE) LEADERSHIP BEHAVIOUR.	274
TABLE 63: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND FOLLOWERS' RATINGS ON INSTRUMENTAL LEADERSHIP BEHAVIOUR.	275
TABLE 64: SUMMARY OF MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND LEADERSHIP BEHAVIOURS RATED BY SELF, SUPERIORS, PEERS, AND FOLLOWERS.	277
TABLE 65: PERCENTAGE (%) OF THE VARIANCE IN LEADERSHIP BEHAVIOURS EXPLAINED BY THE SELF-ASSESSED ENNEAGRAM MODEL AS A WHOLE, ACCORDING TO THE DIFFERENT RATER GROUPS.	278
TABLE 66: SUMMARY OF RESEARCH PROPOSITIONS AND CONFIRMATION STATUS, REGARDING THE ASSOCIATIONS BETWEEN THE ENNEAGRAM PERSONALITY MODEL AND LEADERSHIP BEHAVIOURS.	279
TABLE 67: MEANS, STANDARD DEVIATIONS AND ONE-WAY ANOVAS FOR THE MLQ SCALES MEASURING PERCEIVED LEADERSHIP OUTCOMES (MLQ) PER RATER GROUP.	283

TABLE 68: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND SELF-ASSESSED PERCEIVED LEADERSHIP OUTCOMES.....	286
TABLE 69: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND SUPERIORS' RATINGS OF PERCEIVED LEADERSHIP OUTCOMES.	289
TABLE 70: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND PEERS' RATINGS OF PERCEIVED LEADERSHIP OUTCOMES.....	292
TABLE 71: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND FOLLOWERS' RATINGS OF PERCEIVED LEADERSHIP OUTCOMES.	295
TABLE 72: SUMMARY OF MULTIPLE REGRESSION ANALYSES OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND PERCEIVED LEADERSHIP OUTCOMES RATED BY SELF, SUPERIORS, PEERS AND FOLLOWERS.	297
TABLE 73: PERCENTAGE (%) OF THE VARIANCE IN PERCEIVED LEADERSHIP OUTCOMES EXPLAINED BY THE SELF-ASSESSED ENNEAGRAM MODEL AS A WHOLE, ACCORDING TO THE DIFFERENT RATER GROUPS.....	297
TABLE 74: SUMMARY OF RESEARCH PROPOSITIONS AND CONFIRMATION STATUS, REGARDING THE ASSOCIATIONS BETWEEN THE ENNEAGRAM PERSONALITY MODEL AND PERCEIVED LEADERSHIP OUTCOMES.	298
TABLE 75: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND A PERFORMANCE INDICATOR OF LEADERSHIP EMERGENCE.	301
TABLE 76: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND LEADERSHIP PERFORMANCE INDICATORS OF TASK EFFECTIVENESS.	303
TABLE 77: MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND LEADERSHIP PERFORMANCE INDICATORS OF PEOPLE EFFECTIVENESS.....	305
TABLE 78: SUMMARY OF MULTIPLE REGRESSION ANALYSIS OF SELF-ASSESSED ENNEAGRAM TYPE SCORES AND LEADERSHIP PERFORMANCE INDICATORS PROVIDED BY THE COMPANY.....	307
TABLE 79: PERCENTAGE OF THE VARIANCE IN LEADERSHIP PERFORMANCE INDICATORS EXPLAINED BY THE ENNEAGRAM MODEL.....	308
TABLE 80: RESEARCH PROPOSITION 11, ON THE RELATIONSHIP BETWEEN THE ENNEAGRAM PERSONALITY MODEL AND LEADERSHIP PERFORMANCE INDICATORS, AND ITS CONFIRMATION STATUS.....	308
TABLE 81: RELATIONSHIP OF ENNEAGRAM 1 TO LEADERSHIP BEHAVIOURS AND PERCEIVED LEADERSHIP OUTCOMES: SUMMARY OF FINDINGS (TABLE CONTAINS ONLY SIGNIFICANT B VALUES).....	313
TABLE 82: RELATIONSHIP OF ENNEAGRAM 1 TO LEADERSHIP PERFORMANCE INDICATORS: SUMMARY OF FINDINGS (TABLE CONTAINS ONLY SIGNIFICANT B VALUES).	314
TABLE 83: RELATIONSHIP OF ENNEAGRAM 2 TO LEADERSHIP BEHAVIOURS AND PERCEIVED LEADERSHIP OUTCOMES: SUMMARY OF FINDINGS (TABLE CONTAINS ONLY SIGNIFICANT B VALUES).....	316
TABLE 84: RELATIONSHIP OF ENNEAGRAM 2 TO LEADERSHIP PERFORMANCE INDICATORS: SUMMARY OF FINDINGS (TABLE CONTAINS ONLY SIGNIFICANT B VALUES).	317
TABLE 85: RELATIONSHIP OF ENNEAGRAM 3 TO LEADERSHIP BEHAVIOURS AND PERCEIVED LEADERSHIP OUTCOMES: SUMMARY OF FINDINGS (TABLE CONTAINS ONLY SIGNIFICANT B VALUES).....	319
TABLE 86: RELATIONSHIP OF ENNEAGRAM 3 TO LEADERSHIP PERFORMANCE INDICATORS: SUMMARY OF FINDINGS (TABLE CONTAINS ONLY SIGNIFICANT B VALUES).	320
TABLE 87: RELATIONSHIP OF ENNEAGRAM 4 TO LEADERSHIP BEHAVIOURS AND PERCEIVED LEADERSHIP OUTCOMES: SUMMARY OF FINDINGS (TABLE CONTAINS ONLY SIGNIFICANT B VALUES).....	322
TABLE 88: RELATIONSHIP OF ENNEAGRAM 4 TO LEADERSHIP PERFORMANCE INDICATORS: SUMMARY OF FINDINGS (TABLE CONTAINS ONLY SIGNIFICANT B VALUES).	323
TABLE 89: RELATIONSHIP OF ENNEAGRAM 5 TO LEADERSHIP BEHAVIOURS AND PERCEIVED LEADERSHIP OUTCOMES: SUMMARY OF FINDINGS (TABLE CONTAINS ONLY SIGNIFICANT B VALUES).....	326
TABLE 90: RELATIONSHIP OF ENNEAGRAM 5 TO LEADERSHIP PERFORMANCE INDICATORS: SUMMARY OF FINDINGS (TABLE CONTAINS ONLY SIGNIFICANT B VALUES).	326
TABLE 91: RELATIONSHIP OF ENNEAGRAM 6 TO LEADERSHIP BEHAVIOURS AND PERCEIVED LEADERSHIP OUTCOMES: SUMMARY OF FINDINGS (TABLE CONTAINS ONLY SIGNIFICANT B VALUES).....	329
TABLE 92: RELATIONSHIP OF ENNEAGRAM 6 TO LEADERSHIP PERFORMANCE INDICATORS: SUMMARY OF FINDINGS (TABLE CONTAINS ONLY SIGNIFICANT B VALUES).	329
TABLE 93: RELATIONSHIP OF ENNEAGRAM 7 TO LEADERSHIP BEHAVIOURS AND PERCEIVED LEADERSHIP: SUMMARY OF FINDINGS (TABLE CONTAINS ONLY SIGNIFICANT B VALUES).	332
TABLE 94: RELATIONSHIP OF ENNEAGRAM 7 TO LEADERSHIP PERFORMANCE INDICATORS: SUMMARY OF FINDINGS (TABLE CONTAINS ONLY SIGNIFICANT B VALUES).	332
TABLE 95: RELATIONSHIP OF ENNEAGRAM 8 TO LEADERSHIP BEHAVIOURS AND PERCEIVED LEADERSHIP OUTCOMES: SUMMARY OF FINDINGS (TABLE CONTAINS ONLY SIGNIFICANT B VALUES).....	334

TABLE 96: RELATIONSHIP OF ENNEAGRAM 8 TO LEADERSHIP PERFORMANCE INDICATORS: SUMMARY OF FINDINGS (TABLE CONTAINS ONLY SIGNIFICANT B VALUES).	334
TABLE 97: RELATIONSHIP OF ENNEAGRAM 9 TO LEADERSHIP BEHAVIOURS AND PERCEIVED LEADERSHIP OUTCOMES: SUMMARY OF FINDINGS (TABLE CONTAINS ONLY SIGNIFICANT B VALUES).....	337
TABLE 98: RELATIONSHIP OF ENNEAGRAM 9 TO LEADERSHIP PERFORMANCE INDICATORS: SUMMARY OF FINDINGS (TABLE CONTAINS ONLY SIGNIFICANT B VALUES).	338
TABLE 99: FFM AND LEADERSHIP BEHAVIOUR BY BONO & JUDGE (2004).	398
TABLE 100: FFM AND LEADERSHIP BEHAVIOUR FOUND BY DEINERT ET AL (2015).	399
TABLE 101: FFM AND SELF AND OTHERS' RATINGS OF TRANSFORMATIONAL LEADERSHIP (MCKEE ET AL (2018).....	400
TABLE 102: FFM AND SELF AND OTHERS' RATINGS ON THE FOUR DIMENSIONS OF INSTRUMENTAL LEADERSHIP (MCKEE ET AL (2018).....	400
TABLE 103: CORRELATIONS BETWEEN FFM AND LEADERSHIP EMERGENCE AND EFFECTIVENESS FOUND BY JUDGE ET AL (2002).	401
TABLE 104: FFM AND LEADERSHIP OUTCOMES FOUND BY DERUE ET AL. (2011).	402
TABLE 105: FFM AND LEADERSHIP OUTCOMES PER RATER GROUP BY OH AND BERRY (2009).....	402
TABLE 106: SUMMARY OF VARIABLES AND MEASUREMENT INSTRUMENTS USED IN THIS STUDY.	403
TABLE 107: HPEI - SAMPLE ITEMS, ENGLISH VERSION.	405
TABLE 108: HPEI - SAMPLE ITEMS, SPANISH VERSION.	406
TABLE 109: HPEI - SAMPLE ITEMS, PORTUGUESE VERSION.....	406
TABLE 110: MLQ - SAMPLE ITEMS, SELF-FORM.....	407
TABLE 111: MLQ - SAMPLE ITEMS, RATER FORM.	408
TABLE 112: ILQ - ITEMS, SELF-FORM.	409
TABLE 113: ILQ - ITEMS, RATER FORM.	410
TABLE 114: DETAIL OF LEADERSHIP PERFORMANCE INDICATORS PROVIDED BY THE COMPANY.....	411
TABLE 115: PERCENTAGE OF INDIVIDUALS ACCORDING TO TYPE AS HIGHEST SCORE.....	412
TABLE 116: HARMAN SINGLE-FACTOR ANALYSIS ENNEAGRAM & SELF RATED IIA.....	440
TABLE 117: HARMAN SINGLE-FACTOR ANALYSIS ENNEAGRAM & SELF RATED IIB	441
TABLE 118: HARMAN SINGLE-FACTOR ANALYSIS ENNEAGRAM & SELF RATED IM.....	442
TABLE 119: HARMAN SINGLE-FACTOR ANALYSIS ENNEAGRAM & SELF RATED IC	443
TABLE 120: HARMAN SINGLE-FACTOR ANALYSIS ENNEAGRAM & SELF RATED IS	444
TABLE 121: HARMAN SINGLE-FACTOR ANALYSIS ENNEAGRAM & SELF RATED CR	445
TABLE 122: HARMAN SINGLE-FACTOR ANALYSIS ENNEAGRAM & SELF RATED IL.....	446
TABLE 123: HARMAN SINGLE-FACTOR ANALYSIS ENNEAGRAM & SELF RATED MBEA.....	447
TABLE 124: HARMAN SINGLE-FACTOR ANALYSIS ENNEAGRAM & SELF RATED MBEP.....	448
TABLE 125: HARMAN SINGLE-FACTOR ANALYSIS ENNEAGRAM & SELF RATED PL.....	449

List of Figures

FIGURE 1: CIRCUMPLEX REPRESENTATION OF EXTRAVERSION AND AGREEABLENESS (DE RAAD ET AL., 2022).....	32
FIGURE 2: DIAGRAM OF THE ENNEAGRAM PERSONALITY MODEL.....	54
FIGURE 3: CONCEPTUAL FRAMEWORK OF THIS STUDY.	172
FIGURE 4: THE SUBJECTIVE-OBJECTIVE DIMENSION IN ANALYSING ASSUMPTIONS ABOUT THE NATURE OF SOCIAL SCIENCE (BORROWED FROM MUKHUTY, 2013).....	175
FIGURE 5: CONCEPTUAL FRAMEWORK OF THE RELATIONSHIP BETWEEN THE ENNEAGRAM AND LEADERSHIP BEHAVIOURS..	242
FIGURE 6: FINDINGS ON THE RELATIONSHIP BETWEEN ENNEAGRAM TYPE 1 (THE REFORMER) AND SELF-RATED LEADERSHIP BEHAVIOURS.....	253
FIGURE 7: FINDINGS ON THE RELATIONSHIP BETWEEN ENNEAGRAM TYPE 2 (THE GIVER) AND SELF-RATED LEADERSHIP BEHAVIOURS.....	254
FIGURE 8: FINDINGS ON THE RELATIONSHIP BETWEEN ENNEAGRAM TYPE 5 (THE INVESTIGATOR) AND SELF-RATED LEADERSHIP BEHAVIOURS.....	254
FIGURE 9: FINDINGS ON THE RELATIONSHIP BETWEEN ENNEAGRAM TYPE 6 (THE LOYALIST) AND SELF-RATED LEADERSHIP BEHAVIOURS.....	255
FIGURE 10: FINDINGS ON THE RELATIONSHIP BETWEEN ENNEAGRAM TYPE 7 (THE ENTHUSIAST) AND SELF-RATED LEADERSHIP BEHAVIOURS.....	255
FIGURE 11: FINDINGS ON THE RELATIONSHIP BETWEEN ENNEAGRAM TYPE 8 (THE CHALLENGER) AND SELF-RATED LEADERSHIP BEHAVIOURS.....	256
FIGURE 12: FINDINGS ON THE RELATIONSHIP BETWEEN ENNEAGRAM TYPE 9 (THE PEACEMAKER) AND SELF-RATED LEADERSHIP BEHAVIOURS.....	256
FIGURE 13: FINDINGS ON THE RELATIONSHIP BETWEEN THE ENNEAGRAM TYPE SCORES AND SUPERIORS' RATINGS OF LEADERSHIP BEHAVIOUR.	262
FIGURE 14: FINDINGS ON THE RELATIONSHIP BETWEEN THE ENNEAGRAM TYPE SCORES AND PEERS' RATINGS OF LEADERSHIP BEHAVIOURS.....	269
FIGURE 15: FINDINGS ON THE RELATIONSHIP BETWEEN THE ENNEAGRAM TYPE SCORES AND FOLLOWERS' RATINGS OF LEADERSHIP BEHAVIOURS.	276
FIGURE 16: CONCEPTUAL FRAMEWORK OF THE RELATIONSHIP BETWEEN THE ENNEAGRAM AND PERCEIVED LEADERSHIP OUTCOMES.	282
FIGURE 17: FINDINGS ON THE RELATIONSHIP BETWEEN THE ENNEAGRAM TYPE SCORES AND SELF-RATED PERCEIVED LEADERSHIP OUTCOMES.....	287
FIGURE 18: FINDINGS ON THE RELATIONSHIP BETWEEN THE ENNEAGRAM TYPE SCORES AND SUPERIORS' RATINGS OF PERCEIVED LEADERSHIP OUTCOMES.	290
FIGURE 19: FINDINGS ON THE RELATIONSHIP BETWEEN THE ENNEAGRAM TYPE SCORES AND PEERS' RATINGS OF PERCEIVED LEADERSHIP OUTCOMES.....	293
FIGURE 20: ABSENCE OF RELATIONSHIPS BETWEEN THE ENNEAGRAM TYPE SCORES AND FOLLOWERS' RATINGS OF PERCEIVED LEADERSHIP OUTCOMES.....	296
FIGURE 21: CONCEPTUAL FRAMEWORK OF THE RELATIONSHIP BETWEEN THE ENNEAGRAM AND LEADERSHIP PERFORMANCE INDICATORS.	300
FIGURE 22: FINDINGS ON THE RELATIONSHIP BETWEEN THE ENNEAGRAM TYPE SCORES AND LEADERSHIP PERFORMANCE INDICATORS.	306
FIGURE 23: SUMMARY OF THIS STUDY'S CONCEPTUAL FRAMEWORK.	342
FIGURE 24: SUMMARY OF POSSIBLE EXPLANATIONS TO THE MAIN FINDINGS OF THIS RESEARCH.....	352

Summary of Enneagram Types

Type 1, The Reformer: Principled, purposeful, disciplined, perfectionistic, judgemental.

Type 2, The Giver: Caring, social, demonstrative, generous, people-pleasing, emotionally demanding.

Type 3, The Achiever: Driven, efficient, adaptive, hard-working, competitive, image conscious

Type 4, The Romantic: Creative, authentic, excessive, dramatic, self-absorbed, temperamental.

Type 5, The Investigator: Perceptive, analytical, Introverted, original, secretive, isolated.

Type 6, The Loyalist: Committed, alert, engaging, responsible, anxious, suspicious.

Type 7, The Enthusiast: Spontaneous, dynamic, novelty-seeking, versatile, scattered, impulsive.

Type 8, The Challenger: Courageous, self-assured, decisive, wilful, arrogant, confrontational.

Type 9, The Peacemaker: Receptive, empathic, patient, easy-going, conformist complacent.

List of Abbreviations

Key Abbreviations

CC	–	Compliance Competencies
CR	–	Contingent Reward
EE	–	Extra Effort
EFF	–	Overall Leadership Effectiveness
FFM	–	Five-factor model of personality
FRTL	–	Full-Range Theory of Leadership
HPEI	–	Halin-Premont Enneagram Inventory
IC	–	Individual Consideration
IIA or II(A)	–	Idealised Influence - Attributed
IIB or II(B)	–	Idealised Influence - Behaviours
IL	–	Instrumental Leadership
ILQ or ILQ360	–	Instrumental Leadership Questionnaire
IM	–	Inspirational Motivation
IS	–	Intellectual Stimulation
LF	–	Laissez-Faire
MBEA	–	Management-by-Exception_active
MBEP	–	Management-by-Exception_passive
MLQ or MLQ360	–	Multifactor Leadership Questionnaire
MMU	–	Manchester Metropolitan University
OHI	–	Organizational Health Index
PC	–	People Competencies
PfP	–	Potential for Promotion
PO	–	Opinion of Employees of the area
POFP	–	Opinion of direct team
SAT	–	Satisfaction with the Leader
TCA	–	Task Competencies
TL	–	Transformational Leadership
TOFP	–	Financial performance

Additional Abbreviations

ANOVA	–	Analysis of variance
B	–	beta values or estimated coefficients of the independent variables
D-W	–	Durbin-Watson test for autocorrelation in the residuals
H1	–	Hypothesis 1
HR	–	Human resources department
M	–	Mean
Max	–	Maximum
Min	–	Minimum
p	–	Pearson correlation coefficient
Q-Q graphs	–	Quantile-quantile plot
SD	–	Standard deviation
T	–	Tolerance
VIF	–	Variance inflation factor
VP	–	Vice-president

Chapter 1. Introduction

This thesis examines the relationship between the Enneagram personality model and Leadership. The Enneagram model describes the existence of nine distinct personality types, each characterised by a distinct pattern of traits, values, and motives (Sutton, 2007). This model has become a popular tool among practitioners in clinical (Maise, 2019; Bayne, Fields and Nesbit, 2021), educational (Coker and Mihai, 2017; Blose *et al.*, 2023), and workplace (Lapid-Bogda, 2004; Chestnut, 2017; Sikora and Munita, 2020; *The Enneagram in Business*, 2022) settings.

In contrast to this interest from practitioners, the model remains largely ignored by academia (Hook *et al.*, 2021). However, an increasing number of scholars is proposing that the Enneagram model could complement trait personality models due to its focus on the whole person (Newgent *et al.*, 2004; Sutton, Allinson, and Williams, 2013). Also, a growing body of academic research is gathering support for the concurrent validity of the Enneagram in relation to more established personality models (Newgent *et al.*, 2004; Brown and Bartram, 2005; Sutton, 2007; Delobbe, Halin, Premont, *et al.*, 2009), and for its criterion validity regarding real-life outcomes in several areas, including the workplace (Brugha, 1998; Kale and Shrivastava, 2003; Kamineni, 2005; Delobbe, Halin and Prémont, 2012; Sutton, Allinson and Williams, 2013). Despite this, the relationship between the Enneagram model and leadership has never been examined. This research aims to address this gap.

This dissertation is relevant for several reasons: (1) it examines whether the Enneagram is a valid model for understanding the relationship between personality and leadership, (2) it collaborates with the growing effort of the academic community to assess the validity of the model in relation to workplace outcomes; and (3) it examines the validity of the Enneagram system to inform the community of practitioners and scholars who are considering its use.

For this purpose, this thesis established three overarching research objectives: First, to examine the relationship between the Enneagram model and Leadership Behaviours, from the perspective of superiors, peers, followers, and leaders themselves. Second, to examine the relationship between the Enneagram model and Perceived Leadership

Outcomes, from the perspective of superiors, peers, followers, and leaders themselves. And third, to examine the relationship between the Enneagram Types and Leadership Performance Indicators obtained from company data.

More specifically, the research questions that guide this thesis are:

1. To what extent is the Enneagram model related to different patterns of Leadership Behaviour and Leadership Outcomes, when these are perceived by the leaders themselves, their superiors, peers, and followers?
2. To what extent is the Enneagram personality model related to Leadership Behaviours described by the Transformational, Transactional, Passive (Bass and Avolio, 1990) and Instrumental Leadership models (Antonakis and House, 2014), when these are perceived by leaders themselves, their superiors, their peers, and their followers?
3. To what extent is the Enneagram model related to Perceived Leadership Outcomes, when these are rated by leaders themselves, their superiors, their peers, and their followers?
4. To what extent is the Enneagram model related to Leadership Performance Indicators related to Leadership Emergence, Task or People Effectiveness?
5. And overall, to what extent is the Enneagram model related to Leadership Behaviour and Leadership Outcomes?

This thesis is organised into the following 12 chapters:

Chapter 1 presents an overview of the thesis itself, its research purpose, and its logic.

Chapter 2 provides an overview of the literature in the field of personality theory, including a definition of the concept, an overview of the main existing approaches to the study of personality, discussing their main contributions, limitations, and their overall quality as theories. It describes the Five-factor theory in greater detail, given that it is the most validated personality model, and the one that will be used by this thesis to substantiate the expected relationship between the variables. Then it delves deeper into the Enneagram personality model, including a summary of its key characteristics, the empirical evidence regarding its validity and usefulness, and a discussion about its

quality as a theory. The chapter ends with a review of the literature on the complexities involved and precautions to consider when measuring personality with a self-assessment.

Chapter 3 explores the landscape of the academic study of leadership taking a brief look at the main theories in the field. It then presents the main models of leadership behaviour, taking a deeper dive into those adopted in this thesis: the Full-Range Theory of Leadership (Avolio and Bass, 1991) and the Instrumental Leadership Style (Antonakis and House, 2014), justifying the option for these models. Finally, it addresses the concept of leadership outcome, defining the constructs of Leadership Emergence and Effectiveness, and reviewing the literature on the complexities involved in their definition and measurement.

Chapter 4 presents the Conceptual Framework of this study, starting with a review of the empirical evidence that justifies the expectation of a connection between Enneagram and leadership, by establishing an empirical "bridge" through the Five-factor model of personality. The chapter presents empirical evidence associating the Enneagram model with FFM; and the latter with several leadership variables. The chapter ends with the presentation of the conceptual framework of this thesis, including its research aims, objectives, research questions, and propositions set to guide the exploration.

Chapter 5 describes the Methodology: its philosophical positioning and how it connects to the nature of this study, its rationale, purpose, and research design. This chapter also describes how the sample was defined and selected, the instruments applied, the procedures used for data collection, and the actions taken to comply with ethical standards. It ends describing the methods used for data treatment and analysis.

Chapter 6 describes the preliminary analyses, including the procedures employed to prepare the databases; to identify and deal with missing data, errors, and outliers; to calculate the aggregate scores, and to verify assumptions. It also presents the validity and reliability of the scales applied, the descriptive statistics, and the correlation analyses for the different variables involved.

Chapters 7, 8 and 9 present the main findings of this study regarding the relationship between the Enneagram personality types and the three sets of dependent variables: Leadership Behaviours (Chapter 7), Perceived Leadership Outcomes (Chapter 8), and Leadership Performance Indicators (Chapter 9).

Chapter 10 revisits these findings from the perspective of the individual Enneagram Types, and discusses their implications for the literature on this personality model.

Chapter 11 presents an overview of this study and its main results regarding each of its research questions, identifies the main themes that emerge from these findings, and the possible interpretations that may arise in connection to the literature.

Chapter 12 concludes, outlining the implications of this study's findings at a theoretical, methodological, and practical level, providing suggestions for future research, and laying out the limitations of this research project.

Chapter 2. Personality: a Review of the Literature

The purpose of this chapter is to review the relevant literature in the field of personality theory. It begins by setting the stage for the analysis and discussion of the different approaches to the study of personality, introducing the frameworks that this thesis will use to analyse the value of the different personality theories, and to discuss the clarity of their terminology.

The chapter then moves on to present a general definition of the concept of personality, and to describe the main existing theories in the field: Psychoanalytic, Behaviourist and Social-Cognitivist, Humanistic, Trait, and Type approaches. As each approach is presented, their main contributions, limitations, and overall quality as theories is discussed. The chapter will focus in greater detail on the Five-factor theory, because it is currently the most validated in personality psychology, and because this thesis uses it as an articulator in the construction of its Theoretical Framework (see chapter 4). Then it delves deeper into the Enneagram, the independent variable of this study, presenting its background, the fundamental principles with which it attempts to explain human behaviour and interindividual differences, and the main academic research that supports its validity and potential contribution. The chapter will conclude with a review of the literature on the challenges involved in measuring personality, a review of the various forms of validity and reliability in personality measurement, and the specific issues affecting self-assessments.

The following chapter will continue with the literature review, exploring the landscape of the academic study of leadership, taking a brief look at the main theories, and reviewing the models and measures of Leadership Behaviour and Outcomes used in this thesis.

2.1 Setting the Stage

The purpose of this chapter is to present the most relevant currents of thought in the study of personality. Psychology is a young science and because of this, the landscape

of personality theory can often seem like an unstructured collection of disparate approaches rather than a unified body of knowledge (Baumert et al., 2017). Trying to integrate these ideas into a clear and unified definition can be a daunting task (Uher, 2018). For this reason, before moving on to the theories, this chapter will stop briefly to review the criteria that this thesis will adopt to discuss the quality of the different approaches to the study of personality that will be presented below.

2.1.1 Assessing the Quality of Personality Theories

Science never claims to have absolute truths (Raj, 2000). Knowledge is dynamic, and from time to time shaken by revolutions that question all the accumulated knowledge so far (Kuhn, 1976). This is especially true for social sciences such as psychology, since its objects of study cannot be seen or touched, but rather have to be inferred through observations or indirect measurements, subject to interpretation (Cronbach and Meehl, 1955). It is natural, then, that the study of personality is saturated with so many different theories and views.

To escape relativism and be able to compare these theories using more objective parameters, personality scholars have proposed various criteria to evaluate the quality of a theory. These criteria, the names they receive, and the way they are classified, vary from one author to another, but the general parameters they propose are similar. This thesis will adopt the criteria proposed by Sutton (2007), based on recommendations of several authors in the field of personality psychology (Kelly George, 1955; Funder, 1994; Westen, 1996; Boeree, 1998; Kagan, 1998; Pervin and Cervone, 2010; Engler, 2013).

These criteria can be summarised in three main questions: Is the theory complete enough to capture the full scope of personality phenomena? Is it useful in practice? And most importantly, is this theory scientifically rigorous? This section will review these three criteria and the parameters used to evaluate them, with special attention to scientific rigour, as it is the most complex and important.

2.1.1.1 *Is the theory comprehensive?*

A good theory should address a wide range of personality phenomena (Pervin and Cervone, 2010; Snow, Federico and Montague, 2021). In other words, it must be able

to explain various manifestations of personality in a wide variety of contexts. Although there is enormous diversity among the different theoretical approaches as to which should be the essential components for a comprehensive theory of personality, a truly integrative model should be capable of describing and explaining as many relevant aspects as possible associated with it (Westen, 1996; Engler, 2013; Baumert *et al.*, 2017; Cooper, 2019).

For example, a comprehensive theory of personality should be able to describe intra-individual behavioural consistency across situations, and intra-individual behavioural variation depending on situational cues, as well as the situational factors that would trigger the difference. It should describe inter-individual personality differences, integrating behavioural, emotional, cognitive, motivational, and social aspects. It should address the “causes” of personality, based on ‘nature’, e.g., genetics or epigenetics, or ‘nurture’, e.g., cultural background or upbringing. A good theory of personality should describe the various components of personality: traits, motives, cognitive and socio-emotional skills, resources; and explain how they interact with one another. It should be able to identify stable personality traits as well as how these traits evolve and change throughout life. It should even be able to explain the reactions, behaviours or symptoms of an individual that he or she cannot explain. And, finally, a good theory of personality should be able to address the subjective experience of individuals, how they perceive and integrate these perceptions, their life “narrative”, their emotional tone, their sense of identity and their ideas and conceptions about themselves.

Given this breadth of phenomena, it is not surprising that the study of personality is home to so many divergent theories. This diversity is a mere reflection of the complexity of the field. According to Westen (1996), in his long experience interviewing people both in clinical and research contexts, "I have never found anyone to be simple" (p.411). Because of this intrinsic complexity, several authors have warned against the risks of oversimplifying the approach to personality research and conceptualisation (Antonakis, Avolio and Sivasubramaniam, 2003; Antonakis, Day and Schyns, 2012; Judge *et al.*, 2013; Hough, Oswald and Ock, 2015; Itzkovich, Heilbrunn and Aleksic, 2020; Medina-Craven *et al.*, 2022).

2.1.1.2 Is it useful in practice?

A theory of personality must also have practical value and be applicable to real-world problems, particularly in the areas of clinical, occupational, and educational psychology (Pervin and Cervone, 2010; Engler, 2013). Some authors have argued that practical utility could be even more valuable to our field than scientific validity or reliability (Sutton, 2007). McClelland et al., (1998), for example, claims that the construct of occupational competencies is not derived from any current psychological theory, and yet, it has been shown to be useful and predictive in the workplace. According to Funder (2012), the usefulness of a theory could also be considered as yet another proof of its accuracy. The same is true even for exact sciences. For example, the fact that Newtonian physics has been called into question by quantum mechanics, does not make it any less useful, more than three centuries after it was formulated (Lee, 2021).

2.1.1.3 Is it scientifically rigorous?

A good theory of personality must be, above all, scientifically rigorous. This criterion is the most important and complex, so it is usually subdivided into a series of secondary criteria, or parameters, each important in itself (Popper, 1963; Kuhn, 1997; Pervin and Cervone, 2010).

First, a personality theory should be verifiable or testable (Engler, 2013). For this to be true, it is essential that the concepts in the theory are precisely defined, that they are abstract and general enough to be applied to different situations and cases, and that they can be translated into operational definitions of variables to allow for empirical verification (Kelly George, 1955; Popper, 1963).

Second, it should be logical and internally consistent. This means that its various concepts do not contradict each other, and that there is a clear logical connection of how the concepts are linked with their antecedents and with their consequences. All this allows the theories to be tested empirically, so it is possible to generate clear, testable hypotheses of how the variables will connect, that can be supported or disconfirmed by independent researchers (Pervin and Cervone, 2010; Cooper, 2019).

Third, it should have heuristic value. This means that it stimulates further research, either by expanding descriptions and elaborating the existing ideas; or by hypothesis testing to assess its predictive validity (Kuhn, 1997; Pervin and Cervone, 2010) .

Fourth, it must be parsimonious, that is, to be as simple and elegant as possible in the way it explains what it wishes to explain. A good theory of personality should use the minimum number of concepts that are necessary and sufficient to explain the different aspects of human behaviour (Cooper, 2019). Faced with two equally explanatory theories, the principle of parsimony should incline towards the simpler one. In the words of the cognitive psychologist Richard E. Snow, "good theories are economical, providing simple explanations of a wide range of phenomena..." (Snow, Federico and Montague, 2021; p.162)

Fifth, a good theory of personality should not only seek to describe the phenomenon or its components, but should also explain their properties and the causal relationships that unite them (Pervin and Cervone, 2010). In the case of personality theories, it is not a minor undertaking, since we are "enormously complicated organisms" (Boeree, 2006, p.1).

The sixth and ultimate test of a good theory is its accuracy, that is, the extent to which it offers a faithful description of what it intends to explain (Mayer, 2015). Yet, when studying personality, accuracy can be a very difficult aspiration to fulfil (Boeree, 2006). From a critical realist perspective, the philosophical stance of this thesis (see chapter 5), personality is conceived as a phenomenon that exists "in reality", regardless of a researcher's inability to observe it directly or understand it impartially (Bhaskar, 1998; Blaikie, 2007; Robson and McCartan, 2016). Therefore, the best way a scientist has to get closer to knowing if a personality theory is accurate, is empirically verifying whether the predictions that arise from it are fulfilled 'in reality'. Thus, a way of testing the accuracy of a personality theory would be through the accumulation of empirical evidence from multiple sources, such as interviews, case studies, surveys, field research and many others (Pervin and Cervone, 2010; Edwards et al., 2018). This is precisely what this study aims to do by using data gathered from different sources to examine the concurrent, criterion validity of the Enneagram.

2.1.2 The Jingle-Jangle in Personality Literature

Because psychology operates in the field of social sciences, much more vulnerable to the subjectivity of researchers than Physics or Chemistry, it is often riddled by a lack of clarity in its definitions and constructs. This lack of clarity has been captured by the concept of the Jingle-Jangle fallacies. The term 'Jingle-Jangle' was coined by Kelley in 1927, based in part on the work of Thorndike (1904) to refer to two pervasive phenomena affecting the field of personality psychology (Gonzalez, MacKinnon and Muniz, 2021). The Jingle Fallacy occurs when different concepts are given the same label (jingle), assuming that they are conceptually similar or equivalent when, in reality, they are not. For example, the use of the construct of Self-esteem, could actually be using the same label to denominate different phenomena, assuming that they are interchangeable: Self-confidence vs. Self-worth (Lawson and Robins, 2021). Another case would be the concept of Locus of Control, which sometimes is used to represent a belief in external or internal causality of what happens to oneself, sometimes it is used as a component of core self-evaluation, and sometimes it refers to a broader range of self-regulatory processes (Cobb-Clark, 2015; Galvin *et al.*, 2018). Using the same term to refer to different things can lead to confusion, miscommunication between researchers, misinterpretation of results and, ultimately, wrong conclusions and erroneous theories.

The Jangle fallacy happens when different labels (jangle) are assigned to the same underlying concept, suggesting conceptual differences when, in reality, the concepts are the same or very similar. For example, the terms Emotional Intelligence, Emotional Competence, and Affective Competence, are often used to describe the same underlying construct (Vaida and Opre, 2014). The same happens with the concepts of Emotional Stability vs. Emotional Resilience, both used to designate the ability to bounce back from adversity. Similarly, Hoch *et al.* (2018) demonstrated that the new constructs of Ethical and Authentic Leadership have significant overlap with that of Transformational Leadership, and that they do not add significant amounts of incremental variation above and beyond that of the latter, over nine different measures of leadership effectiveness. Treating these concepts as if they were different when in reality they refer to the same or almost the same thing, can lead to unnecessary

duplication, waste of research resources, and again, great miscommunication between researchers.

The Jingle-Jangle fallacies can exist both at the level of a construct and at the level of construct measurement (Lawson and Robins, 2021). In fact, Jingle-Jangle problems that occur at the construct level usually create problems with the measures of that construct, and vice-versa (Block, 1995b). The Jingle-Jangle fallacies often lead to confusion in research and make the communication between researchers more difficult.

2.1.3 Setting the Stage: Conclusion

This section briefly referred to the criteria that this thesis will use to discuss the quality of the different approaches to the study of personality. Additionally, it has addressed the Jingle-Jangle fallacy, a concept coined to designate the field's tendency to suffer from vague and overlapping concepts. This has prepared the ground for a critical analysis of the various approaches that make up the general panorama of personality psychology, in this chapter and throughout this thesis.

2.2 Personality Theories

“...personality theory is unavoidable: everything we do depends on our assumptions about human nature” (Hogan and Sherman, 2020, p.1)

Understanding personality is relevant to our daily lives. Our accuracy in judging the character of the people around us when choosing a life partner, a member for our team, or the leaders who will lead our societies or organisations, can have a profound impact on the success or failure of these collective undertakings. How can we ensure that our judgement is accurate? And even if it were, what does our current perception of a person's character imply about their future behaviour? And finally, what exactly are we trying to assess when we try to decipher someone's personality?

The natural place to look for the answers to these questions is personality psychology. However, the field is still divided into many factions and theoretical paradigms (Baumert *et al.*, 2017). This literature review aims to present the main approaches to the study of personality, their key ideas, distinctive contributions and most important limitations. In

each case, their quality as theories will be discussed based on the criteria proposed above. This section will describe two models with greater detail: the FFM, the most important personality theory of recent decades, and the Enneagram, the focus model of this thesis.

As a starting point, it is useful to begin with a general working definition of personality, taken from a leading scholar in the field:

(Personality is an) “individual’s characteristic patterns of thought, emotion, and behaviour, together with the psychological mechanisms—hidden or not—behind those patterns” (Funder, 2001; p.198).

Two main elements can be identified in this definition: the characteristic "patterns", mostly visible or inferred from overt behaviour, and the underlying "mechanisms" that explain those patterns. Habitual behavioural patterns are often conceptualized, classified, measured, and compared in terms of individual traits or “types of people.” The mention of mechanisms points to the need to delve deeper, going beyond a mere description.

In the remainder of this chapter and as the different paradigms on personality are presented, it will become evident that this generic definition of personality is far from being shared by all academic community. Each of these paradigms tends to highlight some aspects of personality and ignore others. As each of them is presented, their key contributions and major shortcomings will be discussed.

2.2.1 The Psychoanalytic Approach

The Psychoanalytic theory, or Psychoanalysis, was the first relevant approach to appear on the scene in the formal study of personality, starting from a set of theories and therapeutic techniques proposed by the physician and psychiatrist Sigmund Freud since the late 19th century (Engler, 2013).

As a result of his clinical practice with mental patients, Freud developed an elaborate and revolutionary theory about the structure and dynamics of personality. He identified three main components: First, the *Id*, made up of primitive aggressive, sexual, or dependent desires, inaccessible to consciousness and operating under the principles of

pleasure-displeasure (Person, 2005). Second, the *Ego*, developed as a structure to satisfy the desires of the *Id* in an adaptive manner, and operating under a "reality principle". And third, the "*Superego*", a 'moral' structure made up of internalized social restrictions and authority figures (Kernberg, 2016). Individuals' internal conflicts would arise from the permanent internal struggle between the *Id* and the *Superego*, in the effort to satisfy desires while adapting to the environment (Engler, 2013). He developed the idea of defence mechanisms, as *Ego*'s strategies to protect itself from these conflicts: repression, denial, projection, rationalisation, and others (Lepoutre *et al.*, 2020).

Freud's ideas were further developed by many others: Anna Freud, Melanie Klein, Erik Erikson or D.W. Winnicott (Hogan and Sherman, 2020), who integrated new aspects into the model, such as the role of culture or parenting style ("attachment") in the formation of personality (Winnicott, 2016; Lepoutre *et al.*, 2020), the *Ego* identity, the "integrated view of oneself and the nature of one's habitual relations with significant others" (Kernberg, 2016, p.148), or the idea that the way to liberate the individual from an unconscious conflict is to bring the unconscious aspects of personality into the realm of conscious awareness (Fromm, 2013).

A second school of thought in Psychoanalysis was initiated by Carl Gustav Jung (Brooke, 2015). He conceived personality as a whole, including conscious and unconscious processes, and he used concepts such as self-actualization and individuation, which were later adopted borrowed by humanistic psychology. His ideas were influenced by western and eastern philosophy and theology, Freud's theories, and his own clinical experience as a psychiatrist (Engler, 2013). He also developed an idea of personality types, that will be discussed later in this chapter.

Alfred Adler (1870-1937) was the founder of Individual Psychology, considered the third school in Psychoanalysis. He moved from Freud's emphasis in the intrapsychic to a focus on interpersonal phenomena. Adler believed that human beings have an innate drive to adapt to their environment, meaning that behaviour is more strongly motivated by future goals than past experiences. Adler's ideas anticipate some concepts of social-cognitive psychologists, such as Bandura (Engler, 2013).

In conclusion, the main strength of psychoanalytic theories appears to be their comprehensiveness. These theories try to describe and explain several aspects of psychic life, conscious and unconscious, internal psychological processes, their childhood origin, their biological bases, and to some extent, their inter-individual differences (Engler, 2013). Regarding their usefulness, psychoanalytic theories, currently more refined and integrative, are being used in therapeutic settings, both by psychiatrists and clinical psychologists (Westen, 1996). Many contributions of Psychoanalysis are still relevant in today's clinical approach: A focus on understanding the life history of the individual, the importance of "listening to the patient" (Paris, 2017); the notion that Individual development is determined to a great extent by inherited traits and early childhood events, the conception that an important part of behaviour is unconsciously motivated, the concept of "defence mechanisms", and the idea that the purpose of a science of personality should be improving overall well-being of human beings (Hogan and Sherman, 2020). In the context of organisational applications, Jung's typology was used to design a personality assessment (the Myers-Briggs; Myers, 1962) that is one of the most widely used in the workplace (Michael, 2003), and which will be described later in the section dedicated to type theories of personality.

Their main weakness, however, is their lack of scientific robustness. Although these theories are presented in a logical and coherent way, their concepts are often very difficult or impossible to operationalize and measure. Even though psychoanalysts have tried to overcome this obstacle by developing projective methods, these are essentially qualitative methodologies that allow a better understanding of the individual and the phenomenon, but they do not allow, ultimately, the verification of the empirical validity of their precepts. This general lack of interest in empirical validation and its overreliance on "armchair speculation" have led psychoanalysis to an increasing isolationism (Funder, 2001) and a fundamental schism with its old ally, psychiatry, a field that has more and more turned to neurobiology as a source of understanding the nature and causality of psychopathology (Paris, 2017; Hogan and Sherman, 2020).

2.2.2 Behaviourism, Social-Cognitivism and Situational Approaches to Personality

A second relevant approach to the study of personality is the Behaviourist paradigm, born in the United States as a reaction to Psychoanalysis and other trends that were present in psychology at the beginning of the 20th century (Engler, 2013). Its antecedents can be found in the philosophical empiricism of John Locke (1632-1704) and in the famous laboratory experiments carried out by Ivan Pavlov (1849-1936) (Chiesa, 1994; Engler, 2013).

Behaviourists rejected introspective methods and sought to understand behaviour only through the measurement of observable phenomena (Araiba, 2020). Instead of focusing on what happens inside the individual, these theories focused on the situation, that is, the environmental factors that explain behaviour. Dollard and Miller (1950) described personality as a set of habits that can be learned and unlearned by processes akin to classic conditioning (Chiesa, 1994; Engler, 2013); and Skinner suggested that the concept of personality was, by itself, useless; as anything that happened inside the “black box” of the mind (Engler, 2013).

Therefore, more than a personality model, what this approach tries to do is explain behaviour from the principles of learning, shifting the research focus towards from the *person* to the *situation* that causes the learning (Engler, 2013; Atherton et al., 2021).

Radical Behaviourism became unsustainable, since it was not able to explain, for example, the capacity of human beings to learn from other people’s experience. It gradually gave way to milder, more balanced versions called Behavioural-cognitivism, and Social-cognitivism. These theorists continued with the emphasis on the situation as the main determinant of behaviour but accepted that internal cognitive processes ("processing dynamics") could mediate the relationship between situation and behaviour.

Behavioural-cognitivists like Ellis, Beck, and Meichenbaum, emphasised the role of perception, attention, memory, and of how people think about situations, in shaping behaviour (Engler, 2013). They believed that maladaptive behaviour disorders could be

treated by changing negative thought patterns and replacing them with more positive ones (Mccann, 2016).

Social cognitivists also emphasised the role of cognitive processes in shaping behaviour but focused primarily on the crucial role of social observation, modelling, and interactions (Anderson, Winett and Wojcik, 2007). The main theorist of this approach was Albert Bandura, who expanded these ideas on the role of social observation and modelling, proposing the theories of self-efficacy and self-regulation as individual beliefs that would be key in determining behaviour (Engler, 2013; Ewen B and Ewen, 2020). He defined Self-efficacy as an individual's perception and expectation of their own ability to successfully perform a certain task. This belief would determine behaviours such as task choice, persistence, effort-level, and even the achievement of the task (Bandura, 1978). Bandura's self-regulation theory proposes that individuals are capable of regulating their own behaviour, thoughts, and emotions through a process of self-monitoring, self-evaluation, and self-reinforcement. Both theories were based on the assumption that individuals seek to have a sense of agency, that is, to perceive themselves as capable of acting, intervening, and exercising control over important aspects of their lives (Kelso, 2016). Self-regulation and self-efficacy would be ways to experience a greater sense of agency (Bandura, 1978, 1988).

More recently, Mischel and Shoda (1998) tried to integrate social-cognitivist ideas with the idea of stable individual differences, defining personality as a "cognitive-affective processing system." They proposed the existence of personality predispositions that, associated with specific contexts, would trigger specific behaviours: "distinctive but stable of if ... then ..., situation-behaviour relations that form contextualized, psychologically meaningful personality signatures" (Mischel, 2009; p.284). However, the operationalization of this model will require a classification of situations that can become very complex (Funder, 2001).

Overall, the main strength of this family of theories is their practical usefulness. For example, behavioural cognitivism has developed therapeutic techniques based on the identification and modification of negative thought patterns, that have been used with great success in the treatment of maladaptive behaviours and emotions and in mental disorders such as phobias, post-traumatic stress disorder, or substance abuse (Engler,

2013). In the workplace, Behaviourism has had a great influence on the initial ideas regarding management and organisational behaviour and was the origin of the situational approach to leadership, which will be described in the next chapter (Zaccaro *et al.*, 2018). Their insights still continue to be useful in understanding and predicting workplace behaviour (Funder, 2001), and influencing organisational behaviour management, a set of practices such as performance management through feedback and rewards, training using behavioural reinforcement, or change management based on behavioural principles (Geller, 2003, 2005; Johnson and Ferguson, 2023).

This practical usefulness is closely related to the second of its great strengths: because these ideas generally focus on observable behaviour, they are relatively easier to operationalize and therefore easier to subject to scientific evaluation. This has enabled the accumulation, over the years, of an important body of empirical evidence regarding the validity of many of its predictions. The concept of self-efficacy, for example, has been the subject of several empirical evaluations, providing evidence of its significant impact on leadership development (Reichard *et al.*, 2017); task-oriented leadership behaviour (Halliwell, Mitchell and Boyle, 2022); job performance (Locke *et al.*, 1984; Yeo and Neal, 2006; Judge *et al.*, 2007); goal-orientation (Bell and Kozlowski, 2002); creativity (Wadei, Wadei and Asaah, 2021); organisational citizenship behaviour (Pratiwi and Nawangsari, 2021); and entrepreneurship (Alvarez-Huerta, Muela and Larrea, 2022).

For the same reason, Social-cognitivist ideas have had huge heuristic value, creating a body of knowledge that has grown over time and spread to related disciplines. For example, Carol Dweck's concepts of "fixed" and "growth mindset" (Dweck, 2015), the exploration of the cognitive biases that operate in interpersonal perception in Social Psychology (Amabile and Glazebrook, 1982), or the concept of Learned helplessness (Seligman *et al.*, 1979); have been supported by a significant volume of empirical research and have been shown to be applicable to various real-life problems (Funder, 2001).

The big issue with Behavioural-cognitivist approaches lies in their comprehensibility. They do not attempt to define personality as a whole, but rather, deal with isolated cognitive processes and their impact. Although they rescue the notion of individuals as agents, even the most recent generations of their theories are limited to treating

personality as an "information processing system" (Mischel, 2009a). Their models also fail to address key personality phenomena such as the consistency of intra-individual behaviour across situations, or the stable inter-individual differences in how people behave under similar situations, even between people that have gone through analogous learning experiences.

2.2.3 The Humanistic Approach

A third relevant family of theories within the formal conceptualization of personality is the Humanistic approach. These theories were born in the 1950's, coinciding with the positive mood in the post-war period, and as a reaction to the determinism of both radical Psychoanalysis and Behaviourism (Engler, 2013). The roots of this current are recognizable in European existentialism, Greek philosophers, and Eastern religions (Funder, 2001).

Like Psychoanalysis, humanistic theorists believed that psychology should be at the service of increasing the health and well-being of individuals, and focused on the dynamics that explain individual motivations and change, rather than on describing the stable aspects of personality (Westen, 1996; Sutton, 2007). However, their approach differed from Psychoanalysis in its fundamental belief in the power of conscious free will as a determinant of behaviour (Funder, 2001)

The Humanistic Approach relies on the belief in the potential and the positive nature of all human beings, and the existence of an inherent drive towards "self-actualization", understood as the development of one's own capabilities and creativity (Engler, 2013). They recognize the importance of subjective interpretation, of the effort to find "meaning" in life (Frankl, 1959); and the power of self-awareness, reflexivity and intentionality as processes that help individuals to improve their emotional lives (Benjafield, 2010).

Carl Rogers was one of the first influential theorists in Humanistic psychology. His personality theory implies a self-concept, which would have three subcomponents: self-image, self-worth, and ideal self. He created the concept of *Congruence* to identify the state in which the ideal-self is coherent with the individual's experience of reality. Rogers developed a client-centred approach to therapy, to help people reach their highest level

of unique potential, a process he called self-actualization. In his view, this would manifest in a state of openness to experience, trust, freedom, and creativity (Andrew, 1982).

Abraham Maslow developed a theory of a hierarchy of motives and needs, from the most primitive and basic to the most evolved and properly human. In sequence, these needs would be physiological, safety, love and belonging, esteem (from self and others), and self-actualization. According to his theory, a person can only focus on a higher-level need, once the previous one has been satisfied (Maslow, 1954).

Rollo May brought in concepts from European existentialism like the importance of choice and the role of anxiety in the determination of behaviour (Engler, 2013). For May, anxiety is essential to being human. He links anxiety to the development of intelligence and creativity, producing a state of motivational activation that alleviates boredom, sharpens perception, and creates a tension that is ultimately necessary to preserve existence. He proposes that anxiety can drive personal change and that people can develop positive ways of coping with it, as this would lead to self-actualization (Ratner, 2019).

Some ideas that all humanistic theorists share about personality and behaviour are the importance of understanding individuals as a "whole" greater than the sum of their parts, the need to consider the complete life history of individuals, the recognition that life goals, aspirations and intentionality are relevant forces in human existence, and the practice of self-awareness and reflexivity as processes that help individuals evolve and change (Benjafield, 2010).

Summarising, the great strength of humanistic theories seems to be their usefulness. The therapeutic tools and techniques to help people live fuller and more satisfying lives are great contributions to individual and social well-being,, giving shape to a whole school in clinical practice. Today there seems to be a resurgence of their ideas in Positive Psychology, which combines some concepts from Humanistic Psychology, with a whole body of scientific research on the factors that explain individual well-being and mental health (Seligman and Csikszentmihalyi, 2000). Many humanistic concepts have been integrated into mainstream social work and education. Some of its theorists predict that

these ideas will regain ground with the aging of the population, creating a culture concerned "with facing death and finding meaning in life" (Clay, 2002, p.2). In the workplace, Maslow's Hierarchy of Needs has been used to understand and manage employee motivation and engagement, and its emphasis on creativity and wellbeing have triggered important initiatives to reduce stress and increase work-life balance (Sirgy and Lee, 2018). Furthermore, the ideas of humanistic psychology seem to have resurrected in the training and practice of executive coaching (Bartlettii, 2007; D'Antonio, 2018; Biswas-Diener, 2020; Grant and Atad, 2022).

However, the comprehensiveness of this approach is less clear. Humanistic theory focuses on understanding the subjective experience of individuals, on describing the conflicting forces that operate in the human mind, and on capturing the value of goals and motivations as drivers of behaviour and development. Yet, it pays no attention to important elements, such as the explanation of personality differences between individuals or a more exhaustive description of the different components of personality and how they interact with each other.

Finally, as in Psychoanalysis, the great weakness of this approach is the inability to generate empirically testable hypotheses. As mentioned above, many of its concepts are vaguely defined, making them very difficult to operationalize and measure. Humanistic psychology has traditionally preferred qualitative methodologies that, when not combined with a statistic approach, make it difficult to measure their generalisability, validity, or predictive value (Franco, Friedman and Arons, 2008).

Humanism reached its height in the 1960s and 1970s, informing social movements such as women's and civil rights, and anti-war protests, gaining widespread popularity in mainstream culture. It gradually lost strength for its overall rejection of quantitative research, the vagueness of its concepts (i.e., "authenticity" or "self-actualization"); and what came to be viewed as their naive assumptions and romanticized view of human nature (Andrew, 1982).

2.2.4 Trait Personality Theories

Trait theories, as well as the typological theories (described in the following section), are dispositional approaches to the study of personality. These share a general emphasis on

the importance of individual dispositions, as opposed to situations, as primary determinants of human behaviour (Engler, 2013). They propose that personality explains the behavioural coherence of individuals across situations and throughout life, regardless of the fact that behaviour may vary depending on the situation, and may evolve in time (Roberts and Yoon, 2021). More generally, dispositional theories believe that personality deserves to be studied and understood as a phenomenon in itself, distinct from observable behaviour (Engler, 2013).

Trait theories are built around the notion that the basic building blocks of human personality are a set of traits, and that identifying, measuring, and understanding those traits will lead to understanding personality as a whole (Engler, 2013). This approach was born as a natural extension of progress in the psychometric measurement of intelligence, which had received a significant boost from the need for practical and standardized tools for recruiting soldiers during the world wars (Buchanan and Finch, 2005)¹.

2.2.4.1 Development of Trait Theories

Gordon Allport, often dubbed the "father" of Trait theories (Nicholson, 1998), defined traits as tendencies or predispositions to respond in a certain way, consistent and stable over time, and constituting the essence of personality structure (Allport and Allport, 1921). The central focus of these theories is the identification, classification, and measurement of personality traits, and how they differ from person to person (Funder, 1994; Roberts and Yoon, 2021).

¹ The methodologies for measuring intelligence initiated by Binet (1905), Terman (1916) and Thurstone (1928), received a great boost during the world wars, due to the need for standardized evaluation methods to recruit soldiers. This translated into abundant resources and access to huge databases, which led to significant advances in statistical techniques, such as those to estimate the validity and reliability of scales, or the development of "normative" scales to interpret scores (Buchanan and Finch, 2005).

The origin of trait theories can be traced down to Thurstone (1934), and to Allport and Odbert (1936), who developed the so-called lexicon methodology: extracting words describing personality features from the English dictionary, sorting them into related concepts, and later reducing them to shorter lists of relatively stable and observable personality traits, usually through mathematical processing (Engler, 2013). This methodology paved the way for many of the models within the trait approach. The general idea is that attributes can be translated into questionnaire items that are administered to a large number of people and their responses are analysed to extract the underlying factors, which are assumed to be traits. These factors are then used to create assessment tools and the individual scores for each trait are compared to the rest of the population, so the final standardized scores are measures of deviation from the mean (Engler, 2013).

Once they emerged, the Trait approaches became increasingly popular within the American academic community, where the social sciences were experiencing the influence and appeal of the positivist paradigm and its appreciation of measurement (Meehl, 1992). In the workplace, various trait models quickly gained popularity, driven by business leaders, HR professionals, and consultants, due to the growing demand for psychometric tools to guide staff recruitment and promotion decision-making (Funder, 2001; Benjafield, 2010; Antonakis, Day and Schyns, 2012).

2.2.4.2 Main Trait Theories

The most influential models within the Trait Approach have been: the 16-factor theory (Cattell, 1956), the PEN model (Eysenck, 1965), the Five-factor model or Big-five (Costa and McCrae, 1992; Goldberg, 1992), and a variant of the latter, the HEXACO model (Ashton and Lee, 2008). These have been reviewed below.

2.2.4.2.1 The 16-factor theory:

The author of this model, Raymond Cattell, was a pragmatist, focused on measuring a construct that could predict future behaviour, rather than theorizing or explaining its causes (Engler, 2013). In the 1940's, he used different statistical techniques, including factor analysis, to analyse the English-language trait lexicon.

He extracted 16 factors that he estimated to be 16 primary trait constructs: warmth, reasoning, emotional stability, dominance, liveliness, rule-consciousness, social boldness, sensitivity, vigilance, abstractedness, privateness, apprehension, openness to change, self-reliance, perfectionism, and tension (Boyle *et al.*, 2016), developing a questionnaire that is still popular today. Cattell confirmed his own findings with subsequent investigations (Cattell, 1956; Cattell and Mead, 2008; Boyle *et al.*, 2016), although his 16-factor solution failed to be replicated by other researchers (Costa and McCrae, 1992; McCrae and Costa, 2008).

2.2.4.2.2 The PEN Model

Hans Eysenck used a more deductive approach to develop a 3-Factor model (Eysenck, 1965). He built up from the available knowledge on the biological basis of behaviour, theories about temperament, and his own observations as a clinician at a psychiatric hospital (Engler, 2013).

He proposed three factors: psychoticism, Extraversion, and Neuroticism, developing questionnaires and using factor analysis to corroborate his hypotheses. He was extremely rigorous and improved the validity of questionnaires by identifying and dealing with social desirability in responses. Unlike Cattell, he did attempt to theorise on a causal explanation for personality traits (Engler, 2013). Although the PEN model is not very popular today, the Five-factor model captures two of its three original factors.

2.2.4.2.3 The Five-factor model

The Five-factor model (Costa and McCrae, 1992), or Big-five (Goldberg, 1992) is by far the most influential personality model within academic psychology today. It has been so widely validated that today it is used as a reference to evaluate the criterion validity of any new personality measure. Due to its relevance and the new developments that have emerged from this model in the last 20 years, it will be described in greater detail in the next section of this chapter.

2.2.4.2.4 The HEXACO Model

The HEXACO model (Ashton and Lee, 2008), can be considered a variation of the Five-factor model, also developed using the lexicon methodology, for which the authors

extracted six factors instead of five. The sixth factor, Honesty-Humility, has gained an increasing empirical support as predictor of relevant personality outcomes, particularly in leadership and organisational citizenship behaviours (Sohn and Lee, 2012). This factor has also been proposed as the opposite and positive version of the "dark triad of personality" (Knight *et al.*, 2018), composed by "Psychopathy, Machiavellianism, and Narcissism" (Hogan and Hogan, 2001; Paulhus and Williams, 2002; Benson and Hogan, 2008; Charness, Masclot and Villeval, 2014; Guenole, 2014; Garrad and Chamorro-Premuzic, 2016).

2.2.4.3 Trait Theories: Conclusion

Trait theories enjoyed a heyday in the early 20th century but fell into disrepute in the 1970s, for their apparent failure to predict relevant results (Mischel, 1977; Atherton *et al.*, 2021). This was partly due to its state of theoretical disintegration, with hundreds of vaguely defined and often overlapping constructs, and because the statistical methods available at the time were not sophisticated enough to detect significant relationships in multifactorial settings. The advent of Behaviourism, questioning the basic concepts of stability and cross-situational consistency of personality, and the very existence of personality traits (Mischel, 1977; Mischel and Shoda, 1998), sent the trait paradigm into the background, for almost 40 years. With the emergence of the Five-factor model (FFM) in the 1990s, this approach regained a protagonist role in the concert of personality theories. Precisely because the FFM is more developed and validated, many of the criticisms directed to the PEN model or the 16PF no longer apply to it. Therefore, this section will consider the strengths and weaknesses of the generality of trait theories separately from those of the FFM, which will be discussed in a separate section of this chapter.

One of their key contributions of Trait theories in general has been the operationalization of personality components and the construction of valid tools for their measurement. The study of personality through numerical variables has allowed its analysis through sophisticated statistical methods, capable of identifying relationships even in complex and multifactorial contexts. This has revitalized the empirical study of personality, allowing researchers to identify causal connections that were previously lost in the background noise. The heuristic value of these models is

reflected in a significant volume of research using psychometric instruments, which promises to exponentially increase our knowledge of personality as a phenomenon. Significant progress has been made in estimating the impact of personality to several relevant outcomes in people's lives (Atherton *et al.*, 2021), and in estimating how different personality traits might be influencing these outcomes. They have also allowed exploring how individual traits may be related to factors such as genetic variants, parenting styles, sociocultural level, or cultural environment, among others.

This has allowed the development of various practical tools in several fields of applied psychology. For example, personality tests driven by this approach have been established as the most convenient way to obtain a general "snapshot" of individuals' personality, especially when evaluating large groups of people. These questionnaires are used by professionals at work, educational and clinical settings, as well as the general public interested in increasing their level of self-awareness (Atherton *et al.*, 2021). A recent study by the Society for Human Resource Management found that 32% of its member organisations used personality tests of this sort to evaluate candidates for executive positions, 28% for middle management, and 20% for individual taxpayers (Mariotti, Robinson and Esen, 2017).

On the other hand, Trait theories have been criticised for their overreliance on self-report questionnaires as the main input to construct their theory (Block, 1995b). Critics argue that this approach is based on the assumption that people are fully aware of their personality traits (Engler, 2013). According to critics, this would make them too vulnerable to overlooking aspects of personality that may not be visible to individuals, or aspects that they may not be willing to confess (Mischel and Shoda, 1998; Westen, 1996).

A second criticism directed to Trait theories in general points to a lack of comprehensiveness. For example, they have been accused of leaving aside cognitive processes (Mischel and Shoda, 1998), unconscious motives (Westen, 1996; Huprich, 2011), individual narratives and sense of identity (McAdams, 1992), or other important aspects of personality (Roberts and Yoon, 2021) An expression of this weakness would be Trait theories' difficulty in explaining the experience of the person as a whole (McAdams, 1992; Westen, 1996).

Finally, Trait theories have been criticized for lacking explanatory power (Mischel, 1977; Block, 1995; Westen, 1996; Mischel and Shoda, 1998) Some authors argue that their way of explaining is tautological (Mischel, 2009a; Hogan and Sherman, 2020b), since they try to describe traits in terms of behaviours and then explain the cause of the behaviours in terms of traits (e.g., She is extroverted because she acts extrovertedly, and she acts extrovertedly because she is extroverted). As will be seen in the next section, most of these criticisms have been successfully addressed by current developments of the Five-factor model.

2.2.5 The Five-Factor Model

The origins of the Five-factor model can be traced to Thurstone (1934, in Wiggins and Trapnell, 1997), who conducted a factor analysis of 60 adjectives used to describe personality. He found that the entire list could be explained by only five independent overarching factors. In 1963, Warren T. Norman factor-analysed the variables obtained by 20 different personality scales, also identifying five factors (in Wiggins and Trapnell, 1997).

There are two versions of this model that evolved almost in parallel, using different methodologies and reaching very similar results. Goldberg (1992) used the lexicon approach, arriving at a five-factor solution. His model is known as the Big Five, and identifies the five traits as: Surgency, Agreeableness, Conscientiousness, Emotional Stability and Culture/Intellect (Goldberg, 1992).

Its nearly identical twin, the Five-factor model or FFM, was derived by Costa and McCrae (1992) from a factor analysis of several personality questionnaires. This team named the five factors as: Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness to Experience.

Both models identify a level of lower-order factors called “facets” beneath the five factors. Thus, each trait or factor would be composed of between four to six inter-correlated but different facets, whose number and names vary according to the authors.

2.2.5.1 Description of the Model

This thesis will refer to this model as FFM (Costa and McCrae, 1992), and will describe the five traits and facets defined by its authors, since most of the literature on the relationship of this model with the Enneagram uses this version. The five factors identified by the FFM are described below:

Conscientiousness: conscientious individuals are described as proactive, committed to work, with a need for achievement; and on the other hand, characterised by moral scrupulousness, cautiousness, and inhibition (Costa, McCrae, and Dye, 1991). This factor would include the following lower-order factors or facets: Competence, Order, Dutifulness, Achievement Striving, Self-Discipline, and Deliberation (Costa and McCrae, 1992).

Extraversion: extraverted individuals are characterised as people who “seek out and enjoy the companionship of others”, and who are “poised, confident, and facile in social situations” (as opposed to introverts, who would be socially reserved, quiet, and thoughtful (McKee et al., 2018; p.294). Extraverts are expected to be skilled at “negotiating social hierarchies”; and likely to emerge and to be effective as leaders (Judge *et al.*, 2002; de Vries, 2012). The FFM facets of Extraversion include: Warmth, Gregariousness, Positive Emotions; Excitement Seeking; Activity Level and Assertiveness (Costa and McCrae, 1992; McKee et al., 2018, p.294).

Agreeableness: this factor is primarily concerned with interpersonal behaviour and influenced by self-image and social attitudes (McKee et al., 2018a). It is described as “a continuum from compassion to antagonism” (Costa and McCrae, 1985; p. 2), and its facets include Trust, Straightforwardness, Altruism, Compliance, Modesty, and Tender-Mindedness (Costa and McCrae, 1992).

Openness to Experience: this factor is defined as the disposition to seek out the unfamiliar (Costa and McCrae, 1992) as expressed in “imaginativeness, aesthetic appreciation and sensitivity, depth of feeling, curiosity, creativity, and intellectuality” (McCrae and Costa, 1989, in (McKee et al., 2018a). The FFM facets of Openness to Experience include Fantasy, Aesthetics, Feelings, Actions, Ideas, and Values (Costa and McCrae, 1992).

Neuroticism: this is the degree in which someone experiences psychological affliction like feelings of insecurity, depression, anxiety, or emotional distress (Costa and McCrae, 1992a; Salgado, 2004). Sometime the opposite construct is used instead, Emotional Stability, describing people who are self-assured and calm. The FFM facets of Neuroticism include Anxiety, Hostility, Depression, Self-Consciousness, Impulsiveness, and Vulnerability (Costa and McCrae, 1992).

Since the 1990's, thousands of studies by independent research teams have supported the universality of the five factors, corroborating their presence across countries, languages, and cultures (Costa and McCrae, 1992; Digman, 1997), as well as along different stages in life (Costa, Paul T. and McCrae, 2002; Yang et al., 1998).

2.2.5.2 Strengths and Weaknesses of the FFM

As mentioned before, the emergence of the FFM allowed for a growing convergence and clarification of concepts within personality psychology, a field historically filled with vague and overlapping definitions (Funder, 2001). This, in turn, triggered a resurgence in the study of the role of personality in different areas of applied psychology: educational, clinical, and occupational. This effervescence contributed to the accumulation of an impressive amount of evidence on its validity as a construct, as well as its ability to predict relevant outcomes in different areas of life, making the FFM the most robust personality model discovered to date.

Today, the FFM can be claimed as the most solid, validated, useful, and consensual model in the history of personality psychology, established as a “common language” within the field (Hogan and Sherman, 2020a). Any current study involving new personality measures is due to make reference to this model. In the words of Ozer and Reise (1994), the FFM has become the “latitude and longitude” against which any new personality construct should be evaluated (p.361). And although there is still no complete consensus on the FFM among the scientific community, there is still no model that comes close to it in terms of empirical robustness (Atherton et al., 2021).

Within the massive number of studies on the relationship of FFM with various life outcomes, FFM has been explored in relation to workplace outcomes, and particularly relevant to this thesis, with leadership. Many meta-analyses have been carried out

pooling numerous primary investigations in order to clarify this relationship. Some of the most influential have been: Barrick and Mount (1991) who examined its correlation to performance in different occupational groups, Judge et al. (2002), who connected the FFM with Leadership Effectiveness; Bono and Judge (2004), correlating FFM to Leadership Behavioural Styles (concretely to the Full Range Theory of Leadership by Bass and Avolio, (1991); and Derue et al. (2011), who explored the association between FFM Traits and several Leadership Behaviour and Outcomes. More recently, Deinert et al. (2015), explored FFM in relation to Transformational Leadership style. All these studies will be reviewed in Chapter 3, to establish the Conceptual Framework of this thesis.

Despite its unquestionable impact and usefulness, the FFM has not escaped criticism. Most of them refer to the original version of the model, and overlap with those mentioned above regarding Trait Theories in general. Furthermore, most of these criticisms have been addressed by the later developments associated with the FFM. Nevertheless, this section will review the most important criticisms address to the FFM.

Jack Block (1995) was perhaps the most vocal and famous critic of FFM. He questioned, for example, the factor analytical origin of the model, claiming that this method is largely reliant on a series of discretionary decisions made a priori by the researchers (Block, 1995b). However, this criticism no longer holds up, in the face of the overwhelming amount of empirical evidence confirming the existence of the five factors, carried out by thousands of independent research teams, in the most varied environments and cultural settings.

A second criticism, related to the latter, questioned the factorial structure of the model (Block, 1995b). For example, several researchers have found that the five factors are intercorrelated (Saucier, 1994; DeYoung, 2015), and that the facets of one factor sometimes correlate to the facets in another factor more than to those within the same parent-factor (Funder, 2001). However, once again, this criticism no longer stands. First, from an empirical point of view, the five factors continue to be found consistently across multiple replications. And second, these intercorrelations have been explained from a theoretical point of view, by later developments around the FFM (DeYoung, 2015), as will be reviewed in the following section.

A third criticism by Block is that the analyses leading to the first versions of the FFM depended too much on data obtained from **assessments by non-experts**, using non-expert language (Block, 1995b). And yet, once again, there is considerable evidence that non-experts, if they are conscientious and smart, can rate personality quite accurately (Funder, 2010; Vazire, 2010).

Other authors have argued that the FFM would be theoretically lacking and reductionist in its approach (Funder, 2001; Mischel, 2009b; Hogan and Sherman, 2020b). According to these critics, the model does not address some of the fundamental questions of personality psychology: how personality develops, how its different components function and interact within an individual to cause the behaviour, or how they determine individual internal experience. Once again, this could have been a valid criticism in relation to early versions of the model which were deliberately atheoretical and description-focused. However, the next section will show how new developments around the model, e.g., the Cybernetic Big Five Theory, or the references to evolutionary psychology (McAdams and Walden, 2010), have proposed consistent theoretical explanations to address these questions.

A related criticism has referred to its comprehensibility, that is, the degree to which the FFM captures all the relevant aspects of personality (Westen, 1996; Funder, 2010). Some examples of empirically supported personality constructs that are not captured by the model are: the traits like Honesty/Humility (Ashton and Lee, 2008), motives (Sokolowski *et al.*, 2000); or the so-called “dark side” of personality (Paulhus and Williams, 2002). Related to this is the criticism that the FFM would not capture the subjective experience of the individual, and would not address the “whole person” (McAdams, 1992).

Once again, these criticisms no longer hold water. The following section will review theoretical and empirical developments on the relationship of FFM traits with maladaptive behaviours and mental disorders such as narcissism (Helle and Mullins-Sweatt, 2019; Suzuki *et al.*, 2015), their integration with the construct of mental well-being (Anglim *et al.*, 2020; Mann *et al.*, 2021), and their developments related to understanding the whole person (DeYoung, 2015; McAdams and Walden, 2010; McAdams and Pals, 2006; McCrae and Costa, 2021), which demonstrate that the FFM is

already encompassing many of these concepts into a single, unified theory of personality.

2.2.5.3 Subsequent Developments of the FFM

The huge volume of research that emerged from the FFM has facilitated a continuous evolution of the model over the past two decades. New concepts and theories emerged from or in connection with the FFM, enriching the model and addressing some of the criticisms it initially received. The following lines will examine some of the most notable examples of these subsequent developments of the FFM model. Some of the concepts presented below are not recent, but rather date back to the 90's. However, they have been included because they represent an enrichment and complement to the initial five-factor model, and because they were the basis for subsequent developments as will be seen in the following sections.

2.2.5.3.1 Characteristic Adaptations

An example of these early developments is the concept of “characteristic adaptations” introduced by Costa and McCrae (1994, 1996) as an extension to FFM theory. These were defined as specific patterns of behaviour that would develop from the interaction between life history and the five personality traits, throughout a person's life. According to the authors, these “adaptations” would help the individual better navigate their constantly changing social environment; and they would be “characteristics” of that individual, varying according to age, culture and family environment.

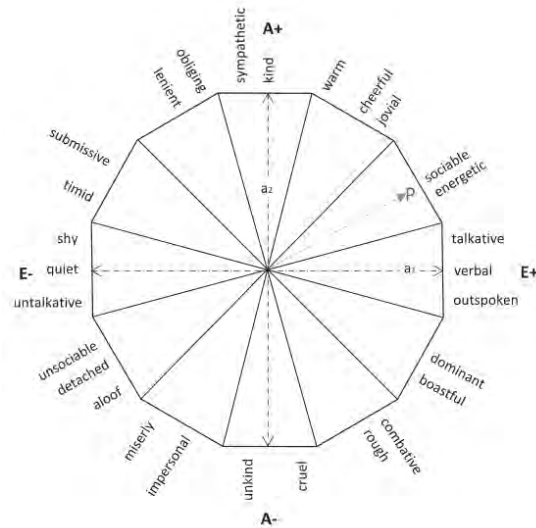
2.2.5.3.2 The FFM and the “Whole Person” Approach

The initial version of the FFM faced criticism because it did not offer guidelines to understand the whole person (McAdams, 1992; Westen, 1996). According to De Raad et al. (2022), practitioners and end clients experience difficulty in the complex task of integrating the different traits, facets and levels, into a single behavioural profile associated with a particular individual (De Raad et al., 2022).

An early attempt to provide guidance for this challenging task of synthesis and interpretation, is the Circumplex Approach to the Big Five developed by Hofstee, De Raad and Goldberg (1992). The model consists of 10 circumplexes formed by combining

the influence of each of the big five factors with one of the others. This includes mapping the factors' facets as combinations of each pair of factors (Hofstee, 2002).

Figure 1: Circumplex representation of Extraversion and Agreeableness (De Raad et al., 2022)



A more recent approach to integrating the FFM with the whole person perspective was proposed by McAdams and Pals, two authors known for their research on the narrative identity of individuals (McAdams and Pals, 2006). They argued that personality can be understood as a unique individual pattern, resulting from the combination of the dispositional traits of the FFM, the characteristic adaptations proposed by Costa and McCrae (1996); and self-defining life narratives (McAdams and McLean, 2013); all complexly determined by the specific social and cultural contexts that the individual inhabits. McAdams and Pals (2006) incorporate notions borrowed from evolutionary psychology, arguing that the dispositional components of personality are adaptation mechanisms resulting from a process of natural selection, which would operate over the biological underpinnings of behaviour throughout the evolution of our species (Penke, Denissen and Miller, 2007; Montag and Panksepp, 2017).

A recent publication by McCrae and Costa (2021) proposed how to put the ideas of McAdams and Pals (2006) into practice. They argued that the best way to integrate the FFM with a whole-person perspective would be to combine the quantitative measurement of traits and facets, with qualitative methods such as interviews or observations. The latter, they argued, would allow the exploration of life narrative and sense of identity, as well as the characteristic adaptations and life-outcomes of the

individual (McCrae and Costa, 2021). They criticised the use of circumplex models to map combinations of traits, because they would be too simplistic to address individual uniqueness. They claimed that it is nearly impossible to carry out an exhaustive mapping of all the profiles, that is, of the almost unlimited number of possible combinations that arise from the five traits and the 30 facets, in all their possible degrees.

2.2.5.3.3 The Cybernetic Big Five Theory

Colin DeYoung (2015) also built on the ideas of McAdams and Pals (2006), to develop the Cybernetic Big Five Theory (CB5T). According to the authors, CB5T is “a theory of the mechanisms underlying the Big Five” (DeYoung and Krueger, 2018, p.124). Cybernetic models are defined as self-regulated and goal-directed systems. This theory understands personality traits as relatively stable dispositions of motivation, emotion, cognition, and behaviour, arising from the evolution of cybernetic mechanisms present in every brain. These mechanisms would be present in living things, to ensure that the organism is capable of meeting its needs, from the most basic to the most sophisticated. Traits would show inter-individual variation in some genetically determined parameters influencing the probability, intensity, and duration in which they tend to be activated in every individual.

DeYoung borrows the concept of characteristic adaptation from Costa and McCrae (1996) and McAdams and Pals (2006), but differs in the definition. CB5T conceives characteristic adaptations as “goals, interpretations, and strategies” (DeYoung, 2015, p.33) determined by the particular circumstances of an individual's life. According to CB5T, all persistent psychological individual differences can be classified either as personality traits or characteristic adaptations; and the main difference between them would be that the former are considered universal, while the latter would vary depending on the cultural context and individual life experiences.

Unlike McAdams and Pals (2006), DeYoung (2015) conceives self-defining life narratives as a specific type of characteristic adaptation (De Young 2015) and not as a separate component of personality. And unlike Costa and McCrae (1996), he conceives that personality traits are not only genotypic, but the result of the interaction between genetics and environment.

DeYoung's theory tries to meet the main requirements for a "grand theory" of personality: in his words, to be "comprehensive, synthetic, and mechanistic (explanatory)" (DeYoung, 2015, p.33). It would be comprehensive, because it encompasses between-person (interpersonal) and within-person (intrapersonal) aspects of personality, proposing how interpersonal personality differences can be explained from variations in intrapersonal elements. And, as others had done before, it attempts to integrate the FFM with the "whole person" approach. It would be synthetic, because it tries to integrate all the persistent psychological traits and characteristics that define an individual over time within a single, overarching, coherent framework. And it would be "mechanistic", because it proposes a causal explanation of why individuals differ in their fundamental emotional, motivational, cognitive, and behavioural patterns (DeYoung, 2015), why the components of personality are what they are, how they function, and why; incorporating notions about the biological bases of personality, evolution and cybernetic mechanisms (DeYoung and Tiberius, 2023).

Interestingly, this theory proposes an explanation for the high correlation often found between FFM traits and between facets of different traits. For example, it suggests that there would be two meta-traits above the big five: one that was called "Stability", grouping Neuroticism, Agreeableness and Conscientiousness, and another called "Plasticity", grouping Extraversion and Openness. This relationship would partly explain the intercorrelations. On the other hand, it proposes an intermediate layer of classification between the five factors and the lower order facets, composed of subgroups of facets that are more interrelated with each other than with the rest of the facets of the same factor. This intermediate level would be composed of two "aspects" within each factor: Industriousness and Order within Conscientiousness; Enthusiasm and Assertiveness within Extraversion; Compassion and Politeness within Agreeableness; Withdrawal and Volatility within Neuroticism; and Openness and Intellect within Openness to Experience (DeYoung, 2015). This theory proposes that although FFM traits were initially assumed to be independent, their patterns of covariation are now understood to reflect "real" relationships between the traits. In DeYoung's words:

"At each level of the hierarchy (...) some set of forces causes groups of traits to vary together in patterns described by the next higher level of the hierarchy, and some other set of forces causes each trait to vary independently of others" (DeYoung, 2015, p.35).

2.2.5.3.4 The FFM and Mental Health

The FFM has been increasingly used to understand mental illness for the last two decades (Suzuki *et al.*, 2015). Several questionnaires based on the five-trait structure have been developed for the assessment of maladaptive traits or symptoms. Furthermore, the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), main reference for the categorization of mental illnesses, includes the PID-5, a self-report questionnaire based on the facets of the FFM, to identify maladaptive traits (Suzuki *et al.*, 2015). Other questionnaires are aimed at identifying specific personality disorders based on maladaptive FFM traits, such as the Big Five Aspect Scales (BFAS) (DeYoung *et al.*, 2016), the Five-Factor Borderline Inventory (FFBI) (DeShong *et al.*, 2016), or Five-Factor Narcissism Inventory (FFNI) (Glover *et al.*, 2012; Helle and Mullins-Sweatt, 2019)

This has enabled a significant amount of research, which in turn, has delivered a wealth of accumulated evidence indicating that psychopathological traits and symptoms can be understood as extreme and maladaptive variants of five traits (Suzuki *et al.*, 2015; Helle and Mullins-Sweatt, 2019; Pešić *et al.*, 2023). This includes evidence of a convergence between measures of maladaptive traits, and measures of general (normal) FFM traits, supporting the existence of a continuum between normal and abnormal traits (Suzuki *et al.*, 2015; Helle and Mullins-Sweatt, 2019; Pešić *et al.*, 2023).

These findings have revolutionised the way in which psychiatrists are approaching the detection and classification of mental disorders, many of them abandoning the classical categories and adopting a dimensional approach (Trull, Widiger and Burr, 2001; Widiger and Samuel, 2005; Samuel and Widiger, 2007, 2008; Bagby and Widiger, 2018).

At the other extreme of mental health, many studies have confirmed a strong association between the five-factors and mental well-being. These studies have typically explored the relationship of FFM with two aspects of this phenomenon: Subjective Well-being (SWB), related with positive and negative affect and life-satisfaction (Diener *et al.*, 2009), and Psychological Well-being (PWB), related to self-acceptance, personal

growth, purpose in life, and positive relationships (Ryff, 1995). For example, a recent meta-analysis explored the relationship between several measures of the Five-Factors, their aspects, and facets, and the two dimensions of well-being (Anglim *et al.*, 2020). This study found that Neuroticism was a very strong negative correlate of well-being, Extraversion and Conscientiousness were fairly strong, and Openness and Agreeableness were moderate. Facet-level associations were around 20% stronger than those of the higher-order five-factor domains, being the facets of depression, positive emotions, and social self-esteem the strongest correlates. These findings generally confirmed the findings of a previous meta-analysis (Steel, Schmidt and Shultz, 2008).

On a theoretical level, the Cybernetic Big Five theory has also attempted to explain the processes underlying psychological well-being (DeYoung and Tiberius, 2023). Its author proposes that well-being would be achieved:

“when one's characteristic adaptations are not only well adapted to the particular circumstances of one's life, but are also well integrated, that is, come into conflict minimally with each other, with one's own (FFM) traits and with innate needs” (DeYoung, 2015, p. 53).

In summary, the FFM is being successfully used to understand both extremes of mental health: well-being and illness. At a theoretical level, this corroborates the universality of the five traits, and suggests the existence of a continuum in the way they are expressed, going from highly adaptive to maladaptive. On a practical level, it confirms the enormous usefulness of the FFM in the field of clinical psychology, an application that is in full process of expansion (Bagby and Widiger, 2018).

2.2.5.3.5 The Trait Activation Theory

It was previously mentioned that the emergence of situationism questioned the very existence of personality as a stable phenomenon (Mischel, 1977), placing the emphasis on understanding the variables of the situation that determine learning and behaviour, as well as the cognitive processes that mediated (Bandura, 1978). Today, largely thanks to the FFM, it is rare for psychology scholars to question the existence of personality, and efforts have emerged to integrate "personalism" and "situationism" into a single theory of personality.

The most notable attempt to reconcile traits and situations is the Trait Activation Theory or TAT (Tett and Burnett, 2003). The TAT proposes a robust explanation of how dispositional traits interact with situational factors in determining behaviour (and performance). It argues for the situational specificity of the links between FFM traits and behaviour. TAT proposes a short list of key parameters on which situations would differ, affecting the “Situation-Trait-Relevance” of a specific trait. That is, the degree to which a given context creates the opportunity for that trait to be expressed.

Because this theory has been developed in the context of the relationship between personality and job performance, its key principles aim to identify trait-relevant parameters of work-related situations. However, most of them are applicable to any area of life. Tett et al. (2021) describe what they call the Functional features of the situation, which would include five parameters: First, the Situational Demands, understood as the behaviours expected or required to achieve the desired outcomes in such a context, e.g. those included in the job description. Second, its Constraints, such as the limitations associated with the context, e.g. those affecting a leader having to direct and motivate his team under conditions of cultural or physical distance. Third, the Releasers, which would counteract those constraints, for example, for the leader mentioned before, releasers would operate at a social gathering where the team has the opportunity to interact face-to-face. Fourth, the Facilitators of the situation, which would be conditions that enhance the salience or opportunities of the trait-relevant cues, for example, the mentioned social gathering includes a karaoke night allowing extroverts more freedom for self-expression. And finally, Discretionary Cues, related to the degree to which the situation allows choice on how to behave (situational strength vs. weakness), for example, creative jobs versus highly standardised ones.

The theory also includes other sets of parameters which are more specific to organisational contexts, such as trait-relevant requirements of the job regarding the task, social interactions, or characteristics of the organisation, like its climate or culture.

Another key contribution of TAT is that it separates the concept of behaviour from the concept of performance. According to this theory, a trait can be expressed in a behaviour, but the actual impact of that behaviour on performance will depend on conditions of the context (Tett and Guterman, 2000; Tett, Toich and Ozkum, 2021). This

conception can easily be exported to other areas of life, offering a promising way forward to clarify the relationship between traits, behaviour, and life outcomes (Espinoza-Romero *et al.*, 2022).

In sum, the most important contribution of the Trait Activation Theory is that it creates an elegant and parsimonious taxonomy of the situations relevant to personality trait activation, that can potentially apply to any aspect of behaviour, not only job related (Abdel Hadi *et al.*, 2023; Cheng *et al.*, 2023).

2.2.5.4 The Five-factor model: Pending Questions

Despite the extraordinary developments of the FFM in the last two decades, it can still be argued that there are a few pending questions that the FFM has not been able to answer so far. The first is that regardless of the advancements on the integration between the FFM and the whole person approach, many practitioners still find it difficult to predict individual behaviour from an FFM profile. The challenge posed by De Raad *et al.* (2022) remains valid: It is hard to know how the different components, in their different degrees, interact within a particular individual and translate into behaviours. It is a complex task even for an experienced specialist, even more so if it falls to a less qualified professional, let alone the individual who is being evaluated. The exercise involves synthesizing the joint impact of different scales at the same time. Translated into leadership behaviours, this issue could be illustrated, for example, by questions such as: How will a leader behave when directing work and interacting with his team, if he has a high levels of Extraversion and Neuroticism, intermediate Conscientiousness and Agreeableness, and low Openness? If studies show that low Openness and high Neuroticism are related to poor people leadership skills, whereas high Extraversion correlates with the opposite, which of these traits should be used in predicting his leadership behaviour? Should the joint impact be “added up”? Or do these traits, at their different levels, interact with each other giving rise to new emerging properties? Do the extreme values (high and low) take over behaviour, nullifying the effect of intermediate ones? These are just a few questions that may bewilder the practitioner attempting the synthesis.

In recent years, big data, and the emergence of more powerful computers, have allowed great progress in this direction. Several investigations have cluster analysed large databases of FFM measures, finding evidence of the existence of three, four or five prototypical trait profiles (Sava and Popa, 2011; von Davier, Naemi and Roberts, 2012; Zhang et al., 2015; Isler et al., 2017; Kerber, Roth and Herzberg, 2021). In the field of leadership as well, an increasing number of scholars are investigating the joint impact of groups of traits, rather than isolated traits (Chatterjee and Hambrick, 2007; O’Neil, 2007; Mathieu, 2013; Herrmann and Nadkarni, 2014; Alissa D. Parr, Lanza and Bernthal, 2016). Most of these researchers propose that prototypical profiles can be used as a complement to the analysis of the five traits. This point will be discussed further in the section on Types theories of Personality.

Finally, McAdams and Walden (2010) mention an interesting point that perhaps FFM scholars should explore further. These authors argue that there are reasons to believe that the relationship between FFM traits and performance could be curvilinear. Intuitively, they say, too much Extraversion could be expected to be as bad as too little of it. The same would be expected from the other four traits. They propose that this would not be reflected in current research due to a possible problem in the construction of the scales used to measure the traits. These may not be sensitive enough to capture extreme expressions of the “upper pole.” If this were true, future research correcting for the sensitivity of the scales could potentially uncover new associations that had previously been obscured or confounded by nonlinear relationships between traits and performance.

2.2.5.5 The Five-factor model: Conclusion

This section has reviewed the main characteristics, strengths, and weaknesses of the Five-factor model, which remains the strongest personality theory in existence. It was mentioned before that every new personality model is currently compared with the FFM to examine its validity. The Enneagram personality model is no exception. In the last two decades, at least seven independent teams have conducted empirical studies exploring the relationship between Enneagram types and FFM traits (Newgent et al., 2004; Brown and Bartram, 2005; Giordano, 2008; Stevens, 2011; Delobbe, Halin and Prémont, 2012;

Sutton, Allinson and Williams, 2013; Yilmaz et al., 2016a). The details and findings of these studies are discussed later in this chapter 4.

Likewise, although there are no previous studies that relate the Enneagram to Leadership, there are hundreds of studies on the association of the FFM with leadership variables examined by this study.

This is why this thesis will use evidence from previous studies on the relationship between the FFM and the Enneagram, and between FFM and leadership, to establish a theoretical bridge between the variables of interest of this study, and to support the assumption of a relationship between its variables of interest. These will be reviewed in detail in chapter 4.

2.2.6 Type Personality Theories

Type theories understand individual personality as a system that integrates several characteristics of a different nature, including cognitive, emotional, and behavioural tendencies, motives, attitudes, resources, ways of organizing internal experience, sense of identity, etc., in “dynamic interaction” with each other (Allport, 1961; Asendorpf, 2006; Kernberg, 2016). From this perspective, individual personality must be understood as a whole (Mandara, 2003; Cloninger and Zwir, 2018).

A personality type is a category that groups people who share the same configuration of personality traits and who tend to behave and interact with their environment in a similar way. These personality types are believed to be naturally occurring patterns that need to be discovered (e.g., a very high achievement orientation that tends to associate to high Extraversion and competitiveness), and not artificial categories put together using arbitrary criteria (e.g., all medical doctors who have red hair) (Meehl, 1992).

A type-personality model, or typology, is an attempt to identify all existing personality types into a single ‘map’ of these naturally occurring configurations (Meehl, 1992), while personality typing would be the act of assigning individuals into these categories or types. This undertaking requires several complementary efforts. First, it requires the quantitative measurement of individual differences, including the widest possible range

of personality characteristics, and the detection of their patterns of covariation in real individuals (Meehl, 1992). Secondly, it implies obtaining a qualitative understanding of how different individuals organise their internal experience, how they perceive themselves and others, and how this might be related to the way they interact with reality (Asendorpf, 2002, p.1). Third, there needs to be a complex and thoughtful analysis, in order to discover the underlying patterns, which will then need to be subjected to rigorous empirical testing. And finally, it will be necessary to design measurement tools capable of detecting those patterns in real life individuals (Meehl, 1992).

This approach conceives personality as open and complex systems, with its different components dynamically interacting with each other, and in permanent exchange with its environment (Mayer, 2015), giving rise to emergent properties (Devaney and Gleick, 1989; Meehl, 1992; Mandara, 2003; Cloninger and Zwir, 2018; Uher, 2018; Bornstein, 2019).

Type approaches to personality are arguably the oldest and most intuitive, stemming from our innate tendency to simplify our perception of the world into categories and groups, including 'types of people' (Robins et al., 1996; Hogan and Sherman, 2020a). The earliest typologies go back to Galen's humoralism, the 'characters' described by Theophrastus in ancient Greece (Pertsinidis, 2018), or more recently, Sheldon's somatotypes (Briñol and Petty, 2005). Despite this long history, a scientific approach to this family of theories is still at a very early stage (Robins *et al.*, 1996).

According to Mandara, type models represent a balance between two seemingly opposing views of what is the most legitimate way to study human phenomena, which pervade all of the social sciences: the nomothetic and the idiographic (Asendorpf, 2006). Nomothetic favours scientific methods, quantitative data, and statistics; conceiving as its main purpose the establishment of universal principles that can be generalized to a large population (Chalmers, 1999). The idiographic is interested in understanding individuals and phenomena in their uniqueness and depth (Chalmers, 1999; Blaikie, 2007; Rothstein, 2007; Stebbins, 2012), and consequently, tends to favour qualitative methodologies such as interviews, case studies, or field observation. Type models try to combine both perspectives: to build a map of personality types that is universally

applicable, developing principles and designing measurement techniques that allow classifying people into these maps (Mandara, 2003; Asendorpf, 2006), while aspiring to understand each individual in their subjective experience and within their context (Mandara, 2003; Sutton, 2007).

The following paragraphs will describe five type-models of personality that have been most associated with the workplace. Unlike the internal homogeneity observed in previous approaches to personality, these models differ in their origin, their theoretical inspiration, and the methodology used to develop them. Therefore, these theories will be divided into three groups: two related to the biological bases of personality, one based on social-cognitive theories, and two discreet-categorical typologies. Due to their differences, their quality as theories will be examined separately. The Enneagram Personality Model, being the focus of this thesis, will be reviewed in a different section of this chapter.

2.2.6.1 Biological Approaches to Personality Types

2.2.6.1.1 Type A, Type B and Type D personalities

Type A and Type B personalities (Rosenman and Friedman, 1977), was originally derived from the statistical analysis of the behavioural profiles of cardiac patients versus control groups. The authors identified two broad categories: Type A, prone to cardiac risk, characterised as competitive, ambitious, impatient, prone to hostility, and vulnerable to stress, and Type B, more relaxed, tolerant, and less likely to experience stress.

The idea for the model arose from clinical observation of similar personality patterns in their cardiac patients. To investigate this idea, Friedman and Rosenman took a sample of 3,000 men, and tested them on their behavioural, physiological, and emotional responses to various stimuli. This allowed them to make an initial classification into two groups. To further differentiate between the two types, they conducted several laboratory experiments, measuring, for example, heart rate and blood pressure in stressful situations, perceptions of time, and tolerance for waiting.

This typology was enriched by a further development by Denollet, Sys and Brutsaert, (1995) , who proposed a third type, the type D² personality, which would share with type A the tendency to experience negative emotions, but would differ from the latter for its tendency to suppress these emotions.

Several empirical associations have been established between these types and workplace outcomes. Type A has been associated with high performance (Hisam *et al.*, 2014), a higher tendency to experience anxiety at work (Evans, Coman and Stanley, 1992; Vagg and Spielberger, 1998) and lower levels of job satisfaction (Kirkcaldy, Shephard and Furnham, 2002), while Type B has traditionally been associated with workplace wellbeing (Vagg and Spielberger, 1998). Type D has shown a similar pattern to Type A, predicting higher risks of burnout and stress (Somville *et al.*, 2022).

2.2.6.1.2 *The Psychobiological Model*

Robert Cloninger, a psychiatrist, and geneticist, proposed a theory known as the psychobiological model (Hansenne, Delhez and Cloninger, 1986). This theory attempts to explain personality as the result of the interaction between genetic and environmental factors. Their investigation involved the development of a test, the Temperament Character Inventory (TCI) (Cloninger, 1994). They used a variety of methods including factor analysis, to identify key personality dimensions based on previous research, to create a reliable and valid measure of those dimensions (Cloninger, 1994; Hansenne, Delhez and Robert Cloninger, 2005).

Using the TCI, they have repeatedly found “profiles”, or groups of traits, that tend to be clustered together. They proposed that the fundamental “building block” of human temperaments is a complex configuration of multiple traits, as opposed to isolated traits (Cloninger and Zwir, 2018). The three temperament types identified by Cloninger, and his team were labelled as: Trustworthy, Antisocial, and Sensitive:

² D for Distress.

“People in the Trustworthy profile had a high Reward-Dependency (i.e., sentimental, friendly, approval-seeking), high Persistence (i.e., determined), low Novelty Seeking (i.e., deliberate, thrifty, ordered) and low Damage Avoidance (i.e. optimistic, confident, outgoing, vigorous).

People in the antisocial profile were low in reward-dependence (i.e., cold, detached, independent), low in persistence (i.e., easily discouraged), and high in novelty-seeking (i.e., quirky, rule breakers, but not inquisitive).

People with the sensitive profile had high harm avoidance (i.e., pessimistic, fearful, timid, and fatigable), high novelty-seeking (i.e., impulsive, wacky), and high reward dependency (i.e., sentimental, friendly), which is frequently associated with approach-avoidance conflicts and emotional sensitivity” (Zwir et al., 2020, p.2281)

Based on their findings, they theorised that some isolated traits that are phenotypically similar, could respond to different underlying mechanisms (Cloninger and Zwir, 2018). Similar results have been obtained independently by many teams of researchers in large populations of healthy subjects, in various countries and cultural contexts (Parker *et al.*, 2003; Boson, Brändström and Sigvardsson, 2018; Kose *et al.*, 2019). These studies have succeeded in finding an association between specific genetic configurations and these three temperament types (Zwir *et al.*, 2021). On the other hand, the TCI has been questioned for its psychometric properties, its factorial structure, its validity, and reliability (Gana and Trouillet, 2003; Farmer and Aguinis, 2005).

In the workplace, the TCI has been associated with outcomes including leadership emergence (O’Connor and Jackson, 2010), propensity to job-related health disturbances (Moreno-Abril *et al.*, 2007; Orlak and Tylka, 2017), burnout and engagement (Mojsa-Kaja, Golonka and Marek, 2015) and presenteeism (Kono, Uji and Matsushima, 2015).

2.2.6.1.3 Biologically-based Type Models: Conclusions

Both of these models have been derived empirically, the first in a laboratory, under controlled circumstances, and the second from methodologies that represent the state-of-the-art in the areas of behavioural genetics and data analysis (Zwir et al., 2020). Both

have been replicated empirically by different teams of researchers using a wide variety of methods and in various sociocultural contexts.

On the other hand, their shared weakness is comprehensiveness. Their categorisation all people into two or three overarching groups is far from capturing the complexity and variability of human behaviour. They bring in more depth than breadth, helping understand important aspects of personality, such as how personality differences are associated with relevant consequences in life, or the biological underpinnings that help explain our fundamental behavioural tendencies.

Their usability is related to the latter. In the workplace, these models have been associated with some specific outcomes (e.g. leadership emergence) and have allowed some preventive actions (e.g. job-related health risks), but they are much more limited when it comes to understanding or predicting workplace behaviour or explaining the subjective experience of a particular individual. As personality models, the descriptions they offer are too simple to capture its true complexity.

2.2.6.2 A Social-cognitive Approach to Personality Types:

2.2.6.2.1 The Triple Typology Model

Vansteelandt and Van Mechelen, (1998) developed this model based on the theories of Mischel and Shoda, (1998) who postulated that differences in behaviour are caused by differences in "if...then" profiles. Based on previous empirical research, these authors proposed that personality variations are multi-dimensional, rather than unidimensional, and that they are explained by patterns of "social-cognitive-emotional processing systems" (Mischel and Shoda, 1998, p.59).

Vansteelandt and Van Mechelen, (1998) statistically analysed the interaction between different personality, situation, and behavioural variables. The methodology involved classifying situations and response types in terms of their distinctive characteristics and their "power" (qualitative and quantitative), and grouping people according to their response types, in hierarchically organised clusters. This typology has not yet defined a discrete number of "if...then" types, but rather defines an empirical methodology to continue identifying these types.

Regarding its value as a theory, this model inherits from the Social-Cognitive approach a rigorously empirical methodology to study the inter and intra-individual behavioural differences under similar or different situations. That is, it provides a systematic procedure to explore the person-situation-behaviour relationship (Funder, 2001). On the other hand, the method is cumbersome and slow to use, since it requires operationalizing the measurement of situations, a classification process that can become very complex (Funder, 2001). The method is difficult to apply both on a large scale, e.g., to investigate the association between personality and specific outcomes, or on a small scale, to understand the experience or the behaviour of specific individuals in occupational, as well as clinical or educational contexts. In addition, the number of possible variants in the "if...then" profiles appears as a less than parsimonious explanation of personality differences.

2.2.6.3 Discrete Categorical Types:

2.2.6.3.1 The Eight Coping Styles

The Eight Coping Styles theory (Vollrath, Torgersen and Alnæs, 1995) is based on the Five-factor model (Costa and McCrae, 1992) and on Eysenck's PEN model (Eysenck, 1965). It borrows three factors from the FFM: Neuroticism, Extraversion and Conscientiousness, which, according to previous empirical studies, would be strongly associated with individual variations in patterns of experiencing and dealing with stress (Horwood, 1987; Bolger, 1990; Magnus et al., 1993; Jelinek and Morf, 1995; Vollrath, Torgersen and Alnæs, 1995; Watson and Hubbard, 1996).

The authors classify "types of people" according to their coping styles, resulting from the various combinations of high and low levels in these three dimensions (dichotomized by the median). They named the resulting types "Spectators, Insecures, Sceptics, Brooders, Hedonists, Impulsives, Entrepreneurs, and Complicated" (Vollrath, Torgersen and Alnæs, 1995). Later, they found evidence of the association of each type with distinctive patterns in the way of experiencing and coping with stress (Vollrath and Torgersen, 2000).

In the workplace, these types have been found to be empirically associated with stress levels, stress-coping strategies, and burnout, in populations of middle-managers (Grant

and Langan-Fox, 2006), nurses (Hochwalder, 2009), physicians (Rovik *et al.*, 2007), and policemen/women (Lau *et al.*, 2006). Still, all the replication studies have been performed by variations of the original research team.

2.2.6.3.2 The Jungian and the Myers-Briggs personality types

C.G. Jung (1875-1961) was a neo-psychoanalyst who broke up with Freud's ideas and created his own school of thought. He proposed the existence of eight personality types, obtained from the combination between three pairs of polarities: introversion-extroversion (basic attitudes), sensation-intuition (ways of perceiving the environment); and thinking-feeling (ways of processing information). Each type was defined as a unique combination between either Introversion or Extraversion, and only one of the other four attributes (Engler, 2013). Jung conceived that these types rarely occur in a pure form, and that each one would have its own profile of virtues and defects (Engler, 2013).

The Jungian model would have remained within the clinical or purely theoretical-speculative context (Engler, 2013), if it had not been picked up and transformed by two American authors, Isabel Myers, and Katharine Cook Briggs, who took it as the basis for their own personality model, which they called Myers-Briggs (Buchanan and Finch, 2005; Benjafield, 2010; Myers, 2016). These authors introduced a fourth polarity to the dimensions proposed by Jung: judging-perceiving (orientation towards planning versus improvising) (Myers, 1962). Additionally, they changed the principle with which Jung combined the polarities, mapping individuals according to their location in each of the four dichotomies. This resulted in 16 personality types, grouping people into discrete categories based on their combination of "preferences" on each dimension (Myers, 2016). Each type was dubbed after its acronym: ENTJ, for example, would be Extrovert-Intuitive-Thinking-Judging.

Unlike trait models, the Myers-Briggs does not limit itself to describing each independent polarity, but offers detailed qualitative descriptions of each personality type "as a whole person". These include the characteristic patterns of thought, emotions and behaviour, the subjective experience and the unconscious dynamics associated with each combination of preferences (Wyman, 1998). These descriptions are provided in an intuitive, easy-to-understand, everyday language (Zemke, 1992). In

addition, the authors developed a questionnaire, the Myers-Briggs type indicator or MBTI, making it available to practitioners and the general public (Myers, 1962). A 1990 review reports that, in the United States alone, from 1.5 to 2 million people were taking the MBTI every year (Zemke, 1992). The MBTI is considered to have introduced the trend of personality testing as a cultural phenomenon, a 'type-mania' (Zemke, 1992). Perhaps this model's intuitive descriptions of the whole person, are key to understanding its popularity.

Studies conducted in the workplace also hint at the attractiveness of the model: A study carried out by the US National Research Council (from the National Academy of Sciences) compared the impact of MBTI with that of five other assessment instruments in the context of job performance training to US Army officers. The results showed that the MBTI was significantly more "memorable," with a recall rate of 97% versus 68% for the second highest score: Participants felt their MBTI results were "true" and valuable, and that learning about the types had a high impact on their behaviour and the way they perceived and related to other people. Notably, 61% of the officers considered that the MBTI was the highlight of the training program (in Zemke, 1992).

However, the evidence supporting the validity of the MBTI remains sketchy. For example, some studies support the validity of its factorial structure (Tischler, 1994; Saggino, Cooper and Kline, 2001). Yet, a large number of critics point out the conceptual and statistical weaknesses associated with its bimodal nature and the dichotomous interpretation of its variables (Stein and Swan, 2019). In practice, most people fall in the middle ranges, near the arbitrary borders between categories (McCrae and Costa, 1989; Bess and Harvey, 2002; Pittenger, 2005), leading to low reliability or test-retest stability (24%-61%) (Zemke, 1992).

The evidence regarding its ability to associate to workplace outcomes is also conflicting. On one hand, the MBTI has been successfully associated with career interests (Mccaulley and Martin, 1995; Goetz *et al.*, 2020); information processing styles (Edwards, Lanning and Hooker, 2002); creativity (Fleenor and Taylor, 1994; Stevens, Burley and Divine, 1999), preferred teaching techniques, and teaching effectiveness (Wong and Lau, 2018; Hemdan, Taha and Cherif, 2023). On the other hand, several studies have failed to find a relationship to job satisfaction (French and Rezler, 1976;

Thomas, Buboltz and Winkelspecht, 2004; Meeusen *et al.*, 2010) or leadership behaviour (Brown and Reilly, 2009). Regarding its usefulness in the workplace, the model has been used successfully to improve attitudes towards change (Garrety *et al.*, 2003); teamwork, and interpersonal relationships at work (Kuipers and Higgs, 2009).

2.2.6.3.3 Discrete Categorical Types: Conclusions

It can be argued that the greatest value of these typologies lies in their usability: The MBTI is an easy-to-use tool for ordinary citizens who want to know more about themselves, and for professionals who need an intuitive and attractive tool for their organisational interventions. Similarly, the categories of the Eight-coping-styles are extracted through a simple procedure, allowing a rapid ordering and simplification for an intuitive analysis of the different styles of reaction to stress (Pittenger, 2004).

Notwithstanding, their great weakness is the use of arbitrary dichotomization of variables that are demonstrably continuous and with a normal distribution (McCrae and Costa, 2008). For example, both models draw an arbitrary boundary separating individuals between introverts and extroverts, even though most of the population falls in the intermediate zone (Grant, 2013). As mentioned before, this directly affects the test-retest reliability of these instruments, since many people could easily fall to one side or the other of this artificial border (Pittenger, 2004). The same happens for all the other variables that these instruments measure. It is revealing that the authors of the eight coping styles model have not yet reported on test-retest reliability (Vollrath, Torgersen and Alnæs, 1995b; Vollrath and Torgersen, 2008).

Finally, in terms of their comprehensibility, the MBTI attempts to explain much broader range of personality variables than the Eight-coping styles, which, by definition, only aims to measure reactions to stress. Still and all, studies indicate that practitioners have much more confidence on the MBTI than academics (McCrae and Costa, 1989; Zemke, 1992; Furnham, 1996; Pittenger, 2005; Lake *et al.*, 2019).

2.2.6.4 The Type Approach: Conclusions

The previous review shows important differences between the different type theories. Roughly speaking, they can be classified into two large clusters: those that group personality patterns into discrete categories, and those that offer a prototypical

description of the core characteristics of each group, and define "fuzzy" borders between categories. Type theories with "fuzzy" borders allow individuals to fall into the "grey areas" between categories (Asendorpf, 2002; Sutton, 2007), without requiring an arbitrary cutoff point to classify in one or other side of the boundary depending on whether a person is "high" or "low" on a specific trait (Sutton, 2007, page 28). This allows for a richer and more nuanced understanding of human behaviour (2007, p. 28), and is more assimilated to existing taxonomies of living organisms in the world of biology (Meehl, 1992, p.121). e.g.. the differences between related species of animals are not clear-cut since they derive from the process of natural evolution and emergence of new species. Yet, categories exist, supported by specific criteria, and have an important heuristic value.

It can be argued after this review that type models have many potential advantages. Perhaps the most important one is that they seek to reconcile the nomothetic, variable-centred approach, measuring traits and individual differences, with an idiographic, person-centred approach, which enables a better understanding of the individual as a whole.

Meehl argues that typologies with fuzzy borders can be compared to the "medical model" in their approach to understanding personality (1992, p.119). For example, a doctor can measure a fever or the biochemical profile of the patient (the traits), without giving up the idea that they are symptoms of a more significant whole that is the disease (the type). More importantly, a high fever could be indicative of different diseases, with different underlying causes and different treatments. This converges with the findings of Cloninger et al. (2019) that the fundamental "building block" of personality would be made up of a complex configuration of multiple traits, and that apparently similar traits could respond to different genetic configurations, e.g., a high score in Extraversion could be grouping together behaviours that respond to different underlying causes.

From this it would be deduced that the quantitative measurement of individual traits could be perfectly combined with a global vision of how these traits interact and are structured within a personality type. If this is true, types could be the next step in the development of personality science. The key would be to discover the patterns in which the traits would covary, the causes of this covariance and the dynamics of interaction

between the traits, that is, the underlying mechanisms. Ongoing and revolutionary advances in the field of biology and behavioural genetics could inform this discussion (Cloninger et al., 2019; Quirin et al., 2020; Atherton et al., 2021).

Concluding this section, it is possible to argue that the Five-factor model reviewed above, and the Enneagram that will be reviewed below, have in common that they are both dispositional approaches to personality. The first as a trait-theory, and the second as a type-theory of personality. The Enneagram model describes nine categories or types of people, each characterised by a "prototypical" profile of traits, with blurred boundaries between them. This thesis proposes that this model, if proven valid, could be used in conjunction with the FFM to understand the impact of the interaction between traits. As the focus of this study, the Enneagram will be described in depth in the next section of this chapter, analysing its potential contributions, as well as its weaknesses as a theory of personality. And since the FFM is the theory of reference within personality psychology, its relationship with the Enneagram will also be discussed in the next section, as well as in chapter 4 of this thesis.

2.2.7 New Trends: Using Big Data to Integrate Trait and Type Theories

As mentioned above, Trait and Type theories of personality are both dispositional approaches to the study of personality, sharing assumptions on the importance of stable individual differences regarding the way in which individuals behave and respond to situations throughout their lives. Despite their similarities, Trait and Type theories differ in the way they understand personality components, and how these organise and interact within a single individual (Block, 1995; De Fruyt, Mervielde and Van Leeuwen, 2002; Mervielde and Asendorpf, 2014; Cloninger and Zwir, 2018).

That said, the consolidation of the Five-factor personality model has meant that most academics currently proposing models of personality types, do so without questioning the validity of the first (see previous section). Rather, what has emerged is a revival of interest in examining the existence of personality types, understood as typical profiles of FFM traits that tend to be repeated in reality. The emergence of big data and more powerful computers, as well as the greater availability of data from longitudinal studies,

have made it possible to have much more robust sources of information to explore the existence and contribution of personality types understood as clusters of FFM traits (Kerber, Roth and Herzberg, 2021).

Empirical evidence obtained from several studies using cluster analysis on large databases (N>1000) of FFM measurements, points to the presence of three, four or five cluster solutions as the best fit to the data (e.g., Herzberg, Sava; Von Davier; Zhang; Isler), supporting the existence of prototypical FFM profiles or personality types. Furthermore, many recent empirical studies have found evidence that these FFM-based personality types can increase the predictive power of traits with respect to several relevant variables. For example, academic success (Steca *et al.*, 2007; Favini *et al.*, 2018); crime and depression (Klimstra *et al.*, 2010); anxiety symptoms (Meeus *et al.*, 2011); stress response (Røvik *et al.*, 2007); social attitudes (Roth and von Collani, 2007); or aggression (Asendorpf, 2006). This approach has also helped to understand the relationship between personality and complex life outcomes such as subjective and objective health (Kinnunen *et al.*, 2012), or political orientation (Block and Block, 2006).

Kerber, Roth and Herzberg (2021), for example, examined a longitudinal database of 22,820 German subjects with Big Five trait assessments, applying three different cluster analysis techniques to examine whether there were specific patterns of trait profiles in the data. They discovered that the best-fitting solution was five prototypes, each with a distinctive combination of the Big Five traits, which they called: over-controllers, under-controllers, secretive, resilient, and vulnerable-resilient, echoing terms used in previous studies on child temperament (Caspi and Silva, 1995). Next, they examined the extent to which the Big Five traits, and these empirically-obtained five personality types, predicted relevant variables. They examined physical and mental health, self-esteem, locus of control, impulsivity and risk taking. As expected, their data confirmed that FFM traits could predict all the dependent variables. However, they also found that personality types were more useful in predicting those variables that were significantly associated with more than one or two Big Five traits, such as: well-being, self-esteem, or locus of control. For example, they found that the association between Neuroticism and physical and mental health was much stronger when it occurred in combination with low Extraversion and Openness than otherwise. They concluded that "the person-

oriented approach may be better suited than variable-oriented personality descriptions to detect complex trait interactions" (Kerber, p. 21). These authors finally argued that personality types can add valuable insights to the trait approach when both are used in combination, allowing for a better understanding of the most complex phenomena associated with personality. These investigations are relevant to this thesis, since they suggest that the Enneagram could potentially complement it as a model to represent personality.

2.3 The Enneagram Personality Model

2.3.1 Introduction and potential contribution

The Enneagram Model (Greek Ennea=Nine, and Gram=written), is a Type theory of personality, that groups people into nine broad clusters, each characterised by a specific constellation of emotional tendencies, perceptual biases, patterns of thought, predominant motives and values, personality traits and behavioural tendencies (Helen Palmer, 1995; Riso and Hudson, 1996).

The Enneagram has become very popular among management trainers and professionals, who report that it has great credibility among the highly educated groups of managers and executives they train (M. J. Goldberg, 1999; Lapid-Bogda, 2004; Sikora and Tallon, 2006). For the layperson, the Enneagram sounds like an accurate reflection of their inner experience, and of the way they perceive other people around them. This growing popularity, however, is not a proof of its accuracy as a model of personality (Sutton, 2012). This section will focus on describing the central characteristics of the model, to then review the empirical evidence that supports it, and will end by discussing its quality as a theory, based on the same criteria proposed at the beginning of this chapter: comprehensibility, scientific soundness, and usefulness.

2.3.2 Development of the Enneagram Model

According to Riso and Hudson (1996) "one of the main problems with introducing the Enneagram is that its exact origins are lost in history" (p.11). This idea has been a popular selling point for many of the authors who like to present the model as "ancient

wisdom”, and thus covering it with an aura of mystery. The truth seems to be less mystical and its origins not so difficult to trace.

The Enneagram was first introduced by Oscar Ichazo, a philosopher and writer who developed the early version of the model. It consisted in a set of nine "ego fixations" or "passions" that he called the “Enneagons”: Anger, Pride, Deceit, Envy, Avarice, Fear, Gluttony, Lust and Sloth (Ichazo, 1972; Giordano, 2010; Fernandez Christlieb, 2017, p.101). This first version of the model bears the influence of psychoanalytic theories, conceiving individual differences as an expression of "fixations" occurred during early development, preventing progress in psychological maturation (Person, 2005). He presented the Enneagons arranged around a circle, within which he inserted a nine-pointed diagram that he borrowed from the ideas of Gurdjieff, a controversial philosopher and spiritual teacher of the early 20th century (Nicoll, 1996). This diagram is said to represent a "process that is maintained through self-renewal" (J.G. Bennett, in Riso and Hudson, 1996, p.12). The diagram is presented in the figure below (borrowed from Hook et al., 2021):

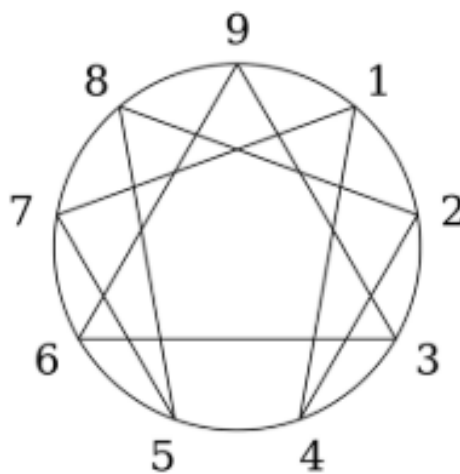


Figure 2: Diagram of the Enneagram Personality Model.

Ichazo first presented his theories at the Institute of Applied Psychology in Santiago de Chile, in 1969. One of the attendees at that conference was the Chilean psychiatrist Claudio Naranjo, who later became would become a key figure in the development of the model as it is known today (Fernandez Christlieb, 2017). By the time he heard Ichazo, Naranjo was already well acquainted with the state-of-the-art in the field of personality

psychology, having studied with key figures in the field such as Allport, McClelland, and Cattell (Barron, in Naranjo, 1994).

Naranjo began by teaching the Enneagram informally. He then went on to develop the theory, incorporating concepts from a wide variety of sources: Allport and Cattell's perspectives on traits and McClelland's work on motives (Naranjo, 1994) cognitive concepts such as 'processing systems', psychoanalytic ideas about of the unconscious and internal conflicts, the concept of temperaments, and his professional training in psychiatric diagnostic categories (APA, 2013; Fernandez Christlieb, 2017).

Following in the Allport tradition, Naranjo described each of the nine personality types as a "complex structure" (Allport, 1961), and as Cattell, he argued that personality "could be represented in the form of a tree", in which traits and behaviours spring from a "fundamental core of character", according to him composed of a motivational bias or dominant "passion", interacting with a cognitive bias or "fixation" (Naranjo, 1994, p. 7). He conceived a continuum between healthy and pathological personality traits; and he aligned each set of dominant "passions" and "traits" with the personality syndromes that could be found in the Diagnostic and Statistical Manual of Mental Disorders (DSM) (Naranjo, 1994; American Psychiatric Association, 2014).

A next generation of Enneagram theorists and teachers was trained by Naranjo or by some of his first students. Relevant examples are David Daniels M.D. and Helen Palmer, or Robert Ochs, who in turn trained Don Riso and Jerome Wagner (Fernandez Christlieb, 2017). Since then, myriads of authors have added new layers of complexity to the model, most of them increasingly removed from the theoretical connection with academic psychology of Naranjo's initial proposal. Some of these authors theorized on how Enneagram types could be related to workplace or leadership behaviours (Palmer, 1995; M. J. Goldberg, 1999; Chestnut, 2017; Sikora and Munita, 2020); yet none of their theories has been tested empirically.

2.3.3 Characteristics of the Enneagram Personality Model

The Enneagram model describes nine distinct personality types (Naranjo, 1994; Riso and Hudson, 1996) with a number denoting each type. These types are theorized to be the result of the interaction between "nature and nurture" along individual development.

Naranjo, (1994) describes the origin of the types in terms of temperament and early experiences that would determine the fixation. The different types can also be understood as prototypical strategies to cope with life's recurring challenges. These strategies would develop from the complex interplay between what comes natural to a person in terms of inherited temperament, and environmental influences, particularly during early childhood (Riso and Hudson, 1999). According to Riso and Hudson, (1996) "there are hereditary factors which predispose a child to have, practically from birth, a certain temperament...However, science has not been able to say precisely what genetics are involved..." (p.31).

The nine personality types are arranged graphically around a circle in nine equidistant points, as Ichazo's initial model proposed. Each type is designated by a number that is value-neutral, attempting to avoid labels and biases, and no type is understood to be better than another. Type descriptions are understood to be universal, applying equally to males or females; yet cultural background is expected to influence the way in which the type is expressed, since some types are usually more desirable, adaptive, or rewarded than others in any given culture or group (Riso and Hudson, 1996). Although individuals classified within a type would share certain traits and patterns, each person is understood to be, ultimately, a unique individual. People would maintain their basic personality type throughout life, although the behavioural expression and level of maturity could vary substantially (Riso and Hudson, 1996, 1999).

Another aspect of the Enneagram theory is the concept of "Levels of Psychological Development." This idea was incorporated into the Enneagram model by Riso and Hudson (1999), adopted from the work of academic psychologists like Loevinger (1966); and Kegan (1999) about adult development. Loevinger (1966); and Kegan (1999) propose that adults go through specific stages of evolution in the way they understand themselves and the world. These theories are based on the work of Jean Piaget on the development of children's reasoning as they grow (Piaget, 1955). Their basic proposition is that people would evolve toward an increasingly broader view of the world and themselves, and toward greater empathy toward others, throughout their lives (Daniels *et al.*, 2018). More specifically, these theories postulate that: (1) adult cognitive systems actively organize how individuals perceive themselves and the world; (2) there would be

identifiable stages or “levels of development” in the way people create meaning, and these stages would be the same for all individuals; (3) the level of development would influence what people are able to notice and what they can reflect on; (4) these stages of development would evolve in a specific invariant sequence, moving from a limited perspective to an increasingly broad one, towards increasing levels of complexity, and decreasing levels of egocentrism; (6) once a higher level of perception is reached, people would not regress to the previous stage, but would be able to reflect on their previous worldview; and (7) people would advance to a higher level of development pushed by life circumstances, when they must face a challenge whose complexity requires a broader understanding than the one they currently have. With each stage, an adult would increase in flexibility, depth of perception and reflection, tolerance for ambiguity, and ability to function adaptively in a changing and complex world (adapted from Cook-Greuter, 2004; McCauley et al., 2006; Daniels et al., 2018). Interestingly, research using Loevinger's model has found that, unlike children who would go through all the stages of cognitive development, adults tend to plateau at average levels of cognitive functioning, with only about 10% of them reaching the highest levels (Cook-Greuter, 2000; Daniels et al., 2018).

Within the Enneagram system, these "levels of psychological development" are equated with degrees of mental health, which would be independent of the personality type, and which, as in the theory of Loevinger and Kegan, are expected to determine the perception and the adaptive capacity of individuals (Riso and Hudson, 1999). In other words, people of any Enneagram type could be expected to be healthy and well-adjusted, or psychologically ill, not depending on their type, but on their early childhood experiences interacting with the inherited aspects of their type. Riso and Hudson described this construct as a continuum between the “healthy” and “unhealthy” systems of traits, different for each type, all interrelated and connected by an inherent logic. For example, a Type 1 individual (The Reformer), with a high level of development, could be described as a person of integrity, exemplary and self-disciplined; while a Type 1 person with a low level of development could be seen as overly critical of themselves and others, harsh, and having obsessive-compulsive ideas or behaviours. Or a Type 6, the Loyalist, who could either be highly committed, charming, hardworking and a team-

player, or highly anxious, insecure, self-deprecating, and ambivalent, depending on their Level of Development. Naranjo had proposed a similar idea by establishing a parallel between the “unhealthy” expression of each type and the psychiatric syndromes described in the DSM-II (Naranjo, 1994; Sperry, 2016), although it has not yet been empirically proven.

In addition to these levels of development, which would evolve slowly throughout life, the Enneagram theory identifies transitory psychological states, more or less adaptive, through which the individual could fluctuate throughout a day. Some authors refer to these as “points of stress” or “well-being” (Lapid-Bogda, 2004; Ebert, 2023). For example, a Type 3 individual (The Achiever) who is working around the clock to finish a project might react aggressively to a corrective feedback from her boss, while if she is relaxed, her response might be open and constructive. In theory, any Type would fluctuate between positive and negative emotional states, or more and less adaptive behaviours, depending on their temporal level of stress or well-being, and their more stable general level of psychological health (Riso and Hudson, 1999). Therefore, these transitory psychological states or levels of psychological functioning would be related to the individual’s more stable “level of development,” since a normal person could oscillate between more or less adaptive behaviours but always within normal ranges, while a sick person will tend to fluctuate between more or less maladaptive reactions.

Another characteristic of the Enneagram model is that the nine types that compose it have “fuzzy” borders instead of clear-cut boundaries between them. In other words, the model allows individuals to be classified in the “grey areas” between categories (Sutton, 2007) One expression of these “fuzzy borders” is related to the disposition of the types around the circle. This would not be arbitrary, but a reflection of this dynamic relationship between the types. Thus, a person who identifies with any given type “can easily see in him (or her) self in the two adjoining ones” (Naranjo, 1994, p.20). This secondary type, adjacent to the basic, is given the name of “wing”. According to Riso, while the basic type tends to take over an individual's behavioural, emotional, and thought patterns, the wing adds new qualities, sometimes reinforcing and sometimes in conflict with the core type (Riso and Hudson, 2000b). This implies that the personality structure of an individual is seldom described as a “pure” type, but that “most people

are a unique mixture of their basic type and one of the two types adjacent to it on the circumference of the Enneagram” (Riso and Hudson, 1996, p.43). For example, a Type 2 (the Giver), whose central trait is a drive to connect with others, who has a “1-wing” (The Reformer), could be inclined to self-sacrifice and helping others in need, while those with a “3-wing” (The Achiever) would stand out for their great social skills.

Another expression of the “fuzzy” borders between types would be given by the connections represented by the diagram inside the circle. According to the theory, individuals could adopt behaviours of a different type from their own, when they are under extreme situations of stress or well-being. For example, a typically anxious Type 6 (The Loyalist), in very positive emotional states, might adopt the calm disposition of Type 9 (The Peacemaker), and under high stress might adopt the wild activism of Type 3 (The Achiever). This structure based on non-discrete categories has implications for the measurement and application of the model, which will be discussed later in this thesis.

Enneagram practitioners argue that understanding our own set of strengths and weaknesses, and their interrelatedness, is particularly useful in the process of self-awareness and development. “The ideal is to become your best self, not to envy the strengths and potentials of others” (Riso and Hudson, 1996, p.33).

Concluding, this section reviewed the main characteristics of the model, without yet going into the description of the nine personality types. However, it is important to note that the only aspect of the model that has received and continues to receive empirical support to date is the nine types (Hook *et al.*, 2021). This thesis will focus solely on them. The following section will briefly describe their key characteristics.

2.3.4 Description of the Enneagram Types

The following paragraphs present a summary of each of the Enneagram types, based on the writings of several authors (Naranjo, 1994; Riso and Hudson, 1996; Wagner, 2010; Daniels *et al.*, 2018). Appendix B contains a more detailed description that the Enneagram theory offers in relation to these types.

Type 1, The Reformer, is also called the “perfectionist”, and the “judge”. Their central motivation would be to do the right thing, to make things right, and to “be right”. Their main traits are, therefore: “conscientious, responsible, improvement-oriented, and self-controlled” (Daniels et al., 2018, p.231), principled, purposeful, idealistic, disciplined, dutiful, logical (Riso and Hudson, 1996), but they also tend to be “perfectionistic, critical, stubborn, rigid, impersonal, resentful, and judgemental” (Daniels et al., 2018, p.231).

Type 2, the Giver, is also called the “friend”, and the “helper”. Their central motivation would be to connect with others and to “be loved”. Therefore, they are usually characterised as: caring, generous, helpful, loving, supportive, relationship-oriented, and demonstrative; but at the same time, they tend to be overly sensitive to other people’s signs of love or attention, which in consequence makes them people-pleasing, susceptible, possessive, overly intrusive, and emotionally demanding (Riso and Hudson, 1996; Daniels et al., 2018).

Type 3, The Achiever, is also known as the “success-seeker” and the “performer”. Their central motivation appears to be a desire to “accomplish and succeed”, to “achieve the goal” and to “be effective.” Thus, they are characterised as success-oriented, industrious, fast-paced, goal-focused, efficiency-oriented, pragmatic, adaptive, excelling, driven, self-affirmative, energetic, and tolerant to frustration; yet, at the same time, they tend to be workaholic, insensitive, impatient, overconcerned by appearance, and sometimes ruthless and driven by an “ends-justifies-the-means” philosophy (Naranjo, 1994; Riso and Hudson, 1996; Wagner, 2010; Daniels et al., 2018).

Type 4, The Romantic, is also called the “artist”, and the “individualist”. Their central motivation would be to do feel intensely, to obtain a “longed for ideal (truth, beauty, depth, relationship, etc),” and to “be authentic.” They are characterised as idealistic, creative, intuitive, authentic, sensitive, deeply emotional, expressive, empathetic; but at the same time, they tend to be temperamental, melodramatic, melancholic, moody, individualistic, self-absorbed, and withdrawn (Naranjo, 1994; Riso and Hudson, 1996).

Type 5, The Investigator, is also known as the “Observer.” Their main motivation would be to “understand and predict” the world around them, to “protect (themselves) from a world that demands too much and gives too little” (Daniels et al., 2018, p.231) and to

“be independent”. They have been characterised as perceptive observers, analytic, focused, original thinkers, prudent, austere, intense, and self-sufficient, and they also tend to be mentally restless, socially awkward, excessively thrifty, suspicious, isolated, and detached (Naranjo, 1994; Riso and Hudson, 1996).

Type 6, The Loyalist, is also called the “loyal sceptic” and the “trooper”. Their main motivation would be to “achieve safety, protection and certainty”, in what they perceive as a dangerous world; or to “be safe”. They have been characterised as being committed, friendly, trust-worthy, team-players, security-oriented, engaging, responsible and hardworking; striving to achieve the certainty they are looking for by doing things right and by belonging to the group. Yet, at the same time, they tend to be, anxious, undecided, insecure, fearful, and sometimes, ambivalent, suspicious, and accusatory (Naranjo, 1994; Riso and Hudson, 1996).

Type 7, The Enthusiast, is also called the “generalist” or the “epicure.” Their basic motivation seems to be to “experience novelty, variety, pleasure, excitement, stimulation”, to “enjoy life”. They tend to be characterised as optimistic, enthusiastic, fun-loving, spontaneous, versatile, outgoing, and adventurous, always on the move, oriented to the future, to make plans, to envision, as well as to seek pleasure, sensation, and novelty, and always trying to “keep their options open;” but also distractible, scattered, pain-avoidant, impulsive, uncommitted, and self-serving (Naranjo, 1994; Riso and Hudson, 1996)..

Type 8, The Challenger is also known as the “boss” or the “protector.” Their main motivation would be to conquer, to win, to experience no restriction, and to “be powerful” in what they perceive as a tough world. They tend to be strong, domineering, self-confident, decisive, wilful, direct, self-assured, action-oriented, brave, and assertive, but they can also be aggressive, overbearing, arrogant, confrontational, reckless, excessive, and sometimes impulsive or abusive (Naranjo, 1994; Riso and Hudson, 1996)..

Type 9, The Peacemaker, is also called the “mediator.” Their central motivation would be to feel united and in harmony with their world. They tend to be calm, kind, receptive, empathic, supportive, optimistic, humble, patient, and unassuming, seeking to get along

with others; but at the same time, they would be complacent, procrastinating, conformist, conflict avoidant, and passive aggressive (Naranjo, 1994; Riso and Hudson, 1996; Wagner, 2010; Daniels et al., 2018). Table 1 presents a summary of the key traits of the nine Enneagram types.

Table 1: Summary of the Enneagram Types.

Type	Name according to Riso	Name according to Palmer	Characteristics	Core Desire	Core fear	Passion
1	The Reformer	The Perfectionist	Principled, purposeful, disciplined, perfectionistic, judgmental.	Need to be perfect	Being bad, imbalanced, defective, corrupt	Anger
2	The Helper	The Giver	Caring, social, demonstrative, generous, people-pleasing, emotionally demanding.	Need to be needed	Being unloved	Pride
3	The Achiever	The Performer	Driven, efficient, adaptive, hard-working, competitive, image conscious	Need to succeed	Being worthless, with no inherent value	Deceit
4	The Individualist	The Romantic	Creative, authentic, excessive, dramatic, self-absorbed, temperamental	Need to be special	Having no identity or significance	Envy
5	The Investigator	The Observer	Perceptive, analytical, Introverted, original, secretive, isolated	Need to understand	Being helpless, incompetent, incapable	Avarice
6	The Loyalist	The Loyal Sceptic	Committed, engaging, responsible, alert, anxious, suspicious	Need to feel sure	Being without support and guidance	Fear
7	The Enthusiast	The Epicure	Spontaneous, dynamic, novelty-seeking, versatile, scattered, impulsive.	Need to avoid pain	Being trapped in pain and deprivation	Gluttony
8	The Challenger	The Boss	Courageous, self-assured, decisive, wilful, arrogant, confrontational	Need to be against	Being harmed, controlled, and violated	Lust
9	The Peacemaker	The Mediator	Receptive, empathic, patient, easy-going, conformist complacent.	Need to avoid conflict	Being lost, separated, and fragmented	Sloth

Adapted from: (Palmer, 1995; Riso and Hudson, 1996; Hook et al., 2021).

2.3.5 Validity and Usefulness of the Enneagram Model

The previous sections described the main characteristics of the Enneagram model. This section will review the main existing evidence on the validity and reliability of the existing measures of the model, of its association with work variables, and its usefulness in different areas of professional practice. The following section will review its strengths and weaknesses as a theory according to the criteria proposed at the beginning of this chapter.

A recent article by Hook et al. (2021) reviewed the general landscape of academic research published on the Enneagram. It focused exclusively on empirical research studies (not theoretical), that had been written in English. They found a total of 104 independent studies, with only half of them published. Of those published, the majority had been peer reviewed (40), but only 9 of them had been published in mainstream journals in the field. The rest had been either published in Open Access journals (16), which tend to have less rigorous standards (Tomaszewski and MacDonald, 2016) or in *The Enneagram Journal* (11). The unpublished studies were either doctoral dissertations (41) or master's theses (6). In terms of methodology, 72 of the studies were quantitative, 19 qualitative, and 13 used mixed-methods; and in terms of design, 70 were concurrent, 26 longitudinal, 2 experimental and 6 quasi-experimental. The following subsections will focus on those studies exploring the validity and the reliability of different approaches to the measurement of the Enneagram Types.

2.3.5.1 Studies on the validity and reliability of the Enneagram Types measured as discrete variables.

Several studies have examined the validity and reliability of the Enneagram model using a discrete-categorical measurement of the nine types. Wagner (1981), for example, conducted the first academic study to explore the validity and reliability of the Enneagram typology. In his study, a group of 390 subjects self-identified their Enneagram Type after participating in an intensive training programme. After approximately one year, the same group of participants was asked to confirm the identification of their Type. The **test-retest reliability** of their self-reported Types varied between 79% and 100%, depending on the Type. And of those who did switch Types,

more than half opted for a Type that was contiguous to the original. This could be interpreted as a preliminary support for the concept of "wings".

Wagner and Walker (1983) examined the concurrent, discriminant validity of the Enneagram self-reported Types in relation to two personality scales: the Millon personality inventory (Millon and Bloom, 2008) and the MBTI (Myers, 1962). The one-way ANOVA test for the nine Types of Enneagram in relation to the Millon scales, showed significant differences beyond the .0001 level, except for the Millon scale 8 (active-ambivalent), which showed significant differences beyond the .0001 level. 0.5. The differences between Enneagram Types in relation to the MBTI scales were all significant beyond the .0001 level.

A study by Gamard (1986) explored the inter-rater reliability of the Enneagram typing decisions made by expert judges based on the observation of video-recordings of 36 subjects, 2 female and 2 male per Type. He found that the kappa coefficient for the average interrater reliability was low ($\kappa = .20$; slight agreement), although that for the most experienced judges was slightly higher ($\kappa = .25$; fair agreement) than the agreement between less experienced ones ($\kappa = .17$; slight agreement). The test-retest reliability after 2.5 years was ($\kappa = .48$ (moderate agreement) (Gamard, 1986). These values are comparable to the inter-rater reliability of diagnostic categories using the DSM-IV (Skodol *et al.*, 2005; Sutton, 2007).

Two more recent studies have explored the concurrent, criterion validity of self-reported Types in relation to other more established measures. Brown and Bartram (2005) used a sample of 241 voluntary participants who had previously identified their Types through training and expert support. The authors used the self-identified Types and ANOVA of repeated measures to assess whether the different Enneagram Types differed in their response patterns in the Big 5 scales included in the Occupational Personality Questionnaire or OPQ (Saville *et al.*, 1996) or OPQ32. They also examined if the Enneagram Types differed in their occupational competency profiles assessed with the same instrument (this will be discussed in the following section regarding work-place outcomes). The average Five-factor scores for the Enneagram Types were calculated using a set of equations developed for the investigation of OPQ construct validity. The equations allowed them to identify which FFM scales worked best to "identify" each

Type. According to their findings, Type 1 can best be identified by high Conscientiousness; Type 3, by relatively high Extraversion and Openness to experience; Type 4, by relatively low Conscientiousness and Agreeableness, and high Neuroticism; Type 5, by low Agreeableness; Type 6, by high Agreeableness and relatively high Neuroticism; Type 7, by high Extraversion and Openness to experience, and relatively low Conscientiousness; Type 8, by very high Extraversion and Openness to experience, high Conscientiousness, and relatively low Neuroticism; and Type 9, by low Extraversion and Openness to experience, and low Neuroticism. Type 2 came up as not significantly high or low on any of the traits.

Sutton (2007) conducted a study on 416 volunteers who had previously identified their Enneagram Types during training programs. She also used ANOVA, to discover if the Types differed in their response patterns to more established measures of personality traits, values, and motives. She used a 50-item questionnaire from the International Personality Item Pool (Buchanan, Johnson, and Goldberg, 2005) to measure the FFM traits, the Personal Values Survey or PSV by Sagiv and Schwartz (1995); and the Multi-Motive Grid by Sokolowski et al. (2000). She examined the differences between the Enneagram Types and their relationship with the dependent variables, using ANOVAs and Bonferroni tests. Her findings suggested a significant effect of Enneagram Type on all FFM traits, with effect sizes being medium to large. Specifically, all Types differed from each other in Conscientiousness, and Type 1 was significantly higher than all the others except Type 3. A similar pattern was observed in the case of Extraversion: all the Types showed significant differences with at least two other Types; and Type 5 scored significantly lower than the rest. Similarly, all Types differed significantly with at least two other Types on Agreeableness, with Type 2 having significantly higher scores than six other Types; while all Types differed from at least one other Type in Neuroticism, with Type 4 scoring significantly higher than six other Types. Regarding Openness, six of the nine Enneagram Types scored significantly different from each other.

Regarding personal values, the study found a significant effect of Enneagram Type on eight out of ten personal values measured by the PSV, although the effect sizes ranged from small to medium, and they were overall lower than those found for the FFM traits. Specifically, the personal value of Stimulation showed the highest number of differences

among the Types: Types 4, 7 and 8 valued Stimulation more than Types 1, 5, 6, or 9. Regarding the personal value of Conformity, Type 8 valued it significantly less than Type 1; and on the value of Tradition, again Type 8 scored it significantly lower than Types 5 and 9. Power was valued by Type 3 significantly more than by Type 4, and by Type 8 significantly more than by Types 4, 5, 7, or 9. Type 3 valued Achievement significantly more than other Types except Types 2 and 8; while Type 5 valued Achievement significantly less than Types 1 and 2. Hedonism was valued by Type 7 significantly more than all other Types except 8 and 9. Self-direction was valued by Type 7 more than by Types 1 and 9. Finally, Type 3 valued Universalism less than Types 5 and 9. Finally, Enneagram Type did not have any significant effect on the personal values of Benevolence and Security.

The study also found a significant effect of Enneagram Type on all three implicit motives measured by the Multi-Motive Grid, although again, the effect sizes ranged from small to medium. Specifically, testing revealed that Type 3 showed a significantly greater need for Power than Types 1, 4 and 5; while Type 4 showed significantly less need for Power than Type 7. Type 3 also had a significantly higher need for Achievement than Types 1 and 4. Finally, the need for Affiliation did not translate into significant differences between Enneagram Types. The associations between the Enneagram Types and the Five-Factor traits reviewed in this chapter will be summarised and discussed in greater depth in Chapter 4.

2.3.5.2 Studies on the validity and reliability of Enneagram Tests

The studies described above were not based on an Enneagram Scale, but on typing decisions made by the subjects themselves or by experts. This section will review studies associated with instruments designed to measure the Enneagram model.

2.3.5.2.1 Studies using the Wagner Enneagram Personality Styles Scale

The earliest Enneagram inventory is probably the **Wagner Enneagram Personality Styles Scale or WEPSS** (Wagner, 1999). The WEPSS has 200 items distributed in nine scales with 22 items each, plus 2 items that do not score for the scales (an original version had 135 items). The items reflect personal characteristics and are rated on a 5-point Likert scale from 1 = “almost never fits me” to 5 = “almost always fits me”. A few studies have

explored the factor structure of the WEPSS to assess its construct validity, delivering inconsistent results. While Wagner, (1999) did find that nine factors best represented the data, the items from some subscales loaded on more than one factor.

On the other hand, both Sharp (1994) and Stevens's (2011) found that a 5-factor solution was a better fit for the WEPSS data. Sharp named his factors as: Social Insecurity (correlating with Enneagram Types 4, 5, 6 and 1), Achievement Orientation (with Types 3,1,8), two factors associated with one Type each: factor (Type 9), and the Helper Factor (Type 2), and finally, an Excess factor (Types 4, 7 and 8). Wagner (1999) found four factors aligned with the Big Five, he denominated Assertive-Active, Gregarious, Receptive-Accommodating and Self-Contained (Wagner, 1999).

As mentioned, Stevens's (2011) study used WEPSS measures of the Enneagram. This study also measured the FFM traits using the NEO PI-R, so, in addition to finding the five-factor solution for the data, it established the degree of alignment of this solution with the FFM factors. Steven's Factor I (eigenvalue = 3.13) accounted for 22% of the total variance, and had a strong positive factor loading for Neuroticism (factor loading =.46). This factor also showed strong positive factor loadings for Enneagram Type 6 (.82), Type 5 (.73), Type 1 (.61), Type 9 (.41), and Type 4 (.41) measured with the WEPSS. His Factor II (eigenvalue = 3.00) accounted for 21% of the variance, had a strong positive loading for NEO PI-R domain Extraversion (.79) and strong positive loadings for Enneagram Type 7 (.69), Type 2 (.69), and Type 3 (.63). Factor III (eigenvalue =2.31), represented 16% of the variance, had a strong negative loading on Agreeableness (factor loading = -.82) and strong positive loadings on Enneagram Type 8 (factor loading = .81) and Type 3 (factor loading = .44). Factor IV (eigenvalue = 1.47) accounted for 10% of the variance, a strong positive loading on Conscientiousness (factor loading = .77); a strong negative loading on Type 9 (factor loading = -.71), and a strong positive loading on Enneagram Type 9 (factor loading = .53). Factor V (eigenvalue = 1.23), represented 9% of the variance, and had strong positive loading on Openness to Experience (factor loading = .52) and Neuroticism (factor loading = .41), as well as with Enneagram Type 4 (factor loading = .77). These can be seen in the table below (from Stevens, 2011, p.113).

Table 2 Principal Axis Factoring Analysis of Enneagram (using WEPSS) and NEO PI-R Clinical Domains (Stevens, 2011, p.104).

Factor I: Introverted Idealists	Factor II: Extroverted Optimists	Factor III: Assertive Competitors	Factor IV: Diligent Organizers	Factor V: Intuitive Imaginers
6+ (.82)	E+ (.79)	A- (-.82)	C+ (.77)	4+ (.77)
5+ (.73)	7+ (.69)	8+ (.81)	9- (-.71)	O+ (.52)
1+ (.61)	2+ (.69)	3+ (.44)	1+ (.53)	N+ (.41)
N+ (.46)	3+ (.63)			
9+ (.41)				
4+ (.41)				

* All numbers listed in parentheses above represent factor loading values.

Enneagram One- Word Descriptors	NEO PI-R Domain Abbreviations	Positive/Negative Significant Loadings
1 = The Good Person	N = Neuroticism	+ = strong positive factor loading (.40 or greater)
2 = The Loving Person	E = Extraversion	- = strong negative factor loading (.40 or less)
3 = The Effective Person	O = Openness to Experience	
4 = The Original Person	A = Agreeableness	
5 = The Wise Person	C = Conscientiousness	
6 = The Loyal Person		
7 = The Joyful Person		
8 = The Powerful Person		
9 = The Peaceful Person		

Regarding reliability, the current version of the WEPSS has shown adequate levels of internal consistency, reporting alphas of .85–.93 in Thrasher (1994), and .78–.88 in Wagner (1999). Its test–retest reliability reported by Wagner (1999) was between .62–.91 after 6 weeks, and .55–.86 after 8 months. The early version of the WEPSS had reported low internal consistencies for some subscales (between .37–.82 in Wagner, 1981).

There has been some evidence regarding the concurrent and criterion validity of the WEPSS. For example, Thrasher (1994) found a substantial level of agreement between the WEPSS and self-reported Type, reporting a mean Cohen’s Kappa coefficient of $\kappa = .63$; while a similar study by Wagner (1999) reported κ s ranging from .74 to .88. Significant correlations have also been found between the WEPSS and other models of personality, including the Millon (Wagner, 2012); and the Myers-Briggs (Wagner and Walker, 1983; Thrasher, 1994). On the other hand, Dameyer, 2001 examined whether

the WEPSS and another Enneagram test, the RHETI, agree in their typing of a sample of 135 subjects, finding an agreement in only in 42% of the cases.

More importantly, Stevens (2011) examined the concurrent, criterion validity of the WEPSS in relation to the NEO PI-R (Costa and McCrae, 1992) in a sample of 146 subjects. He found that the Enneagram types measured with the WEPSS were significantly correlated with the FFM traits, each Type with distinct correlation profiles ranging from weak to strong. His results are shown in the following table below

Table 3 Study's Pearson r Correlations between the NEO PI-R Domain Scales and WEPSS Styles' Total Scores (Stevens, 2011, p.104).

WEPSS Style	N	E	O	A	C
ONE	.289**	-.097	-.017	-.187*	.571**
TWO	.199*	.424**	.106	.312**	.022
THREE	-.317**	.472**	-.081	-.285**	.279**
FOUR	.424**	.103	.412**	-.142	.024
FIVE	.302**	-.594**	.043	-.127	.047
SIX	.494**	-.282**	-.083	-.056	.172*
SEVEN	-.121	.636**	.239**	-.092	-.275**
EIGHT	-.170*	.203*	.137	-.681**	.217**
NINE	.055	-.115	.017	.319**	-.470**

Key: * Correlation is significant at the .05 alpha level (2-tailed)

** Correlation is significant at the .01 alpha level (2-tailed)

NEO PI-R Domain Abbreviations

N = Neuroticism
 E = Extraversion
 O = Openness to Experience
 A = Agreeableness
 C = Conscientiousness

Positive/Negative Relationships

- = negative relationship
 lack of - = positive relationship

2.3.5.2.2 The Riso-Hudson Enneagram Type Indicator

Another highly popular Enneagram test is the Riso-Hudson Enneagram Type Indicator or RHETI (Riso and Hudson, 1996). The RHETI has three versions: the original, which was ipsative (forced choice), a second, non-ipsative version, and the current, a revised non-ipsative version.

The ipsative RHETI consists of 144 items of forced-choice paired statements. Respondents receive a total score for each subscale and the highest score is considered their primary Type. Because of its ipsative nature, this version of the RHETI makes it impossible for an individual to score high or to score low on all the Types (Newgent *et al.*, 2004a). Findings on the internal consistency of this original scale results are mixed. Dameyer (2001) reported alphas between 0.35–0.84 (N=135); while Newgent, Parr and Newman (2002) found alphas between .56 (Types 3 and 5) and .82 (Type 2), with a mean alpha reliability of .71 (N=287). Giordano's (2008) alpha values ranged between .35 (Type 3) and .78 (Types 2, 7 and 9), with a mean alpha reliability of .68 (N=322). However, according to literature, ipsative questionnaires may raise statistical issues that could affect internal consistency values (Block, 1957; Saville and Willson, 1991; Brown and Maydeu-Olivares, 2013).

Warling (1996) studied the concurrent, criterion validity of the ipsative RHETI in relation to Raymond Cattell's Personality Factors 16 (16PF) in a sample of 153 university students. She found significant correlations between each Enneagram scale and specific factors of the 16 PF framework in patterns that were predicted from theory. Siudzinski (1995) found that the Enneagram Type as scored by the ipsative RHETI was consistent with the self-identified Type after a brief training in 87% of the cases (Hook *et al.*, 2021). And, as mentioned before, Dameyer (2001) explored the agreement between the ipsative RHETI and the Wagner Enneagram personality Styles Scale or WEPSS on a sample of 135 subjects, finding a weak concordance of 42%. On the other hand, she found that the Enneagram Types identified using RHETI showed 76% of agreement regarding experts' predictions of the subjects' scores using the Adjective Checklist (ACL) by Gough and Heilbrun (1983).

Newgent (2001) examined the concurrent and criterion validity of the ipsative RHETI test in relation to the FFM traits measured using the NEO PI-R (Costa and McCrae, 1992) on a sample of 287 subjects. Each of the Enneagram scales presented significant correlations, ranging from weak to moderate, with at least one and up to three FFM traits (although as mentioned above, the alpha values for three of the scales were under .70). The Pearson correlation coefficients obtained are presented in the table 4.

Table 4: Pearson correlation coefficients between the ipsative RHETI and the NEO PI-R (Newgent, 2001).

IPSATIVE RHETI	N	E	O	A	C
Type 1	-.24*	-.15	-.09	-.11	.46*
Type 2	.12	.43*	.09	.10	-.10
Type 3	-.17	-.13	-.14	-.19*	.25*
Type 4	.49*	-.31*	.10	-.15	-.36*
Type 5	.04	-.39*	.18	-.11	-.18
Type 6	.29*	-.29*	-.38*	-.02	.07
Type 7	-0.2	.45*	.33*	.03	-.30*
Type 8	-.23*	.23*	-.07	-.27*	.18
Type 9	-.14	-.14	-.04	.46*	.01

Note: Type 1 = The Reformer, Type 2 = The Helper, Type 3 = The Achiever, Type 4 = The Romantic, Type 5 = The Investigator, Type 6 = The Loyalist, Type 7 = The Enthusiast, Type 8 = The Challenger, Type 9 = The Peacemaker; N = Neuroticism, E = Extraversion, O = Openness to Experience, A = Agreeableness, C = Conscientiousness.

*Bonferroni adjusted $p < .001$; N=287

Newgent et al. (2004) borrowed the data from Newgent (2001) and they used the canonical variate analysis (CVA) correlational approach to analyse the construct validity of the ipsative RHETI. Using this approach they examined the Canonical correlation between the underlying constructs of the nine Enneagram scales and those of the FFM measure. They found five canonical variates emerging as significant, although these did not mirror the FFM factors. The first canonical variable was .73 (.71 adjusted), and represented 54% of the overlapping variance for this variable, with significant canonical correlation coefficients for Type 1 (.35), and Type 7 (-.52); and associated with high Conscientiousness (.80), low Extraversion (-.40), and low Openness (-.35). The second canonical value was .70 (.69 adjusted), representing 49% of the overlapping variance for this variable, with significant canonical correlation coefficients for Type 5 (.48); with Type 7 (-.36), and with the Type 4 (.32); and also associated with Openness to Experience (.45). The third canonical value was .62 (.61 adjusted), representing 39% of the overlapping variance for this variable, and presented significant canonical correlation coefficients with Type 9 (-.71); with Type 6 (.63), and Type 4 (.48); and also associated with high levels of Neuroticism (.71); low levels of Agreeableness (-.60); and moderate levels of Conscientiousness (.37). The fourth canonical value was .53 (.53 adjusted), representing 28% of the overlapping variance for this variate, with significant

coefficients correlated for Type 6 (.47), Type 5 (-.42); Type 1 (-.40); and Type 3 (-.32), and is also associated with high levels of Agreeableness (.89); low levels of Openness (-.80); and moderate levels of Neuroticism (.54). The fifth canonical value was .26 (.24 adjusted), representing 7% of the overlapping variance for this variate, and significant canonical correlation coefficients for Type 1 (1.21); Type 2(.85); Type 8 (-.84); and moderately significant for Type 7 (.41); and also associated with high levels of Conscientiousness (.67); high levels of Neuroticism (.55 and high levels of Openness (.55) (Newgent et al., 2004, pp.231-233).

Giordano (2008) developed an initial non-ipsative version of the RHETI, by separating the 144 forced-pair items of the original RHETI into 288 statements that respondents had to rate according to their degree of agreement on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Again, the total score is calculated for each subscale and the highest is considered the primary Type of individual tested. Giordano compared the performance of both versions of the RHETI based on their associations with the FFM, on a sample of 530 participants. Half of the sample was administered the ipsative RHETI and the other half the non-ipsative version developed by the researcher. All of them were measured for the FFM traits using the NEO PI-R questionnaire (Costa and McCrae, 1992).

As mentioned above, when exploring their levels of reliability, Giordano (2008) found that the internal consistency of the ipsative RHETI ranged between .35 (Type 3) and .78 (Types 2, 7 and 9), with a mean alpha reliability of .68 (N=322). Regarding their association with the FFM measure, she found that each of the Enneagram scales presented significant correlations, ranging from weak to strong (only one value), with at least one and up to all the FFM traits. The Pearson correlation coefficients for the ipsative RHETI are presented in table 5.

Table 5: Pearson correlation coefficients between the ipsative RHETI and the NEO PI-R (Giordano, 2008, Tables 4, E1-E8)

IPSATIVE RHETI	N	E	O	A	C
<i>Type 1</i>	-.28**	-.20**	-.23**	-.13*	.48**
<i>Type 2</i>	.08	.06	.41**	.15*	.23**
<i>Type 3</i>	-.15	.08	.05	-.12*	.29**
<i>Type 4</i>	.55**	-.32**	.11	-.21**	-.30**
<i>Type 5</i>	-.06	-.43**	.02	-.09	-.08
<i>Type 6</i>	.44**	-.32**	-.38**	-.07	.04
<i>Type 7</i>	-.16**	.53**	.42**	.01	-.28**
<i>Type 8</i>	-.34**	.25**	-.03	-.18**	.27**
<i>Type 9</i>	-.03	-.28**	-.21**	.36**	-.22**

Note: Type 1 = The Reformer, Type 2 = The Helper, Type 3 = The Achiever, Type 4 = The Romantic, Type 5 = The Investigator, Type 6 = The Loyalist, Type 7 = The Enthusiast, Type 8 = The Challenger, Type 9 = The Peacemaker; N = Neuroticism, E = Extraversion, O = Openness to Experience, A = Agreeableness, C = Conscientiousness.

*Correlation is significant at the .05 alpha level; **Correlation is significant at the .01 alpha level; N=322

*Bonferroni adjusted $p < .001$; N=322

On the other hand, the alpha values obtained by Giordano for her non-ipsative RHETI ranged from .73 (for Enneagram Type 3) to .85 (for Enneagram Types 2 and 8), with a mean alpha score of .81 (N=307). Regarding their association with the FFM, she found that, once again, each of the Enneagram scales presented significant correlations, ranging from weak to strong, with several FFM traits. The Pearson correlation coefficients for the non-ipsative RHETI are presented in table 6.

Table 6: Pearson correlation coefficients between the non-ipsative RHETI and the NEO PI-R (Giordano, 2008, Tables 4, E1-E8)

NON-IPSATIVE RHETI	N	E	O	A	C
Type 1	.27**	-.08	-.03	-.29**	.36**
Type 2	.48**	.36**	.09	.05	.08
Type 3	.17**	.13*	.08	-.25**	.27**
Type 4	.64**	-.52**	.05	-.18**	-.27**
Type 5	.41**	-.43**	.17**	-.26**	-.24**
Type 6	.64**	-.33**	-.23**	-.20**	.10
Type 7	.05	.55**	.14**	-.18**	-.19**
Type 8	.00	.33**	.06	-.35**	.24**
Type 9	.36**	-.36**	-.26**	.11	-.03

Note: Type 1 = The Reformer, Type 2 = The Helper, Type 3 = The Achiever, Type 4 = The Romantic, Type 5 = The Investigator, Type 6 = The Loyalist, Type 7 = The Enthusiast, Type 8 = The Challenger, Type 9 = The Peacemaker; N = Neuroticism, E = Extraversion, O = Openness to Experience, A = Agreeableness, C = Conscientiousness.

*Correlation is significant at the .05 alpha level; **Correlation is significant at the .01 alpha level; N=322

*Bonferroni adjusted $p < .001$; N=307

Giordano (2008) found evidence of discriminant construct validity of five RHETI scales and seven non-ipsative RHETI scales, concluding that the non-ipsative version of the RHETI had generally higher psychometric attributes than the standard version. On the other hand, Giordano (2008) found that only 48% of participants differentiated their main Type on the RHETI, that is, obtained a score at least three points higher for their main Type than for their second highest score, indicating that this tool would not always be helpful to individuals wishing to identify their main Enneagram Type.

Scott (2011) refined and improved Giordano's non-ipsative version of the RHETI into its current version of 124 items to be answered on a six-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). Again, the total score for each subscale is calculated and the highest is considered the person's primary Type. The author piloted this version through an online survey, obtaining a total sample of 6401 subjects. The data were split in half to allow validation of the results of the factor analysis from the first half of the data, by applying the refined factor solution to the second half of the data set. The factor analysis found a solution of nine different factors, each of which fit the theoretical description of an Enneagram Type, thus providing evidence to support the construct validity of the Enneagram personality model. Although six of nine main factors were reducible into two factors, in all six cases the factors were sufficiently

correlated to be interpreted as single factors. This nine-factor structure was replicated in the second half of her data set (Scott, 2011). In terms of its reliability, the Cronbach's alpha coefficient values for each of the scales were all over 0.70, confirming the internal consistency of Scott's version of the RHETI (N=3200) (Scott, 2011).

2.3.5.2.3 The Halin-Premont Enneagram Inventory

Two well-known Enneagram instruments have been developed outside the English-speaking world: the Halin-Premont Enneagram Inventory or HPEI (Delobbe, Halin, Prémont, *et al.*, 2009; Delobbe, Halin and Prémont, 2012); and the Nine Types Temperament Model or NTTM (Yilmaz *et al.* 2014). Unfortunately, the instruments originated in other languages have not received the same level of attention from researchers, other than the teams that created them.

The HPEI was developed by a team of Belgian academics and Enneagram experts, and for reasons of convenience, is the Enneagram questionnaire chosen by this thesis project (see chapter 5). The original version of the HPEI was developed in French, although it currently has versions in many languages. It is made up of 52 items consisting of a statement that must be responded to according to the extent to which it fits with the respondent's most "usual" way of behaving. It is answered on a 5-point Likert scale, ranging from 1=hardly to 5=very well. To calculate the score, 0 points are assigned to the two lowest categories, and then 1, 2 and 3 points respectively to the highest categories. The results are expressed in terms of numerical scores for each of the nine components of the model.

In 2009, the authors presented data about the various iterations contemplated in the instrument development process. They initially developed 108 items, which were then refined and analysed to determine the factor structure of the instrument, as well as the internal consistency of the different scales, using two independent samples (N=285 and N=208). The instrument was refined, leaving a version of 59 items. They proceeded to apply the questionnaire in two new consecutive iterations, on samples of 346 and 308 subjects respectively, further discarding items after each application. The resulting version of the HPEI, with 51 items, was then tested for internal consistency, reporting Cronbach Alpha values ranging between 0.70 and 0.85, depending on the scale (N=308)

(Delobbe, Halin, Prémont, et al., 2009). The authors used these data to perform a principal components analysis with varimax rotation. They found nine factors, each neatly grouping the items corresponding to the nine Types of the Enneagram, except six items that also loaded on a second Type different from their own and that were further refined. This nine factor-solution explained a total of 54.54% of the total variance, with percentage of the total variance explained by each of the nine scales ranging from 12.42% to 2.92% (Eigenvalues ranging from 5.96 to 1.4).

They proceeded to further test their 'theta' version of the instrument in two languages, with independent samples of 399 French-speaking and 305 Dutch-speaking subjects. The principal components analysis replicated the finding of the nine orthogonal factors, explaining 53.3% of the total variance in the French version, and 52.9% in the Dutch one; and with percentage of the total variance explained by each of the nine scales ranging from 6.82% to 4.95% for the first, and between 7.48% and 4.83% on the second. Regarding its reliability, the authors reported an internal consistency that ranged between 0.72 and 0.84 for the French version, and between 0.70 and 0.84 for the Dutch version. The test-retest reliability was measured only with the French sample after two months, and ranged between 0.80 and 0.89 depending on the scale (Delobbe, Halin and Prémont, 2012). All the scales presented a normal distribution.

This instrument was then tested for its concurrent, criterion validity in relation to the Big Five model (Brief Big Five, or BB5, by Barbot, 2008), and the Career Anchors by (Schein, 1996), on a sample of 228 university students. They found significant correlations with both models. The detail of the relationship between the Enneagram and the Career Anchors will be described in the next section of this chapter regarding work-related outcomes. The Pearson correlation coefficients obtained for the different scales of the HPEI and the BB5 are shown in the table below:

Table 7: Pearson correlation coefficients for the HPEI scales and the BB5 (Delobbe et al., 2009).

	Agreeableness	Conscientiousness	Emotional stability	Extraversion	Openness to experience
Base1: The Reformer	-.29***	.58***	.00	.04	.05
Base2: The Helper	.51***	.00	-.09	.17**	.21***
Base3: The Motivator	-.16*	.10	.21***	.23***	.18**
Base4: The Romantic	.00	-.21***	-.51***	-.20**	.19**
Base5: The Thinker	-.14*	.00	-.01	-.30***	.18**
Base6: The Skeptic	-.29***	.00	-.33***	-.29***	.05
Base7: The Enthusiast	.13	.15*	.17**	.38***	.43***
Base8: The Leader	-.21***	.04	.15*	.36***	.26***
Base9: The Peace-Maker	.36***	-.07	-.09	-.08	.09

N=228 * : $p < .05$, ** : $p < .01$, *** : $p < .001$

In a different study, the authors examined the degree of agreement between the results of the HPEI applied prior to Enneagram training, and the self-identified Types of the participants after it, on French-speaking (N=217) and Dutch-speaking samples (N =175). Through an ANOVA analysis of repeated measures, they found that in all cases, the self-identified Type had obtained a significantly higher score on the HPEI than the non-selected types (Delobbe, Halin and Prémont, 2012).

2.3.5.2.4 The Nine Types Temperament Model

The Nine Types Temperament Model (NTTM) (Yilmaz et al. 2014) was developed by a team of Turkish psychiatrists and psychologists, based on the Enneagram model. It is a self-assessment instrument composed of 91 items to be answered on a three-point Likert scale (1=No; 2=Sometimes; 3=Yes). For validation, it was applied to a sample of 990 participants of Turkish nationality (average age 36.06, s.d.=10.75). The authors performed an exploratory factor analysis (N=990), obtaining eigenvalues for the nine factors varying between 8.089 and 1.661, representing 39.04% of the total variance. Confirmatory analyses of the scales reported a comparative fit index (CFI) of 0.88, a goodness-of-fit index (GFI) of 0.845, an incremental fit index (IFI) of 0.88, and a root mean square error of approximation (RMSEA) of 0.054 (Yılmaz et al., 2016, p.5). In terms of reliability, they reported Cronbach alpha values between 0.68 and 0.83 for the nine scales ranged, with a mean alpha of 0.75 (Yılmaz et al., 2016, p.5). They tested its concurrent, criterion validity in relation to Cloninger's TCI (Temperament and Character

Inventory) and Akiskal's TEMPS-A (Temperament Assessment of the Memphis, Pisa, Paris, and San Diego Self-Questionnaire Version; (Vahip *et al.*, 2005), finding significant correlations between the NTTM and both instruments, and concluding that the results of the study supported the reliability and validity of the NTTM.

In a second study, they explored the relationship between the NTTM and the Five-factor personality inventory (FFPI), a Turkish measure of the FFM (Sommer, Korkmaz and Tatar, 2002), on a sample of 247 healthy Turkish volunteers. They found significant correlations between all the Enneagram Scales (NTM) and the Five Factors, each with a distinctive pattern and consistent with the Enneagram theory. The Pearson Correlation Coefficients found by Yilmaz et al. (2016) are presented in table 8.

Table 8: Pearson correlation coefficients for the NTTM scales and the FFPI (Yilmaz et al., 2016)

	NTM1	NTM2	NTM3	NTM4	NTM5	NTM6	NTM7	NTM8	NTM9
Extraversion	-.12	.35**	.44**	.01	-.67**	-.37**	.57**	.42**	-.29**
Agreeableness	-.10	.34**	-.2**	-.10	-.26**	-.25**	-.01	-.33**	.51**
Conscientiousness	.58**	-.17**	-.20**	-.39**	.18**	.09	-.58**	-.16*	.13*
Neuroticism	-.08	.32**	-.15*	.43**	.18**	.64**	-.05	-.16*	-.04
Openness	-.06	.30**	.11	.28**	-.25**	-.24**	.33**	.10	-.06

N=247; * : $p < .05$; ** : $p < .01$.; NTM: Nine Types Temperament (Equivalent to Enneagram Type)

2.3.5.3 Studies on the relationship between the Enneagram and Workplace Variables

Some of the same studies or research teams that examined the relationship between the Enneagram Model and the Five-factor model, have explored its relationship to job-related variable. For example, the previously mentioned study by Brown and Bartram (2005) also explored the relationship between the Enneagram Types and eight specific job competencies defined by the Occupational Personality Questionnaire (Saville *et al.*, 1996). They found a strong relationship between the types and specific patterns of job competences, and these patterns were meaningfully related to the Enneagram theory.

The researchers analysed the variance in the scales of the eight occupational competencies, to identify the differences between the groups (Enneagram Types). The ANOVA confirmed these significant differences in all competencies scales, except one (Forward Thinking). The post hoc tests revealed the existence of homogeneous subsets for each competency scale. The number of these subgroups varied between 2 and 5 depending on the scale. Specifically, it was found that Enneagram 1 scored higher in “Organising and Executing” and “Applying Expertise and Technology”; Type 2 in “Working with People”; Type 3 in “Leading and Deciding”, “Interacting and Presenting” and “Entrepreneurial and Commercial Thinking”; Type 4 in “Creating and Innovating”; Type 5 in “Applying Expertise and Technology” and “Creating and Innovating”; Type 7 in “Interacting and Presenting”; Type 8 in “Adapting and Coping”, “Leading and Deciding”, “Interacting and Presenting”, “Creating and Innovating” and “Entrepreneurial and Commercial Thinking”; and Type 9, in “Adapting and Coping”. Type 6 did not show a significance difference with other groups in any particular scale (Brown and Bartram, 2005, p.17). Most of these relationships confirmed the hypotheses and were consistent with the Enneagram theory.

A previously mentioned study by Delobbe et al., (2009), found evidence of distinct patterns of associations between their Enneagram test, the HPEI, and the Career Anchors questionnaire by Schein (1996); on a sample of 228 subjects. The Career Anchors questionnaire measures career interests based on individuals’ motivations and values. The table below shows the Multiple regressions coefficients obtained for the different scales of the HPEI and the Career Anchors.

Table 9: Multiple Regressions between the HPEI and the Career Anchors by Schein (Delobbe et al., 2009).

	Managerial	Security/ stability	Entrepre- neurial	Challenge	Work-Life Balance	Service	Autonomy	Technical
	β	β	β	β	β	β	β	β
Base1: The Reformer	.065	.113	.068	.202**	-.079	.061	.097	.060
Base2: The Helper	-.095	.040	.141	.075	.128	.225***	.063	.195**
Base3: The Motivator	.517***	-.077	.040	.121	-.144	-.337***	-.016	-.122
Base4: The Romantic	-.093	.025	.019	-.144*	.091	.160*	.069	.156*
Base5: The Thinker	.018	-.030	.120	.013	.019	.112	.136	-.019
Base6: The Skeptic	.039	.130	.043	.015	.081	-.041	-.052	.058
Base7: The Enthusiast	.117*	-.234***	.184**	.332***	-.047	.195**	.160*	-.170**
Base8: The Leader	.014	-.051	.106	.067	.064	.089	.129	.019
Base9: The Peace-Maker	.054	.134	-.159*	.037	.137*	.061	-.093	-.081
R ²	.37***	.11**	.13***	.27***	.12***	.27***	.09**	.10**

Note : N= 223 ; β coefficients are standardised. * : $p < .05$, ** : $p < .01$, *** : $p < .001$

The authors also assessed the incremental validity of the HPEI in relation to the FFM measured with a French questionnaire, the BB5 (Barbot, 2008) in relation to the Career Anchors. They carried out a hierarchical regression, first introducing the five factors of BB5, and then the HPEI variables. The results showed that BB5 explained a significant portion of the total variance of the Career Anchor scales, ranging between 6% and 18%,. The HPEI, for its part, explained a significant portion of the additional variance ranging between 7% and 25%, for six of the eight dimensions. The results of the Hierarchical multiple regressions of career anchors on BB5 and HPEI are presented in table 10.

Table 10: Hierarchical Multiple Regressions between the BB5, the HPEI and the Career Anchors by Schein (Delobbe et al., 2009).

Career's anchors	Managerial		Security/stability		Entrepreneurial		Challenge	
	β	β	β	β	β	β	β	β
<u>Step 1: BB5</u>								
- Agreeableness	-.272***	-.120	.134*	.112	-.068	.056	-.098	-.040
- Conscientiousness	-.028	-.149*	.130*	.084	-.031	-.177*	.103	-.102
- Extraversion	.210**	.193**	-.090	.019	-.005	-.074	.174*	.095
- Emotional stability	.201**	.145*	-.166*	-.085	.039	.068	.103	.109
- Openness to experience	.164*	.091	-.216**	-.228**	.335***	.249***	.185**	.074
<u>Step 2 : HPEI</u>								
-Base 1 : The Reformer		.156*		.060		.199*		.274***
-Base 2 : The Helper		-.082		.018		.097		.082
-Base 3 : The Motivator		.456***		-.046		.013		.077
-Base 4 : The Romantic		-.034		.042		-.021		-.115
-Base 5 : The Thinker		.002		.036		.045		.000
-Base 6 : The Skeptic		.083		.129		.069		.050
-Base 7 : The Enthusiast		.044		-.160*		.129		.264***
-Base 8 : The Leader		-.105		.023		.066		.006
-Base 9 : The Peace-Maker		.091		.107		-.160*		.047
R ² for complete equation	.18***	.43***	.11***	.15***	.11***	.19***	.14***	.29***
ΔR^2		.25***		.05		.08***		.15***

*N = 227; B COEFFICIENTS ARE STANDARDISED. * : P < .05, ** : P < .01, *** : P < .001*

Career's anchors	Work-Life Balance		Service		Autonomy		Technical	
	β	β	β	β	β	β	β	β
<u>Step 1: BB5</u>	.257***	.176*	.222***	.029	-.024	.093	.107	.050
- Agreeableness	-.023	.007	.039	-.020	.045	-.038	-.021	-.089
- Conscientiousness	-.084	-.018	-.088	-.041	-.038	-.105	-.072	-.053
- Extraversion	-.099	.025	-.126	.070	.056	.086	-.114	.080
- Emotional stability	.008	-.061	.227***	.093	.274***	.178*	-.148*	-.207**
<u>Step 2 : HPEI</u>		-.061		.086		.143		.113
-Base 1 : The Reformer		.078		.216**		.013		.227**
-Base 2 : The Helper		-.145*		-.353***		-.027		-.121
-Base 3 : The Motivator		.108		.165*		.070		.195**
-Base 4 : The Romantic		.036		.080		.066		.006
-Base 5 : The Thinker		.125		-.018		-.012		.063
-Base 6 : The Skeptic		-.052		.153*		.121		-.099
-Base 7 : The Enthusiast		.116		.082		.125		.068
-Base 8 : The Leader		.096		.054		-.106		-.105
-Base 9 : The Peace-Maker								
R ² for complete equation	.07**	.14**	.10***	.28***	.08**	.13**	.06*	.08*
Δ R ²		.07*		.18***		.05		.14**

*N = 227; B COEFFICIENTS ARE STANDARDISED. * : P < .05, ** : P < .01, *** : P < .001*

The authors concluded that their results supported the concurrent criterion validity of the HPEI in relation to Schein's Career Anchors questionnaire, and its incremental validity in relation to the BB5.

Likewise, the study by Sutton (2007) explored the relationship between self-identified Types (as categorical variables) with three job-related attitudes and cognitions: Job involvement, Perceived Stress, and Self-efficacy (Bandura, 1978); as well as their relationship with career-related factors such as forms of occupation, employment status, industry, and educational level. Through a series of successive ANOVAs, they found that Enneagram Type had a significant effect on Self-efficacy ($F(8, 299) = 4.49, p < 0.001$), of medium size ($g^2 = .11$). The post-hoc Bonferroni tests indicated that Type 3 scored significantly higher than Types 1, 4, 5 and 9 on this job attitude, while Type 8 scored significantly higher than Type 9. Regarding Job Involvement, while they found a significant effect ($F(8, 299) = 1.96, p < .05$) it was small in size ($g^2 = .05$); and the post-hoc tests did not detect significant differences between Types. No effect of Enneagram Type was observed for Perceived Stress ($F(8, 299) = 1.44, p > .05$).

In relation to career-related factors, their chi-squared tests indicated that the only three Enneagram types differed significantly from the rest of the group in terms of educational level, industry, and occupation. The first was Type 8 who differed from the rest of the types in terms of occupation ($\chi^2(3) = 14.91, p < 0.01$), being more associated with managerial positions, and less with professional positions. Type 1 differed from the rest of the types in terms of industry ($\chi^2(5) = 13.98, p < 0.05$), showing a greater probability of working in education; and a lower likelihood of working in business services. They were also more likely to be unemployed or retired, and less likely to be self-employed, than the rest of the group ($\chi^2(2) = 7.99, p < .05$). Type 2 was more likely to have a lower educational level than the rest of the group ($\chi^2(7) = 20.17, p < 0.01$).

This study also included a regression analysis to compare the variance explained by the FFM, with that explained by the Enneagram, the values, and the motives scales, regarding Job attitudes. The FFM demonstrated greater criterion validity regarding Job attitudes, being able to explain 29% of the variance in Perceived Stress. On the other hand, the Enneagram and the personal values scales were associated with Job Involvement while the FFM was not. In general, the FFM demonstrated to be more effective, while the Enneagram was similarly effective as the values and the motives scales. The researchers concluded that, overall, their results provided initial support of the concurrent and criterion validity of the Enneagram in relation to work-related outcomes (Sutton, 2007; Sutton, Allinson and Williams, 2013).

2.3.5.4 Studies exploring the usefulness of the Enneagram Model

It has been argued that usefulness is one of the key attributes of a theory (Pervin and Cervone, 2010). This section will review evidence of the usefulness of the Enneagram in applications to three areas of applied psychology: clinical, educational, and the most relevant for this thesis, occupational or workplace applications, as well as some in related areas, such as medicine. Although these studies are still very few, an increase in the number of studies has been observed during the last decade (Hook *et al.*, 2021).

A few investigations have examined the usefulness of the Enneagram model in the workplace. For example, a longitudinal, mixed-methods study by Sutton *et al.*, (2015) compared the impact of self-Awareness training on job well-being (satisfaction,

enthusiasm, and contentment) using two different approaches: one based on the Enneagram, and the other on generic self-awareness tools, on a sample of 88 full-time employees. They found that Enneagram training produced a faster and higher increase in Reflection, than regular self-awareness training, both in the short (1 week) and long term (1 month) measurements. The Enneagram training was also more successful in increasing job contentment in the short term. At a qualitative level, they found that Enneagram training was more effective in encouraging self-development and application across different contexts (home and work), although generic self-awareness training seemed to more successful in reducing Rumination in the longer term (Sutton, Williams, and Allinson, 2015). On the other hand, by the time of the final measurement, both groups had returned to pre-training levels, a finding that could call into question the long-term impact of this kind of training.

A number of unpublished doctoral theses have examined the usefulness of Enneagram training on work-related outcomes. For example, Ho (2019) found that this training improved leadership versatility in a group of adolescent leaders in Catholic schools in Indonesia, in what appears to be the only study to date that somehow connects the Enneagram to Leadership. Other studies reported that Enneagram training helped improve coach-athlete relationships (Kuit, 2018), and the effectiveness of teams (Ormond, 2007; Linarez-Placencia and Espinoza-Castelo, 2019). However, some of these studies found that Enneagram training had no impact on other workplace variables. For example, Ho (2019) did not observe an influence on the level of insight; and Ormond (2007) did not observe any effect on emotional intelligence, perceived stress, or mood of the teams.

On a purely theoretical level, Kamineni (2005) used the Enneagram to develop a customer segmentation tool based on personality Type, and proposed differentiated marketing strategies for each one. Cutting and Kouzmin, (2004) used the Enneagram along other constructs to create a complex framework to understand the process of knowledge acquisition, proposing how cognitive processes could explain character typologies. Brugha (1998) used the Enneagram as a basis to design a system to analyse managerial decision-making, describing nine different kinds of behaviour and strategies to deal with a problem. And Kale and Shrivastava (2003) proposed the Enneagram as a

useful framework to for enhance well-being in the workplace. These ideas prove the heuristic potential of the construct, although, to our knowledge, none of them has been tested empirically.

The fields of clinical psychology, psychotherapy, and counselling have been more prolific in terms of the number of studies and positive findings regarding the usefulness of the model. Daniels et al. (2018), for example, examined the impact of Enneagram training on the “developmental level” (Loevinger, 1966) of a group of subjects. Using a quasi-experimental design, with a pre and post long-term measurements employing the Washington University Sentence Completion test or WUSCT (Loevinger, 1985), they found that 33% of the participants showed significant improvement in their levels of well-being and general adaptability following the training. The authors concluded that the Enneagram Model provides a unique roadmap for adult development, since it "imparts Type-specific content tailored to each Type's particular developmental trajectories" (p. 236). Other studies exploring the usefulness of the Enneagram in clinical or counselling contexts have also employed a quasi-experimental design, using control groups to compare their findings. For example, Rasta, Hosseinian and Ahghar (2012), found that Enneagram training was effective in decreasing the anxiety level and increasing self-esteem of a group of female schoolgirls. Similarly, Lee, Yoon and Do, (2013) found that this training was effective in improving the self-confidence of nursing college students going through stressful situations and developmental crises; while Kim, Jeong, and Kim, (2019), concluded that it helped improve the interpersonal relationships and self-esteem in a group of professional nurses. Lee and Kim (2016) discovered that it decreased the levels of co-dependency and anger in a group of alcoholics' wives, although it had no impact on their interpersonal relationships.

Using qualitative methodologies, Perryman, Popejoy and Suarez, (2018) observed that Enneagram training increased self-awareness and awareness of others, and that it improved relationships between supervisors and supervised therapists in the context of clinical practice. An unpublished dissertation by Choucroun (2012) reported findings on the usefulness of the Enneagram as a tool for couple-counselling. Another unpublished dissertation by Arthur, Keeling and Piercy (2008) found associations between the Enneagram Types and the attachment styles defined by Bowlby (1951), a well-grounded

theory in the clinical context (in Hook et al., 2021). On a theoretical level, Wyman (1998) proposed a way to integrate the Enneagram as an aid to create self-awareness in the context of psychotherapy.

Some of the studies mentioned above are located in a field of overlap between the clinical and the educational (e.g., Rasta, Hosseinian and Ahghar, 2012). In a purely educational context, there is a relatively smaller number of studies. For example, Coker and Mihai (2017) reported that the Enneagram Type influenced the learning experience of a second language; while Newgent, Parr and Newman (2002) found that the Enneagram model was a useful tool for career exploration with at-risk and multicultural groups of high school students.

In medicine, Komasi and his team established a significant connection between the Enneagram model (measured using the RHETI) and the risk of presenting cardiovascular disease (N=96) (Komasi *et al.*, 2016); to the patients' perceived risk of disease, and to their readiness to adopt lifestyle modification (N=190) (Komasi *et al.*, 2019).

2.3.5.5 Studies exploring the Validity and Usefulness of the Enneagram Model: Conclusion

This section has presented studies exploring the construct, concurrent and criterion validity of the Enneagram model, as well as of its usefulness in different areas of applied psychology. Overall, it can be concluded that the evidence so far has been mixed (Hook *et al.*, 2021), but is gradually growing, providing initial support for the validity of the Enneagram personality model.

2.3.6 Strengths and Weaknesses of the Enneagram Personality Model

The previous section reviewed the empirical evidence regarding the validity and usefulness of the Enneagram model. This section will briefly examine its strengths and potential contributions, the main criticisms it has received, as well as its overall quality as a personality theory, based on the criteria proposed at the beginning of this chapter: comprehensibility, scientific rigour, and usefulness.

One of the main strengths of the Enneagram as a theory would lie in its comprehensibility. The Enneagram model covers most aspects that theory of personality should encompass: It describes personality in terms of “types of people”, with characteristic patterns of cognitive and socio-emotional styles, behavioural tendencies, and motives. It describes how these components would interact with each other within the individual as a whole. It associates each of these types (systems of personality components) with a certain way of experiencing reality, a certain emotional tone, and a distinguishable pattern in their sense of identity. In sum, the Enneagram theory connects a distinct mix of personality components, to distinct patterns of intra-individual processes, and inter-individual differences. It offers a credible explanation as to why the behavioural patterns of an individual can be consistent or inconsistent across situations, why they differ from the patterns of other individuals, and how they came to exist. The “story” is intuitive, it is presented in simple language, and it “makes sense” to a layperson (Thomas, 2002), perhaps explaining the popularity of this model among therapists and counsellors (Hook *et al.*, 2021), and its high degree of adoption in the workplace (The Enneagram in Business, 2022). Finally, the Enneagram also offers a model to integrate healthy and pathological personality traits into a single continuum, describing their common thread, and suggesting ways in which individuals of each type can increase their level of well-being. While its increasing popularity is not proof of its actual contribution, it is at least a sign of its face validity (Thomas, 2002). In part, this face validity would be related to its approach to the person as a whole, in terms of how different types tend to experience reality and themselves, their most recurrent emotions, their narratives and their sense of identity.

Regarding its usefulness, many practitioners and some academics agree that its descriptions are easy to understand; and that types are presented with intuitive names and therefore are often "memorable" (Riso and Hudson, 1999; Sutton, 2012; Hook *et al.*, 2021; Kam, 2022). People who receive Enneagram training have reported that its descriptions seem real; that they feel identified, and that they experience a positive impact on their level of self-awareness and well-being, and the quality of their relationships (Sutton, Williams and Allinson, 2015; Daniels *et al.*, 2018). On the other hand, this review presented emerging evidence about the usefulness of the Enneagram

in increasing self-awareness (Sutton, Williams and Allinson, 2015), team effectiveness (Ormond, 2007; Linarez-Placencia and Espinoza-Castelo, 2019) and well-being in the workplace (Sutton, Allinson and Williams, 2013), on improving self-esteem and decreasing anxiety levels (Rasta, Hosseinian and Ahghar, 2012; Lee, Yoon and Do, 2013), or even predicting the risk of cardiovascular disease (Komasi *et al.*, 2016, 2019). It also showed some evidence of its association with relevant workplace outcomes, such as Job Attitudes and Cognitions (Sutton, Allinson and Williams, 2013), career interests (Delobbe, Halin and Prémont, 2012), or career paths (Newgent, Parr and Newman, 2002). If these findings are confirmed by further studies, the Enneagram could be considered a useful as a tool for practitioners in different fields.

On the other hand, the most outstanding debt of the Enneagram model lies in the realm of scientific rigour. In fact, the academic community, to a great extent, still regards it as an example of pseudoscience (Lilienfeld, Lynn and Lohr, 2015), and “unscientific” (Hook *et al.*, 2021). Several reasons may explain this resistance. First the origin of the model, linked to philosophical and religious traditions (Fernandez Christlieb, 2017; Hook *et al.*, 2021). Second, the abundance of low-quality, self-help literature linked to the model (Martínez, 2023). Third, the proliferation of vague concepts, overlapping definitions (jingle-jangle), and just-so new sub-theories, surrounding the model, gradually moving away from Naranjo's initial effort to integrate this model obtained from philosophy, with established academic personality theories (Naranjo, 1994).

As discussed at the beginning of this chapter, the scientific rigour of a theory can be judged by several criteria: it should be verifiable, internally consistent, heuristically valuable, parsimonious, not merely descriptive but also explanatory, and most importantly, accurate, that is, faithful to the reality it pretends to describe and explain (Pervin and Cervone, 2010; Funder, 2012; Engler, 2013; Edwards *et al.*, 2018; Cooper, 2019; Snow, Federico, and Montague, 2021).

On the one hand, it is indisputable that the Enneagram still suffers from a lack of empirical evidence supporting its accuracy or validity. In part, this can be explained by the general lack of interest from academia. But it is also true that, although some of the studies have delivered mixed or inconclusive results, there is a growing body of evidence supporting its validity as a personality model (Hook *et al.*, 2021).

On the other hand, the Enneagram seems to satisfy other parameters of a scientifically rigorous theory. Firstly, it can be argued that the Enneagram theory is verifiable. Its detailed descriptions and behavioural predictions allow for very precise hypotheses, subject to be confirmed or disconfirmed by empirical research. It attempts to explain, and not merely describe various aspects of personality, including inter-individual differences and intra-individual experience (Riso and Hudson, 2000b). It offers a parsimonious account of a broad spectrum of human behaviour, integrating various phenomena of normal personality and mental illness, in a way that, if proven valid, could be compatible with the advances of the FFM in this matter. It can also be argued that it is internally consistent, since it presents a logically coherent "story" of personality resulting from the dynamic interaction between inherent or temperamental traits, and the environment, including our early experiences, and our current situation. Its heuristic potential can be deduced from its proposed theoretical connections to theories like Bowlby's attachment styles (Bowlby, 1951; Kam, 2022), or its potential applications in areas as diverse as disease prediction, strategic decision-making, market-segmentation, or learning a second language.

2.3.7 The Enneagram Personality Model: Conclusion

The previous sections reviewed the main characteristics of the Enneagram personality model, the existing empirical evidence regarding its validity, reliability, and usefulness; the main criticisms it has received, its potential contributions, and its overall quality as a theory. In summary, it can be argued that the Enneagram theory presents strengths in terms of its comprehensibility, some strengths regarding its usefulness, and some positive attributes in terms of its scientific soundness, such as being verifiable and parsimonious, but it is still notably lacking in the most important attribute: there is little evidence supporting its scientific accuracy. However, if the Enneagram model is proven valid, it could be a valuable complement to the FFM. The significant consistency of the findings regarding the relationship between Enneagram types and FFM traits, seems to suggest so (this relationship will be reviewed further in chapter 4). The types proposed by the Enneagram could eventually be viewed as distinctive combinations between the five traits, which could be related to specific patterns of motivations, subjective

experiences or self-narratives. Finally, this chapter has commented on the high level of adoption of this model among professionals, which is why it appears important to conduct more systematic research on the Enneagram, to support or refute the validity of the model. This will help inform practitioners of its usefulness or warn them of its dangers. This thesis has attempted to contribute to closing this gap.

The next section will depart from the Enneagram model to return to the study of personality as a whole, this time reviewing the existing literature on the complexities and precautions that must be taken into account when measuring personality through self-assessment.

2.4 Measuring Personality: Critical Review

“People are very hard to study. We are looking at an enormously complicated organism (one with mind, whatever that is)...” (Boeree, 2006, p.1)

Personality cannot be seen or touched. It can only be inferred, indirectly, by an observer. This challenge is common to all social sciences. Our object of study needs to be operationalised in order to be assessed and studied (Cronbach and Meehl, 1955). Thus, the theoretical and empirical exploration of personality cannot be divorced from its measurement. This is one of the main reasons why the validity and reliability of psychological constructs and the instruments used to measure them is so relevant to our field.

This section will briefly review the literature regarding validity and reliability of psychological measurements, as well as the particular challenges involved in measuring personality through a self-assessment questionnaire. This review will help inform the interpretation of this study’s results. The methodological approach of this thesis will be discussed in depth in chapter 5.

2.4.1 Reliability of Psychological Measurement Tools

Reliability of a measurement refers to the extent to which it gives results that are consistent (Field, 2013). There are four general criteria to establish the reliability of a

measure (Trochim, 2006): First, inter-rater reliability, which refers to the degree of agreement between two or more raters in their appraisals. For example, all expert judges providing a similar rating for a specific trait. Second, test-retest reliability, referring to the extent to which test scores are consistent from one application of the measurement to the next. Third, inter-method reliability, referred to the extent to which test scores are consistent when the methods or instruments used to measure the construct vary, e.g. parallel forms of the same test. And fourth, internal consistency reliability, which assesses the consistency of results across items within the same test (Middleton, 2020).

It is important to note that, just because a measure is reliable, it is not necessarily valid. For example, if a scale to measure weight is consistently 5 pounds off, it is reliable but not valid. In other words, its measurements are consistent, but it is not providing the true weight of an object. On the other hand, a test cannot be valid unless it is reliable (Campbell and Fiske, 1959; Carmines and Zeller, 2012).

2.4.2 Validity of a Measurement Tool

Validity, in a general sense, refers to the degree to which an instrument measures what it is supposed to measure. Literature defines several types of validity of a measurement tool, depending on the aspects each addresses. Kane (1992, 2013) has argued that the different forms of validity should not be treated as if they were independent, but as sources of evidence that complement one another to support a validity argument. According to Gonzalez et al. (2021), validity should be considered as one, and the different forms of validity described by the literature are its different manifestations.

In any case, it is important to distinguish the different forms of validity, since they do not always behave in the same way for the same instrument. Understanding their nature allows researchers to consider them when making a decision on the overall validity of an instrument. The different forms of validity are described below.

2.4.2.1 *Non-statistical aspects of validity:*

Face Validity and Content Validity are non-statistical forms of validity that generally apply to questionnaires. Face validity relates to whether or not the instrument appears

to be a good measure of what it claims to measure. It is based on the subjective judgement of people who are not necessarily experts in the field. Although it is a starting point, it should never be assumed that high face validity guarantees that the test actually measures what it claims to measure (Bornstein, 1996).

Content validity refers to the degree to which the instrument adequately represents all the content domain it is supposed to cover. It involves experts on a systematic review of the items of a test in relation to the theory (Anastasi and Urbina, 1997) to determine whether the test contains all the elements necessary to cover the different aspects of the construct, if all the items it contains are relevant to the construct, and if it does not contain items that are irrelevant (Anastasi and Urbina, 1997; Teddlie and Tashakkori, 2009).

2.4.2.2 Statistical aspects of validity:

Construct, criterion, predictive, concurrent, convergent, and discriminant (or divergent) validity are forms of validity that are tested through diverse statistical analysis and that refer to slightly different but related aspects of the validity of a measurement instrument.

Construct validity is central in Personality Psychology, since, as mentioned above, investigators in the field cannot access their research object directly (Cronbach and Meehl, 1955). To measure any construct used in our field (e.g. Neuroticism, Extraversion, depression), it must first be operationalized into an instrument such as a questionnaire or an observation protocol. Construct validity can be defined as the extent to which these instruments actually measure the constructs they intend to evaluate, and therefore, sometimes it is used as a synonym to the more general concept of validity (Field, 2013). Construct validity also includes the statistical analysis of the internal structure of a test, where the relationships between the items and variables should be reflecting theory (Cronbach and Meehl, 1955; Smith, 2005).

The concepts of criterion, predictive, concurrent, convergent, and discriminant validity all refer to different ways to assess and establish the construct validity of an instrument. Criterion validity is generally understood as the degree to which an instrument corresponds with (concurrent validity) or predicts (predictive validity) external measures that are conceptually related to the construct it intends to measure (Field, 2013). The

difference between concurrent and predictive validity are mainly determined by the timing of the measurements in a research design. Concurrent validity refers to the degree to which the measurement being tested correlates with other relevant measurements obtained at the same time. Predictive validity refers to the degree to which the measure of a construct predicts or correlates with other measures obtained at some point in the future (Teddlie and Tashakkori, 2009).

To establish the criterion validity of a measurement technique, it is also necessary to compare it with external criteria or standards. They are usually of three types: First, it may be another well-established instrument, a “golden standard” (McDonald, 2005), that measures the same construct (Field, 2013). In personality, this “golden standard” is the Five-factor model, reviewed earlier in this chapter (Ozer and Reise, 1994). A second kind of external criterion can be a measure of other, conceptually related, construct (Field, 2013). For example, the degree to which an instrument for measuring Extraversion correlates with independent measures of variables such as talkativeness or sociability. Third, they may be measures of conceptually relevant outcomes, such as performance, well-being, or addictive behaviours (Cicchetti, 1994). For example, a personality test used to recruit new hires, could be predictive of employees’ future performance. To establish a solid external criterion or standard as a point of reference is a key issue, since criterion validity will only be as strong as the validity of the standard used as the reference. If both measures are biased, they could confirm each other without being really valid (Carmines and Zeller, 2012).

Regarding the patterns of correlation that can support the validity of an instrument, literature generally distinguishes between convergent and discriminant (or divergent) validity. Convergent Validity refers to whether a measurement correlates strongly with other measures that, according to theory, it should be related to. In other words, a high correlation with similar constructs supports convergent validity. For example, an instrument designed to measure suicidal ideation would have convergent validity if it correlated significantly and positively with instruments that measure depression (University of York Department of Health Sciences, 1973). Discriminant (or Divergent) validity is the degree to which the measurement is unrelated to variables to which it should be unrelated if the instrument is valid (Campbell and Fiske, 1959). Some

researchers understand this as a negative correlation, for example, using the same example cited above, this instrument will have divergent validity if it correlates negatively and significantly with variables like self-rated life satisfaction. Others interpret divergent validity as lack of relationship rather than a negative one, for example, the instrument showing no significant correlations with the measures in life-satisfaction (University of York Department of Health Sciences, 1973).

2.4.2.3 Validity of Research Studies

Validity is a term that can also be applied to a research study, mainly depending on the scientific robustness of its design (internal validity), and the exportability of its observations to a more general population (external validity). Internal validity is described as the extent to which a study accurately represents the causal relationship between the variables, and the extent to which alternative explanations for the observed effects can be ruled out (University of York Department of Health Sciences, 1973). External validity refers to the extent to which the results of a study can be generalized beyond the specific conditions of the study, considering the applicability of the findings to other populations, settings, or times (Andrade, 2018). Ecological validity is a similar construct, related to the degree to which the findings of a study can be generalized to real-world settings, depending on the extent to which the conditions and variables of the study reflect everyday life (Orne, 1973; Brunswik, Hammond and Stewart, 2001; Andrade, 2018). Cross-cultural validity, on the other hand, is related to the degree in which a measure or test is valid in different cultural groups, and has been generally associated with whether psychological constructs have been measured consistently in diverse populations (Matsumoto, 2008).

2.4.3 Specific Issues Regarding Self-assessment Questionnaires

There are many approaches to the study of personality, all of them closely linked to the researcher's conception of human nature: controlled experiments, psychometric questionnaires, projective tests, expert observation, discourse analysis or even introspection (Sartori, 2010; Quirin *et al.*, 2020; Roberts and Yoon, 2021). In Boeree's (2006) view, all of these approaches are necessary and complementary to explore the different aspects of this highly complex, multivariate, and multilayered phenomenon.

However, the reality of this field is that it relies heavily on self-assessment questionnaires. Vazire (2006) reports that, of all the studies that used personality as a variable during 2003, 98% of them used self-assessment questionnaires and 70% used only that measure. This excessive reliance on this method has often been the subject of questioning and criticism within the academic community (Vazire, 2010; Dunning, Meyerowitz and Holzberg, 2012; Müller and Moshagen, 2019). This thesis has opted for a self-assessment questionnaire to measure the personality variables of interest. Therefore, this section reviews the particular advantages and risks that this method might entail, so that this thesis can consider them when interpreting results.

2.4.3.1 Key Advantages of Self-Assessment Measures

The main reason behind the pervasive use of self-assessment questionnaires is their convenience. Quickly and cheaply, information can be collected from a large number of people. Online evaluation forms have made them even more convenient, reducing the risk of mistakes in the data entry process and allowing test-takers to respond from any location, at any time (Creswell, 2014; Saunders, Lewis and Thornhill, 2019a). As this thesis needed to collect responses from busy executives distributed in several countries, in a limited time-frame, a self-assessment supported by an online platform was chosen as the best option.

Another relevant advantage that applies to personality tests in general and not only to self-assessments, is that they can be easily translated into numbers. In other words, questionnaires built from Likert-scale items can convert qualitative phenomena into something that can be quantified, measured, and therefore, analysed. The development of better personality questionnaires, based on stronger constructs, and generating large volume of numerical data, was instrumental in the revival of the study of the impact of personality in several areas of life during the last three decades, after more than 40 years of discredit caused by situationism (Antonakis, Day and Schyns, 2012). Large data bases of personality data, as well as the development of more sophisticated statistical techniques, have enabled researchers to discover several associations between personality variables and relevant outcomes that had never been found before, due to the background noise of the multiple intervening variables (Rothstein, 2007; Field, 2013). As this thesis aimed to incorporate several independent variables (nine

Enneagram types), and a wide range of dependent variables, a quantitative measure of personality through a self-assessment questionnaire was considered the best option.

2.4.3.2 *Risks of Self-Assessment Measures*

“Why do others sometimes know things about us that we don’t know about ourselves?” (Vazire, 2010, p.281)

For decades the validity of self-assessment questionnaires as a source of accurate information about personality has been questioned (Block, 1965; Roth and Altmann, 2019). Phenomena such as social desirability or self-serving bias have been extensively studied by cognitive and social psychology (Coleman, 2011; Deffains, Espinosa and Thöni, 2016; Wang *et al.*, 2017; Larson, 2019; Bergen and Labonté, 2020; Cristofaro and Giardino, 2020; Lanz, Thielmann and Gerpott, 2022). And yet, a significant body of empirical evidence seems to indicate that self-assessment of personality is not necessarily less accurate, but rather would provide a different type of information than other people's assessment (Allik *et al.*, 2010; Vazire, 2010; Funder, 2012; Hirschmüller *et al.*, 2013; Bollich, Rogers and Vazire, 2015). Self and others would differ regarding which aspect of an individual’s personality they perceive more accurately.

Vazire (2010) proposes two general dimensions in which self³ and others’ assessments on personality would differ: accessibility to information and motivations (Vazire, 2010). The first dimension refers to the different sorts -and quantities- of information that self and others would have access to when making a judgement about personality. For example, the self would be the only one with access to internal information such as thoughts, intentions, and feelings, which are invisible to an external observer. The amount of information available would be different as well, since individuals have continuous access to observe themselves, while others would only have “samples of behaviour” to rely on. On the other hand, others would be better placed to observe the

³ The term “Self” is employed here in a general sense, representing the perspective that person has on him or herself when assessing their own personality, and not in the specific sense of the concept of “Self” proposed by some approaches in personality psychology.

individual's non-verbal language, which is generally imperceptible to the individual. And finally, there would be a region of overlap, regarding explicit behaviours that would be visible to both.

The second dimension refers to the motivational differences affecting what sort of information both parties would pay attention to, and therefore be more inclined to detect. Also, to the different motivations -mostly unconscious- that each party would have when interpreting the information (Vazire, 2010). For example, the self could be influenced by their desire to justify their own behaviour, to preserve their positive self-image, or to save face in front of others in case they believed their assessments will be known to a third party. Others might be influenced by their own expectations of the relationship, or expectations of how the results of the evaluation might affect them (for example, an assessment conducted in a context of peer competition, or fear of retaliation in the case of followers).

Vazire (2010) empirically tested these hypotheses through an ingenious study comparing self-to-other, and other-to-other agreement in personality-assessment, on a group of 165 subjects. The study also differentiated between two groups of "others": close acquaintances or friends and relative strangers. Results generally confirmed the hypotheses: self-assessments were more accurate in perceiving "internal" personality traits: patterns of thoughts or emotions, such as anxiety, agitation, or worry. On the other hand, self-assessments were less accurate than others' when dealing with traits high in "evaluateness" (such as intellect, beauty, or agreeableness). However, self-perceptions were not always self-serving. Sometimes they were biased towards the positive and sometimes towards the negative, when compared to the assessment of external observers. Finally, self-assessments were equally accurate to others' assessments in perceiving traits high in visibility, publicly available, for example those typically related to Extraversion such as talkativeness or sociability. Another interesting finding was that the perception of close acquaintances tended to be more aligned with that of the self, but not necessarily more accurate. Rather, the perception of those who are less close and therefore more objective, seemed to contribute valid information that close acquaintances failed to see (Vazire, 2010). These findings tend to confirm the

assumption that self-ratings are a valid source of information about personality, but that they will necessarily leave out aspects that individuals do not see about themselves.

Similarly, Funder argues that the purpose of any personality measure should be to be accurate. He points out that many scholars have avoided talking about "accuracy" in personality assessment, because the term seems to imply "ultimate truth" (Funder, 2012, p.178). Yet, he claims that accuracy still needs to be addressed and operationalized, for example, as the degree of confidence one can have in the conclusions of an assessment depending on the degree to which different criteria agree (Funder, 2012). He proposes three criteria that should be satisfied to assess the accuracy of a personality judgement: self-other agreement, other-other agreement or consensus, and behavioural prediction, that is, the extent to which a personality trait is capable of predicting relevant behaviours or life outcomes.

A specific case of the issues discussed above that particularly affects self-assessments, refers to the difficulty of these questionnaires in accessing unconscious aspects of personality (Westen, 1996). By definition, people cannot report on what is invisible to them (Block, 1995b). Since the Enneagram model incorporates conscious and unconscious aspects of personality, a self-assessment questionnaire like the one employed in this thesis will not be able to address an important part of the theory. Therefore, it is possible to expect some degree of impact on the reliability of the personality measures used in this thesis. On the other hand, the conscious traits of the Enneagram types have been supported by a fair amount of empirical data (Newgent *et al.*, 2004a; Brown and Bartram, 2005; Sutton, 2007; Delobbe, Halin and Prémont, 2012); so it is still expected that the self-assessment questionnaires will be a sufficiently reliable source of information regarding the individuals' Enneagram types.

Since this thesis relies exclusively on self-assessments to evaluate its independent variable, this suggests a limitation to the validity of this measure. This will be considered in the interpretation of this study's results. On the other hand, the dependent variables of Leadership Behaviour and Perceived Leadership Outcomes will be measured based on the opinion of different raters and, according to this review, they may constitute a sufficiently robust criterion variable to contrast the concurrent validity of the personality variable of interest.

2.4.4 Measuring Personality: Conclusions

This section has briefly discussed the complexities involved in the measurement of personality, and more particularly, the advantages and the risks of using a self-assessment questionnaire. Among the advantages, it is possible to conclude that self-assessment questionnaires are a very convenient method for measuring personality, allowing the collection of a large amount of information from a large number of people, online, easily, quickly, and cost-effectively, minimizing the risk of mistakes in data input (Creswell, 2014; Saunders, Lewis and Thornhill, 2019a). Additionally, they allow the translation of qualitative information into quantitative measures. On the downside, self-assessments have been questioned as a valid source of information, as they are riddled by the questions of perspective, and by definition, they are incapable of capturing the unconscious elements of personality. This review has suggested that their validity has been particularly supported in the case of "internal" personality traits, e.g., anxiety; and of those most visible to both self and others, e.g., talkativeness (Vazire, 2010). It has also suggested that the self-assessment of the Enneagram model carries the risk of being less reliable, since the instrument focuses exclusively on conscious traits, leaving aside the unconscious components of the model.

In conclusion, quantitative measures such as those produced by questionnaires, are the best method of choice when there is the need to examine a large database for possible associations between a large number of independent variables and a large number of outcomes (Field, 2013), which is precisely what this research intended. Yet, this method implies risks and limitations that need to be considered when interpreting the data. The methodological approach of this research project is further discussed in the chapter 5, while its limitations are addressed in the final chapter of this thesis.

2.5 Personality, a Review of the Literature: Conclusion

This chapter has reviewed the literature relevant to this thesis in the field of personality theory and research. It began by reviewing the general landscape of the field and the

main existing approaches to the study of personality, their main contributions and limitations, and their general quality as theories, according to the criteria of scientific rigour, usefulness, and comprehensiveness. It introduced the Enneagram as a typology that describes intra-individual processes and inter-individual differences based on nine distinct personality types. The final section of this chapter reviewed the relevant literature regarding the measurement of personality, and the advantages and risks of using self-assessment questionnaires, this study's method-of-choice.

In conclusion, it can be argued that the Enneagram, as a typological model of personality, and the Five-factor, as a trait model, are not at odds with each other, but could actually be complementary. Furthermore, even though the FFM is, by far, the most validated and robust personality theory today, the Enneagram, if proven valid, could still make a distinct contribution in terms of how the joint influence of the five traits in their different levels could manifest itself in the whole person, as well as their potential relationship with other aspects of personality (e.g., motivations). Furthermore, if the Enneagram proved to be a valid model of personality, it could allow to potentially integrate nomothetic and idiographic approaches to understanding personality, making a distinctive contribution at a theoretical and practical level.

The next chapter will review the literature on the academic study of Leadership, including an overview of the field, as well as a closer look at the concepts of leadership behaviours and outcomes, their definition, and their measurement.

Chapter 3. Leadership: a Review of the Literature

The previous chapter provided an overview of the relevant literature on personality theory in general, and the Enneagram model in particular, discussing the relevant academic research regarding their general validity and its applicability to the workplace.

This section will review the literature on Leadership most relevant for the purpose of this thesis. In the first place, it will provide an overview of the academic study of Leadership, its definition, and its main objects of study. Then it will make a brief tour of the main existing approaches to the study of Leadership, going through trait, behavioural, situational, social-cognitive and process theories, and reaching the present day of the field. It will go on to explain why the Full Range Theory of Leadership (FRTL) within the behavioural tradition has become the standard in academic research over the past 30 years. It will continue with a more detailed description of the FRTL, the model of leadership behaviour used by this study, and a complementary theory, Instrumental Leadership, justifying the rationale for its inclusion. Finally, it will address the concept of Leadership Outcomes, discussing the complexities involved in defining and measuring its constructs, and justifying the approach adopted by this study.

The following chapter will present the Theoretical Framework of this thesis, presenting empirical findings that connect personality with Leadership Behaviours and Outcomes, and how these can be extrapolated to the Enneagram personality model in order to formulate a set of research propositions.

3.1 Leadership Theories

“(Leadership is) a process whereby an individual influences a group of individuals to achieve a common goal” (Northouse, 2012, p. 3)

Leadership is probably one of the most studied topics in Social Sciences, if not the most. It is part of all social groups, from the very origin of our species, and a key process in allowing human beings to organise themselves into ever larger collaborative networks, in pursuit of common goals that would otherwise be unattainable (Hogan, Curphy and

Hogan, 1994; Hogan and Sherman, 2020a); In the words of Antonakis, Cianciolo and Sternberg (2004):

“(Leadership is) the nature of the influencing process—and its resultant outcomes—that occurs between a leader and followers and how this influencing process is explained by the leader's dispositional characteristics and behaviours, follower perceptions and attributions of the leader” (p. 5).

Chemers (2014) defines leadership as:

“(a) process of social influence in which one person is able to enlist the aid and support of others in the accomplishment of some task” (p. 1);

and House et al. (2004) see it as:

“(the) ability to motivate, influence and enable individuals to contribute to the objectives of organisations of which they are members”(p.15).

Most definitions of leadership seem to share the assumption that it involves a social process by which an individual exercises intentional influence over a group to mobilise the actions of that group in pursuit of a given goal. Historically, the academic study of leadership has distinguished different aspects of this phenomenon to examine them more closely. On the one hand, variables of the leader: their individual traits and their behaviour while exercising their role (Antonakis, Day and Schyns, 2012). On the other hand, the consequences of their behaviour, distinguishing two fundamental types: leadership emergence, that is, the fact of being "promoted" within a group to occupy leadership positions, and leadership effectiveness, that is, the impact of their behaviours when performing their role (Derue *et al.*, 2011; Tuncdogan, Acar and Stam, 2017). As mentioned above, this section will review general leadership theories that usually emphasise one or more of these aspects. The next will focus on the models chosen by this thesis to describe and measure leadership behaviours. The one that follows will review academic approaches to the understanding leadership outcomes, and the complexities involved in their definition and their measurement.

As the study of Leadership is an adjacent camp to the study of personality, both disciplines have developed in parallel and in close communication with each other.

Therefore, the changing approaches to the study of Leadership largely echo the theories of personality prevalent at their time. The early stages of the discipline, in the beginning of the 20th century, shared an almost exclusive focus on the personal attributes of leaders, those that make them "great men" capable of doing "great things" (Bolden, 2004). A second wave of theoretical development, beginning in the 1940s, focused primarily on the study of what leaders "do" to achieve their results, namely, their behaviours; and the extent to which these changed depending on the situation (Griffin and Stacey, 2005). Between 1969 and 1989, a third wave of transformation was brought about by a greater awareness of the complexities and subjectivities involved in conceptualizing and measuring leadership. Two approaches gained momentum during this period: Contingency theories and Social Cognition (Lord *et al.*, 2017). Starting in the 1990s, the field evolved to become much more diversified and complex, witnessing a revival in the interest in leaders' personality and other individual differences; and at the same time, a stronger-than-ever presence of behavioural theories, thanks to the introduction of richer models that came to be known as Leadership Styles. The last two decades have witnessed an even greater awareness of its complexity and of the need to study leadership as a process, including the multiple variables involved, and the systemic relationship between these variables (Fischer, Dietz and Antonakis, 2017; Lord *et al.*, 2017). The main theories within the academic study of leadership are reviewed in more detail below.

3.1.1 Trait theories of Leadership

Trait Theories of Leadership are, by far, the oldest existing approach to the study of leadership. The first models to explain Leadership go back to antiquity, from the conception of the "Great Man" in Plato's Republic (380 BC, in Haslam, Reicher and Platow, 2010). Systematic research on trait theories began in the 19th century, with Galton's exploration of the "heritable factors" that could explain Leadership effectiveness (in Derue *et al.*, 2011).

The focus of trait theories is to explore stable individual characteristics that can explain differences in Leadership Emergence or Effectiveness (Derue *et al.*, 2011). These characteristics can range from gender to physical traits like height or facial features, but

the main focus of research has been psychological traits including personality, motives, beliefs, attitudes, intelligence, social and cognitive skills (Zaccaro *et al.*, 2018).

Research on leaders' traits became interrupted by 30 years of almost exclusive focus on behavioural and situational leadership. However, this approach experienced a huge revival in the late 1980s and early 1990s. This revival was triggered by two fundamental factors: first, the development of more sophisticated statistical techniques, such as meta-analysis, allowing a more precise quantification of effect sizes across studies, and enabling the revalidation of traits as predictors of leadership outcomes. Second, the establishment of the Five-factor model (FFM) as the prevailing personality theory, bringing about a high level of convergence in a traditionally divided field (Antonakis, Day and Schyns, 2012; Zaccaro, 2012).

Thus, research during the 90's started converging towards the exploration of the relationship between the FFM and the dominant model of Leadership Behaviour, the Full Range Theory of Leadership. Several meta-analyses found significant connections between these two dominant constructs (Bono and Judge, 2004; Stewart and Roth, 2007; Derue *et al.*, 2011; Deinert *et al.*, 2015). The detail of these findings is discussed in the following chapter.

In spite of this general convergence towards the use FFM as predictor of Leadership, an important number of studies continued to explore alternative models of personality, such as the HEXACO model (Ashton and Lee, 2008), that introduced an additional factor to the Big Five⁴, or the so called "dark side of personality", that explored the role of narcissism, Machiavellism and psychopathy in leadership behaviour (Hogan and Hogan, 2001; Paulhus and Williams, 2002; Benson and Hogan, 2008; Gaddis and Foster, 2013; Knight *et al.*, 2018; Karr, 2020). Hence the importance of finding more comprehensive personality models that allow for the explanation of a wider variety of leadership phenomena.

⁴ Humility.

3.1.2 Behavioural theories of Leadership

Behavioural theories emphasize what effective leaders “do” in order to achieve results. Influenced by Behaviourism and Positivism, this approach was born from the conviction that leaders’ behaviours can be observed, measured, and taught (Lord et al., 2017).

In the early days, this approach distinguished two macro dimensions of leadership behaviour that could be generically described as: “relationship-oriented” and “task-oriented” (Yukl, Gordon and Taber, 2002), or as Tannenbaum and Schmid (1986) put it: 'boss-centred' or 'subordinate-centred' behaviours.

In general terms, task-oriented behaviours are understood as actions aimed at increasing production and efficiency, improving followers’ performance, emphasizing task monitoring, eliminating unnecessary activities, and reducing costs (Yukl, Gordon and Taber, 2002). Relationship-oriented behaviours, on the other hand, are associated with a focus on fostering teamwork, participation, and consultation, by empowering, supporting, and developing followers (Yukl, Gordon and Taber, 2002).

Among the best-known models combining these two dimensions are Fleishman (1953) constructs of "initiating structure" (task-oriented) and "consideration" (relationship-oriented) and Blake and Mouton’s (1964) “managerial grid”. For two decades, empirical research on leadership behaviour and its relationship with outcomes was dominated by these two categories. According to these studies, the association of these constructs with leadership outcomes was positive, but weak (Yukl, Gordon and Taber, 2002). Subsequent research tending to show a stronger yet still not consistent relationship to leaders’ performance measures (Yukl, 2002, p.16), but results were still inconsistent.

Yukl (2002) adopted the concepts of “task-oriented” and “relations-oriented” leadership behaviour, and proposed the existence of a third category of behaviour that he denominated “change-oriented”. The latter included actions aimed at monitoring factors external to the organisation, detecting threats and opportunities, thinking innovatively, and introducing changes necessary for organisational adaptation and survival (Lowe, Kroeck and Sivasubramaniam, 1996; Yukl, Gordon and Taber, 2002).

In the early 90’s, Bass and Avolio (1990) coined their influential construct of Transformational Leadership, as well as the related concepts of Transactional and

Passive Leadership, together constituting the Full Range Theory of Leadership or FRTL. Upon its introduction, the FRTL quickly proved capable of accounting for several outcomes associated with Leader Emergence and Effectiveness (Barling, Weber and Kelloway, 1996; Lowe, Kroeck and Sivasubramaniam, 1996; Bass, 1997; Sosik and Megerian, 1999). The irruption of the FRTL in the panorama of leadership theories had an impact similar to that which occurred with the FFM in personality psychology: it quickly became the dominant model, concentrating, to this day, an important portion of the research in leadership behaviour and effectiveness (Dinh *et al.*, 2014; Lord *et al.*, 2017; Zhao and Li, 2019; Zhu *et al.*, 2019; Gardner *et al.*, 2020). Although it has not been exempted from criticism (Antonakis, Avolio and Sivasubramaniam, 2003; Muenjohn and Armstrong, 2008), it is by far the most established, and it is the model chosen for this thesis to define and measure leadership behaviour. Section 3.4 of this chapter will focus on describing it in more detail and discussing its strengths and weaknesses.

3.1.3 The Situational Approach and Contingency theories of Leadership

Contingency or situational theories arose as an extension of behavioural theories, from the realization that there was no "single best" set of behaviours predicting successful leadership, or any single "effective" leadership style. In an effort to explain the variability that is often found in the relationship between the leaders' behaviour and their results, contingency approaches incorporated the study of various situational factors that would be mediating or modifying this relationship. For example, Fiedler (1964) theorized about the impact of situational factors such as task structure, leader-member relationships, and leader positional power.

Contingency theories approaches became very popular but gradually disappeared due to a lack of consistent empirical support (Peters, Hartke and Pohlmann, 1985). They experienced a resurgence in academic interest again in the 1980s and 90s, since a subsequent meta-analysis by Peters, Hartke and Pohlmann, (1985) corroborated some of Fiedler's initial predictions.

The appeal of this theory weakened in time as interest in Transformational Leadership increased (Gardner *et al.*, 2020), but it has been revived again after the Covid-19

outbreak, given the sudden impact of an unforeseen contingency and the individual differences in how different world leaders deal with the crisis (Suharyanto and Lestari, 2020).

3.1.4 The Social-Cognitivist approach to Leadership

The behavioural-contingency approach started losing strength, partly due to the recognition of the subjectivity that affected leadership ratings, making it difficult to discriminate the real impact of behaviour over performance.

Academic interest then shifted to Social Cognitivism, which offered the potential to explain the interpersonal perception phenomena involved in these ratings. Social Cognitivism proposed constructs such as “implicit leadership theories” (Eden and Leviatan, 1975), claiming that “cognitive schemata” of both leaders and followers affected not only the perceptions, but also the behaviours associated with leadership.

The social-cognitive perspective helped to clarify the criteria under study, allowing to differentiate the “perception” of leadership effectiveness from the “real impact” of leaders on the performance of the teams or organisations they lead. This approach also helped rediscover the importance of leadership traits, based on the influence of leaders’ personality and other individual differences on interpersonal perception and followers’ ratings.

3.1.5 Process theories of Leadership

A growing trend in the last two decades of leadership theory and research is to incorporate a “process perspective.” This approach is influenced by Systemic and Complexity Theories; promising to better capture the real-life systemic complexity of cause-effect relationships within the leadership process (Antonakis, Day and Schyns, 2012; Fischer, Dietz and Antonakis, 2017; Tuncdogan, Acar and Stam, 2017; Zaccaro *et al.*, 2018); and it is characterised by the use of sophisticated models to understand the complex relationship between Leaders’ Characteristics, their Behaviours, and their Outcomes.

This approach includes multiple independent and dependent variables, but also mediating or moderating ones, proposing ways in which these variables may combine, add, or interact to give rise to Leadership Behaviours or results. For example: the extent to which the context constrains or activates specific Leadership Behaviours; or how these behaviours interact with followers' variables to determine their actions and reactions; or how the same Leadership Behaviours can create both positive and negative results, depending on the level at which the results are measured (individual follower/intra-team/inter-team/organisation), or the moment in time in which they are (short term versus long term) (Antonakis, Day and Schyns, 2012; Dinh and Lord, 2012; Tuncdogan, Acar and Stam, 2017; Zaccaro *et al.*, 2018).

3.1.6 Leadership theories today

The 1990s were a time of convergence in the academic study of leadership. During this decade, more than a third of all research in the field focused on the FRTL constructs of Transformational and Transactional Leadership (Lowe and Gardner, 2000). Since the 2000s, this hegemony has slowly given way to a new wave of divergence. It seems that researchers are looking for new constructs capable of encompassing a greater spectrum of phenomena and a higher degree of complexity (Dinh *et al.*, 2014; Meuser *et al.*, 2016; Zhao and Li, 2019; Zhu *et al.*, 2019). This search has been facilitated by the emergence of more sophisticated data analysis technologies, using computational modelling and artificial intelligence (Gockel and Werth, 2010; Richard, Holton and Katsioloudes, 2014; Soniewicki *et al.*, 2022; Wijayati *et al.*, 2022).

Searching for current trends in leadership research, Gardner *et al.* (2020) reviewed all articles published between 2010 and 2019 by The Leadership Quarterly, finding that Transformational Leadership still concentrated most of the research in the field, but now only 7.6% of the total. Interestingly, in a tie, another 7.6% of the total focused on atheoretical research, suggesting that a large number of scholars might be looking for cause-effect relationships between leadership variables using an inductive approach. These were followed by research on Leadership Development with 5.8%, and Lead Member Exchange (LMX) with 5.7%. Trait (personality) theories ranked fourth with 5.0%. They are followed by Leadership and Diversity (4.9%), Leadership and Emotions

(4.7%), Strategic Leadership (4.5%) and Destructive Leadership (4.1%). It is interesting to note that the topics of emotions and destructive leadership are conceptually connected to personality (Gardner et al., 2020, p.14). Using different methods, other research teams have arrived at similar conclusions (Dinh et al., 2014; Meuser et al., 2016; Zhao and Li, 2019; Zhu et al., 2019)

This trend towards greater diversification in leadership research seems to run parallel to that observed in study of personality: the convergence towards the FFM during the 1990s is gradually giving way to the search for more sophisticated models capable of capturing the true complexity of its object of study (Atherton *et al.*, 2021).

3.1.7 Leadership Theories: Conclusion

This section has made a brief tour of the main existing approaches in the study of Leadership, going through trait, behavioural, situational, social-cognitive and process theories and reaching to the present of the field (Dinh et al. al., 2014; Lord et al., 2017; Zhao and Li, 2019; Zhu et al., 2019; Gardner et al., 2020).

Section 3.2 will focus on Leadership Behaviour, the first set of dependent variables in this thesis, and the two theoretical models that have been chosen to conceptualize and measure this construct: The Full Range Theory of Leadership (Avolio and Bass, 1991), and the Instrumental Leadership model proposed by Antonakis and House (2014).

3.2 Leadership Behaviour: this Study's Approach.

This section will review the models that will be used to conceptualize and measure the first set of dependent variables in this thesis: Leadership Behaviours. It will begin by reviewing the Full Range Theory of Leadership, which for three decades has been the predominant model in the field. Next, this section will describe the instrumental Leadership model, which has also been adopted to compensate for gaps documented in the former (Antonakis and House, 2014). Both fall into the category of behavioural theories of leadership, that is, their focus is to identify and define the key leadership behaviours that influence a leader's results. The section will end with a critical review of the issues involved in measuring leadership behaviour. The following section will explore

the literature in relation to the second and third set of dependent variables of this thesis: Perceived Leadership Outcomes and Leadership Performance Indicators.

3.2.1 The Full Range Theory of Leadership

3.2.1.1 *Origin of the FRTL*

The origins of the Full Range Model of Leadership or FRTL can be traced to Wilkinson and Downton's (1974) sociological studies of the differences between rebel, reformer, and transactional leaders. It was also influenced by the work of Burns, (1978) a political scientist who published an influential review of the leadership styles of several U.S. presidents, and who was the first to use the concept of Transformational Leadership (Lord et al., 2017).

Bass (1985) elaborated on Burns' work; and he is considered the first to operationalize Transformational Leadership and to design a measurement instrument based on the model (Lord et al., 2017).

In 1991, Bass partnered with Avolio to propose the FRTL, comprising a hierarchical structure of leadership behaviours grouped into three overarching leadership "styles" (Avolio and Bass, 1991). The current format of the FRTL comprises: Transformational Leadership and its components: Idealised influence (attributed and behaviours), inspirational motivation, Intellectual stimulation, and Individualised Consideration; Transactional Leadership and its components: contingent reward, management-by-exception (active and passive); and Passive-Avoidant Leadership or Laissez-faire (Avolio and Bass, 2004).

3.2.1.2 *Overview of the FRTL*

This section summarises the definitions of these three leadership styles and the behaviours that each one includes (Antonakis, Avolio and Sivasubramaniam, 2003):

The Transformational Leadership Style is characterised as a group of leadership behaviours capable of promoting the achievement of extraordinary goals by increasing their followers' awareness about the importance, as well as their commitment to their collective objectives. It is composed of the following sub-dimensions or behaviours (Antonakis, Avolio and Sivasubramaniam, 2003):

Table 11: Behaviours comprised in Transformational Leadership Style (Antonakis, Avolio and Sivasubramaniam, 2003).

Idealized influence (attributes)	Refers to leaders who build trust in their followers by being perceived as powerful, self-assured, and governed primarily by their ethics and ideals.
idealized influence (behaviour)	Refers to leaders who act with integrity and transparency, inspired by a sense of mission, who do what they say and say what they do, and consider the ethical consequences of their actions.
inspirational motivation	Refers to leaders capable of motivating their followers by setting ambitious but achievable goals, and by communicating an optimistic but achievable vision of the future.
intellectual stimulation	Refers to leaders who stimulate innovative and creative thinking, who are open to new ideas, who invite their followers to look for new solutions and to question the status quo in a constructive way.
individualized consideration	Refers to leaders who pay attention to the individual needs and motivations of their followers, and who help them develop by providing support, advice, and opportunities for growth.

The Transactional Leadership Style is defined as a set of behaviours aimed at ensuring that followers fulfil the obligations they have assumed by contract, in exchange for the promised rewards. It includes the definition of objectives and standards, the monitoring of performance and the generation of consequences for compliance or non-compliance. Transactional Leadership is made up of three first-order factors or dimensions (Antonakis, Avolio and Sivasubramaniam, 2003):

Table 12: Behaviours comprised in Transactional Leadership Style (Antonakis, Avolio and Sivasubramaniam, 2003)

Contingent reward leadership	Refers to leaders who clearly define the goals and performance expectations of their followers, and who provide appropriate rewards and recognition when objectives are achieved.
Management-by-exception, active	Refers to leaders who closely monitor deviations, mistakes, and substandard performance, in order to take immediate corrective action.
Management-by-exception, passive	Refers to leaders who only react to problems when they have already been declared, and who only intervene after the breaches, deviations or mistakes have occurred.

It is important to point out that the third component of this style, Management-by-Exception_passive, although initially classified by its authors as a dimension of Transactional Leadership (Avolio and Bass, 1991), was later re-examined by the same authors and found to be more congruent with Laissez-Faire Behaviour both from a statistical point of view as well as by its negative impact on followers (Avolio, Bass and Jung, 1999). Thus, subsequent literature by these authors often groups Management-by-Exception_passive with Laissez-Faire into a cluster that they call 'Passive-Avoidant Leadership' (Avolio and Bass, 2004). This duality in its classification persists in the literature, and depending on the source, this behaviour appears classified in one or another cluster. Since this thesis will follow the suggestion of (Antonakis, Avolio and Sivasubramaniam, 2003) to analyse the associations of each behaviour separately, it will not delve into these divergences but will simply adopt the initial classification of the model with the sole purpose of organizing the information.

The Passive-Avoidant Leadership Style can be described as the absence of leadership. It refers to leaders who systematically relinquish the responsibilities of their role, and who do not respond to the situations and problems that their role stipulates. This style is expected to have a negative impact on both morale and team results, and, therefore, low scores are desirable. It is represented by only one dimension (Antonakis, Avolio and Sivasubramaniam, 2003):

Table 13: Behaviour comprised in Passive-Avoidant Leadership Style (Antonakis, Avolio and Sivasubramaniam, 2003)

Laissez-faire leadership	Refers to leaders who don't get involved, who don't exercise authority, and who avoid making difficult decisions or providing clear feedback. They don't clarify goals or follow up on delegated tasks.
---------------------------------	---

3.2.1.3 FRTL: Strengths, empirical evidence, and critiques

During the last 25 years, a vast volume of empirical research has provided increasing evidence on the value of the Full-Range Theory as a predictor of leadership outcomes (Lowe, Kroeck and Sivasubramaniam, 1996; Bono and Judge, 2004; Judge and Piccolo, 2004; Derue *et al.*, 2011; Deinert *et al.*, 2015)

A meta-analysis conducted by Lowe *et al.* (1996) found that Transformational and Transactional styles were both positively related to performance, although the effect of Transformational Leadership was found to be significantly stronger. Similarly, a meta-analysis by Wang *et al.* (2011), based on 113 primary studies, found that Transformational Leadership was positively associated with several dimensions of leadership performance measured at team level and organisational level. They also found that Transformational Leadership was positively related to follower performance, showing a stronger relationship for relational performance and a slightly lower relationship for task performance.

Also in 2011, Derue *et al.* reviewed previously published meta-analytic estimates and conducted their own meta-analyses of primary studies to explore trait and behavioural models of leadership, and their relationship with different criteria of Leadership Effectiveness. They examined the predictive strength of Transformational Leadership, Transactional and Passive Leadership, and compared them to that of earlier concepts of “initiating structure”, and “consideration” (equivalent to Fleishman’s (1953) “task-oriented” and “relationship-oriented behaviours” (Yukl, Gordon and Taber, 2002).

These authors found that Transactional and Transformational Leadership were positively and significantly related to several task performance measures (i.e., team performance), although the most important predictor was “initiating structure”. Management by exception-passive, the “questioned” component of Transactional Leadership, showed a slightly negative relationship to task performance measures.

They also found Transformational Leadership, Contingent Reward (a component of Transactional Leadership), and the construct of “Consideration”, were all strong predictors of relational dimensions of leadership effectiveness (e.g., follower job satisfaction, satisfaction with leader). Passive leadership showed a negative relationship to relational performance of leaders. Finally, they found that Contingent Reward, Transformational Leadership, and “Consideration”, were the most significant positive predictors of overall leadership effectiveness, and that Passive-Avoidant Leadership was a significant negative predictor. A later meta-analysis by Deinert et al. (2015), once again confirmed that overall Transformational Leadership and all its sub-dimensions, were positively related to leadership performance.

In general, theory suggests that Transformational Leadership is more important than Transactional Leadership in predicting leadership outcomes (Bass and Avolio, 1990; Bass, 1997; Hallinger, 2003; Vasilaki, 2011). Yet, most empirical studies suggest that both Transformational and Transactional styles are key to successful leadership (Den Hartog, Van Muijen and Koopman, 1997; Judge and Piccolo, 2004; Boonyachai, 2011; Derue *et al.*, 2011). The present thesis adopts this latter conception and incorporates all the leadership styles described by the FRTL into the model.

On the other hand, despite its popularity, several scholars have criticized the Full Range Theory and its excessive dominance as a Leadership Model. Some of these criticisms refer to the theoretical overlap with other existing constructs of leadership behaviour (Banks *et al.*, 2018). This is the case between the content of Transactional Leadership and that of concepts as Initiating structure and Task-oriented behaviour by Fleishman, 1953; and Yukl, Gordon and Taber (2002). Also the case of the degree of coincidence between Transformational Leadership and these authors’ concepts of Consideration and Relations-oriented leadership behaviour (Banks *et al.*, 2016, 2017). Due to this conceptual similarity, the meta-analytic studies performed to explore the predictive validity of these different models have often found similar effects and sizes (Bono and Judge, 2004; Judge and Piccolo, 2004; Derue *et al.*, 2011).

Other source of criticism is the validity of its factor structure. Most of these critiques suggest that the FRTL suffers from an oversimplification of its factor structure (House and Aditya, 1997). Antonakis, Avolio and Sivasubramaniam (2003) explored this when

analysing the relationship of FRTL with leadership effectiveness ratings in diverse situational contexts: different hierarchical levels, different levels of environmental risk, and different leader-subordinate gender relationship. They found support for convenience of separating the three higher-order dimensions into its nine subordinate behaviours, including evidence of the predictive validity of the nine-factor solution as the best fit to explain the results. They also discovered evidence that contextual variables moderated the inter-factor relations and impacted the construct validation of the model. Based on these findings, Antonakis, Avolio and Sivasubramaniam (2003) recommended the use of the nine sub-components of the FRTL as separate dimensions. They concluded, in agreement with House and Aditya (1997), that a simple two or three-factor model cannot capture the full complexity of leadership behaviour.

This idea has been supported by other empirical findings. For example, Parr et al. (2013) showed that the effect of the different sub-factors of FRTL can be contradictory: Transformational Leadership (TL) subdimensions of Idealised Influence and Individualised Consideration showed an indirect and positive impact on organisational commitment via anxiety; TL's Inspirational Motivation had an indirect and negative impact on commitment via anxiety, while TL's Intellectual Stimulation had no impact on this outcome. A meta-analysis by Deinert et al. (2015) also found evidence that the different sub-factors of Transformational Leadership have varying influences over leadership performance. In the same line, most research to date has found that Transactional Leadership's Contingent Reward is a much stronger correlate of leadership performance than this factor's other components (Management-by-Exception_active or passive), and has been used as a stand-alone predictor, together with Transformational Leadership, in several studies (Derue et al., 2011).

Consequently, many researchers have chosen to explore the criterion validity of the different subdimensions of FRTL separately, arguing that the nature of their relationship to leadership effectiveness, whether additive or interactive, is not yet fully understood, and potentially mediated by different variables in different ways (Parr, Hunter and Ligon, 2013; Antonakis and House, 2014). This is also the reason why this thesis has chosen this approach.

Another important source of criticism argues that the FRTL does not consider the strategic aspect of Leadership. Antonakis and House (2014) claimed that most behaviours within the construct of Transformational Leadership are “interpersonally oriented.” They claim that, although Transactional Leadership does capture some behaviours related to “task” completion, they stay within a more operational realm equivalent to the construct of “initiating structure”, ignoring the more sophisticated demands of current corporate environments, particularly for higher managerial levels (McKee et al., 2018a).

To address this last weakness of FRTL, Antonakis and House (2014) proposed to add a new leadership style to the three already covered by the model, which they called Instrumental Leadership. This additional leadership style was incorporated by this study as a complement to FRTL, as suggested by these authors. The next section of this chapter will focus on describing the Instrumental Leadership style, also discussing its strengths and weaknesses.

3.2.2 The Instrumental Leadership Model and the “Extended” Full-Range Theory

Antonakis and House (2014) proposed Instrumental Leadership as a way to enrich the task-oriented elements of FRTL, above and beyond the “transactional” behaviours already defined. Their purpose was to incorporate the strategic dimension of leadership performance, increasingly important in decades of globalization, volatility, technological change, and economic turbulence (Hitt, Haynes and Serpa, 2010).

Antonakis and House (2014) drew from Morgeson (2005) to identify the strategic behaviours of a leader: those aimed at addressing the internal and external organisational environment (Mumford *et al.*, 2008) and additionally captured related “functional” activities related to work facilitation, monitoring outcomes, and implementing solutions (Antonakis and House, 2014, p.747). Building on this, they defined Instrumental Leadership as "the application of leader expert knowledge on monitoring of the environment and of performance, and the implementation of strategy and tactical solutions" (Antonakis and House, 2014, p.749).

Instrumental Leadership is made up of four behaviours identified as key to leadership performance and not considered in the original FRTL. The first two behaviours refer to the strategic dimension of Leadership, while the last two refer to work-facilitation, that is, actions aimed at providing clear direction and monitoring the performance of followers in relation to the task (Antonakis and House, 2014). The table below the four behaviours comprised by Instrumental Leadership and their definitions according to the authors of the model.

Table 14: Behaviours comprised in Instrumental Leadership Style.

Environmental Monitoring	“Scanning the internal and external organizational environment to determine organizational strengths and weaknesses and to identify opportunities and threats” (McKee et al., 2018, pg. 290).
Strategy Formulation & Implementation	“Developing policies, goals, and objectives that support the strategic vision and mission of the organization” (McKee et al., 2018, pg. 290).
Path-Goal Facilitation	“Providing followers direction, support, and resources, removing obstacles to their achieving goals, and providing them path-goal clarifications” (McKee et al., 2018, pg. 290).
Outcome Monitoring	“Providing followers performance-enhancing feedback to help them achieve goals” (McKee et al., 2018, pg. 290).

Antonakis and House (2014) claimed that the addition of Instrumental Leadership to FRTL addresses the theoretical limitations of the current version of the model and addresses the “task-oriented and strategic functions” that were missing (p. 748). Empirical support for the model has been growing since its introduction in 2014. Its authors found evidence that IL was related to top-level leadership emergence (using hierarchical level as a proxy) when controlling for FRTL and for Fleishman’s (1953) Initiating structure and Consideration (Antonakis and House, 2014). IL also explained a unique variance in Perceived Leadership Outcomes beyond that explained by FRTL. These authors also found that the effects of Transformational Leadership were greatly exaggerated when IL was excluded from the model.

Rowold (2014) tested the criterion validity of Instrumental Leadership regarding performance and job satisfaction. He found that Environmental Monitoring and Path-

Goal Facilitation where concurrently related to job satisfaction when controlling for Transformational, Transactional, and Laissez-faire leadership, lending support for the incremental validity of IL. He also found that Environmental Monitoring, Strategy Formulation, and Path-Goal Facilitation were associated with objective performance measures; and that Path-Goal Facilitation also predicted job satisfaction and affective commitment (Rowold, 2014). Rowold et al. (2017) compared the impact of Transformational and Instrumental Leadership styles over followers' stress levels (measuring cortisol levels). They found a significant negative association between Instrumental Leadership and the measures of followers' stress, while Transformational Leadership showed no effect. Chammass and Hernandez (2019), on the other hand, found evidence of IL's positive association with employee performance, when analysed independently from Transformational Leadership. McKee et al. (2018) studied the relationship between personality and Self-Other agreement (SOA) of ratings of Instrumental Leadership behaviours, finding evidence that significantly distinct patterns of SOA relationships were associated with different personality traits of the FFM.

Overall, this evidence provides empirical support to the construct of Instrumental Leadership as a valid extension of the FRTL, building an improved model, more capable of capturing the complexity of leadership phenomena. Antonakis and House (2014) proposed that by adding this additional construct, the FRTL model would become "fuller", and thus referred to the resulting model as the "extended" Full-Range Theory of Leadership. Extended FRTL is the model to conceptualise leadership behaviour chosen by this thesis.

3.2.3 Measuring Leadership Behaviour: A Critical Review

"Because men are seen (to pursue their ends) by various methods: one with caution, another with haste; one by force, another by skill; one by patience, another by its opposite, and each one succeeds in reaching the goal by a different method" - (Machiavelli (1469-1527) The Prince, p.121, 1981)

As mentioned above, one of the main variables of interest in the study of leadership is the observable behaviour of leaders. However, observing the different aspects of

leaders' behaviour directly is either impossible, or costly and time consuming. Thus, the vast majority of researchers have resorted to measuring leadership behaviour by using surveys (Hiller *et al.*, 2011).

Yet, the use of surveys to measure leadership raises similar questions to those mentioned before in relation to personality: who should answer these surveys, that is, who should evaluate a leader's behaviour? Should it be the leaders themselves? Their boss? Their followers or peers? How can any of these judgements be trusted as "objective" (if that term even exists when applied to the perception of behaviours)?

Many authors have examined the issue of "Self-Other Agreement" (Atwater and Yammarino, 1992; Atwater *et al.*, 2005; Fleenor *et al.*, 2010; McKee *et al.*, 2018a) and the use of 360-degree surveys (Beehr *et al.*, 2001; CCL, 2001; Halverson *et al.*, 2002; Bergman *et al.*, 2014; Bracken, Rose and Church, 2016) in the evaluation of leadership. There are several reasons why different rater groups differ in their points of view. One is the different degrees of observability: Some aspects of leaders' behaviour are more observable by the leaders themselves e.g., planning activities; and other aspects by the people around them e.g., communication skills (Vazire, 2010).

Self and others also differ in the "lens" through which they judge behaviour. When leaders are rating their own behaviour, they often think of "mitigating factors" or justifications of their own actions, because they can perceive their internal world of intentions, emotions, and thoughts. When raters are evaluating that leader, they do so from what is strictly visible: what the leader says and does; and importantly, what they don't say and don't do (Pronin, 2008; McKee *et al.*, 2018).

The degree of "observability" would lead to the conclusion that self-evaluations are more valid than the evaluations of others since leaders have more instances to observe their own behaviour than external evaluators (McKee *et al.*, 2018). However, self-assessments are often not considered accurate predictors of leadership if used as the only source. Many authors have argued that self-evaluations are biased by leniency, self-enhancement bias, or even self-denigration bias, depending on personality factors (Podsakoff and Organ, 1986; Pronin, Lin and Ross, 2002; Dunning, Meyerowitz and Holzberg, 2012; McKee *et al.*, 2018).

On the other hand, others' ratings are also plagued by cognitive biases, prejudices, misperceptions, and miscommunication (Pronin, 2008). People process information in ways that are significantly influenced by their beliefs and expectations (Kahneman, 2011). This is especially true when we refer to interpersonal perception (Dawes, Faust and Meehl, 2012; Fiske and Macrae, 2012; McKee et al., 2018). For example, the "implicit leadership theory" suggests that people decide on the value and effectiveness of leaders by unconsciously comparing them to their own image of what an ideal leader should be like (Lord, Foti and de Vader, 1984; Phillips and Lord, 1986).

Socioanalytic Theory (Hogan and Shelton, 1998; Hogan and Holland, 2003) proposes that raters' judgments of a leader's behaviour and performance are based, to an important extent, on the degree to which the leader "meets the raters' expectations and promotes the raters' agenda" (Oh and Berry, 2009). If expectations and agendas differ by rating source (superior, peer, follower), it would follow that raters in different positions are likely to pay attention to and be affected by entirely different aspects of the leader's behaviour. Oh and Berry (2009) suggest that superiors may have a more strategic perspective and a better vantage point to assess macro-level leadership outcomes. Hiller et al., (2011) argue that the perspectives of followers probably reveal relevant aspects of the "downward" impact of leadership practices (positive or negative); and according to Ernst and Yip's (2009) view of social-identity processes within organisations, peers may have a distinct vantage point to appreciate collaboration both within and between teams. McKee et al. (2018) claim that self-reports might provide fuller information on aspects of performance that may not be visible by other raters, such as planning, goal-setting, or scheduling activities, as well as the level of pressure that the leader must deal with (Colbert *et al.*, 2012). It follows that all sources of ratings in a 360 are often based on different or incomplete information (McKee *et al.*, 2018), and that none of it is objective. Thus the need to complement different sources in order to create a more balanced picture of leaders' behaviours and outcomes, the approach adopted by this thesis.

Empirical evidence supports the idea that ratings from different rater groups provide unique information (Lance, Baxter and Mahan, 2014) . For example, the correlation of ratings within sources is generally higher than between sources (Conway and Huffcutt,

1997). More importantly, the ratings from different sources tend to correlate with different sets of outcome measures (Beehr *et al.*, 2001; Conway, Lombardo and Sanders, 2001; Sala and Dwight, 2002; Oh and Berry, 2009).

However, the unfortunate truth is that, for the sake of convenience, the field has suffered an overreliance on self-ratings and follower ratings to measure leadership (Hiller *et al.*, 2011). To mitigate the potential impact of the subjectivity involved in “measuring” leadership behavioural styles, this thesis has chosen to use a 360 survey, collecting ratings from self, superior, peers and followers, and differentiating between them when performing the analysis.

3.2.4 Leadership Behaviour, this Study’s Approach: Conclusion

This section reviewed the main models of Leadership Behaviour used in this thesis. First it addressed the FRTL, going through its general characteristics, empirical support, main strengths, and the criticisms that it has received. It went on to describe Instrumental Leadership, a behavioural style that, according to research, can compensate the deficiencies of FRTL and strengthen its predictive power.

This choice of models was justified for two fundamental reasons. First, because the FRTL is the most consolidated theory of leadership behaviour within the academic world (Dinh *et al.*, 2014; Zhao and Li, 2019; Gardner *et al.*, 2020). Second, because this model can be measured with a widely validated tool, the Multifactor Leadership Questionnaire or MLQ (Avolio and Bass, 1991). And third, because there is abundant empirical evidence linking the FRTL to the Five-factor model of personality (Bono and Judge, 2004; Derue *et al.*, 2011; Deinert *et al.*, 2015; Gottlieb and Gøtzsche-Astrup, 2020), which in turn has been empirically linked to the Enneagram (Newgent *et al.*, 2001; Sutton, 2007; Stevens, 2011). This will make it possible to build a conceptual framework establishing a theoretical bridge between the Enneagram and leadership, in the absence of previous research regarding this relationship.

On the other hand, this thesis has taken into account two major criticisms that the FRTL has received. Namely, that it does not consider strategic and task dimensions of leadership; and that its constructs are too global and unspecific. To mitigate these deficiencies, this thesis adopted two strategies: first, complement the FRTL with the

Instrumental Leadership model, which increases its robustness precisely in the areas that the former does not cover. Second, to adopt the suggestion of separating the three overarching factors in FRTL, the Transformational, Transactional and Passive Leadership styles, into its nine lower-order factors or behaviours (Antonakis, Avolio and Sivasubramaniam, 2003).

3.3 Defining and Measuring Leadership Outcomes: A Review of the Literature

The previous section reviewed the models that will be used to conceptualize and measure the first set of dependent variables in this thesis: Leadership Behaviours. This section will review key literature regarding the second and third groups of dependent variables of this thesis: Perceived Leadership Outcomes and Leadership Performance Indicators.

The main purpose of the academic study of Leadership is, or should be, to understand the variables that explain relevant leadership outcomes. Leadership, however, is a deeply complex social phenomenon, one that can have different impacts at different levels, with multiple variables affecting that impact. It is easy to get stuck in the middle of the road without a clear definition of what needs to be understood. The paragraphs below review the relevant literature on Leadership Outcomes, delving into the aforementioned differentiation between Leadership Emergence and Effectiveness, as well as the complexities involved in defining, identifying, and measuring these outcomes within organisations. This review will inform the interpretation of the Leadership Outcome measures obtained by this thesis.

Antonakis (2017) claims that leadership theory has long been affected by feeble conceptualization, weak paradigms, undeclared assumptions about the variables under study, and lack of precise definitions, leaving too many grey areas and a general “fogginess” in the field. He argues that many definitions are circular or tautological, where “the explanandum redescribes the explanans” (Antonakis, 2017, p. 8), such as defining charismatic leadership by describing the impact that the leader has on followers, and then assessing correlations between the construct and those same

impacts. Another common problem is “endogenous theorizing”: when a variable such as “good leader-member relations” is indicated to influence “follower satisfaction”: an endogenous outcome (Antonakis 2017, p. 12). To avoid these and other conceptualization problems, this section will start by defining the terms that are usually associated with Leadership Outcomes and then it will discuss the complexities involved in operationalizing and measuring these constructs.

3.3.1 Defining Leadership Outcomes

Historically, the academic study of Leadership has distinguished between two distinct sets of Leadership Outcomes. The first is Emergence, which implies the promotion of an individual to the status of leader, either formal or informal (Mumford *et al.*, 2008; Reichard *et al.*, 2011a; Hu *et al.*, 2019). The second is Effectiveness, related to the ability of leaders to facilitate the achievement of the results sought by the groups or the entities they lead, as well as the overall positive or negative impact of these leaders on the group (Burke and Day, 1986; Hogan, Curphy and Hogan, 1994; Atwater *et al.*, 1999; Eigel and Kuhnert, 2005; Benson and Hogan, 2008; Colbert, Barrick and Bradley, 2014).

Emergence and Effectiveness are clearly distinct phenomena. Both theory and empirical findings indicate that the traits and the behaviours that help an individual to emerge as a leader, are not “necessarily the same as those that help a leader be effective” (Judge, Piccolo and Kosalka, 2009; p.858; Hoffman *et al.*, 2011).⁵

Emergence and Effectiveness, on the other hand, are not totally independent. As Judge, Piccolo and Kosalka (2009) point out, an individual “cannot be an effective leader without first emerging as a leader” (p.863). The distinction between the two can become even more blurred when they are both measured through raters’ perceptions (Judge *et al.*, 2002).

⁵ Empirical findings regarding the relationship of personality traits to leadership emergence and effectiveness will be presented in Chapter 4.

Leadership Emergence is defined as the likelihood of an individual to emerge as a leader, or, more simply, to be “recognized as a leader of a group” (Judge, Piccolo and Kosalka, 2009, p.856). Emergence is regarded as mainly an “in-group” phenomenon, determined by its members’ perception of how “leaderlike” a person is (Hogan and Sherman, 2020a), as compared to their own “implicit leadership theories” (Lord, Foti and de Vader, 1984). Various disciplines, ranging from evolutionary psychology to endocrinology and behavioural genetics, or from sociology to personality psychology, have examined how stable individual differences can influence leadership emergence (Tuncdogan, Acar and Stam, 2017; p.58).

Literature has often operationalized leadership emergence as the occupancy of a formal or informal leadership positions (Antonakis and House, 2014; Hu *et al.*, 2019), or through indicators such as perceived “Leadership Potential” or “Potential for Promotion”, often assessed formally or informally within organisations to inform their succession pipelines (The Corporate Executive Board Company, 2013). In the case of this thesis, a measure of Potential for promotion was obtained from Company data, and has been interpreted as an indicator of leadership emergence.

Far more relevant to the collectives that leaders inhabit is leadership effectiveness, which can be defined simply as ‘how well’ leaders perform in their role (Judge, Piccolo and Kosalka, 2009). Bass and Seltzer (1990) define effective leadership as the “successful influence by the leader that results in the attainment of goals by the influenced followers ...” (p.14). Drath *et al.*, (2008) argue that leadership effectiveness can be judged from the observation of three parameters: the degree to which the group being led is working in the same direction; the extent to which individual efforts are organised and coordinated; and the commitment of individual members to the group’s shared objectives. These definitions, simple and intuitive at first glance, hide an enormous complexity. The rest of this chapter will be focused in discussing this complexity and its consequences for its measurement.

For the sake of clarity, it is important to note that leadership literature uses the term “Leadership Effectiveness” under two different meanings, one more generic and one more specific. For example, the literature that discusses the distinction between emergence and effectiveness (Mumford *et al.*, 2008; Judge, Piccolo and Kosalka, 2009;

Reichard *et al.*, 2011b; Tuncdogan, Acar and Stam, 2017) assumes a broad definition of the latter, encompassing all the results attributable to a leader in the exercise of this role. This literature sometimes uses "leadership outcomes" as an umbrella term to refer to all the dependent variables that leadership literature is interested in. There is literature, on the other hand, that refers to Leadership Effectiveness in a specific sense, describing it as only one of the possible consequences attributable to leaders in the exercise of their role. This is the case of the FRTL and the MLQ survey (Avolio and Bass, 1991; Avolio *et al.*, 2009; Derue *et al.*, 2011), which distinguish between three leadership outcome measures: overall leadership effectiveness, followers' satisfaction with the leader, and followers' willingness to make an extra effort as a result of the leader's actions. Finally, there is literature that uses leadership effectiveness in the broad and the specific sense at the same time, as Derue *et al.* (2011) whose meta-analysis covered "4 leadership effectiveness criteria: leader effectiveness, group performance, follower job satisfaction, (and) satisfaction with leader" (p.7). As Derue *et al.* (2011), and Judge, Piccolo and Kosalka (2009), this thesis will adopt this more flexible language, using the terms Leadership Outcomes and Leadership Effectiveness interchangeably, unless a specific meaning is explicitly indicated.

3.3.2 Measuring Leadership Outcomes

"The effects of leaders and leadership are not always univocal; some effects of a given leadership style or leadership behaviours in a given situation may be positive and others may be negative—even at the same time—and should be simultaneously investigated" (Hiller *et al.*, 2011; p.1171).

Several authors have suggested that a fundamental change is needed in the way in which leadership effectiveness is conceptualized and measured (Fischer, Dietz and Antonakis, 2017; Zaccaro *et al.*, 2018; Crawford and Kelder, 2019). One of the problems is that, in practice, it is difficult to establish a definition of Effectiveness that does not depend on the observer, and that is not contaminated by how it is measured.

Judge, Piccolo and Kosalka (2009) provide a useful distinction between two approaches to conceptualizing and measuring Leadership Effectiveness: what they call leaders'

“subjective” effectiveness (p.861), defined as that which is perceived and judged by observers; and “objective” effectiveness, obtained from “hard” measures of leaders’ results, such as “group performance or group survival” (p.861). These authors discuss these two approaches to the measurement of Leadership Effectiveness, concluding that both have their strengths and their shortcomings.

3.3.2.1 Measuring Perceived Leadership Outcomes

The evaluation of perceived leadership outcomes generally distinguishes different aspects of leaders’ effectiveness, including the perception of their ability to achieve goals and their impact on people (Zaccaro *et al.*, 2018). In their best version, the “subjective” measures of leadership effectiveness are obtained using instruments like a 360-degree survey that collects the opinions of several rater groups, typically, the leaders themselves, their subordinates, peers, and superiors. These ratings are expected to be influenced, to a great extent, by raters’ expectations, implicit leadership theories (Lord, Foti and de Vader, 1984), and several other variables affecting raters and their context, as well as by characteristics of the leaders themselves, *including* their actual effectiveness. The questions used to measure “subjective” or Perceived Leadership Outcomes are usually focused on gauging general opinions on aspects such as: “satisfaction with the leader”; “overall team effectiveness”, or the extent to which the rater feels inclined to engage in an “extra effort” as a result from the actions of the leader (from MLQ, Avolio and Bass, 2004).

Perceived Leadership Effectiveness is determined by the problem of perspective. Who should determine leaders’ degree of effectiveness? Should it be their boss? Their followers? Their peers? What happens if all the judges disagree in their verdict? Which parameter represents the “truth”, or which aspect of this “truth”? These questions are almost philosophical in nature. Performance is, ultimately, a subjective phenomenon that is influenced by principles of social cognition and interpersonal perception (Burns, 1978; Hooijberg and Choi, 2000; Fiske and Macrae, 2012).

Hiller et al. (2011) explored the criteria used to measure and evaluate leadership in over 1,161 empirical studies performed in the last 25 years. Although only 39% of the studies in the review were specifically focused on measuring leadership effectiveness (the other

studies focused on Leadership Behaviours, motivation, etc), the results shed light on the practices within the field. They found that in 63% of these cases, the measures used to assess leadership effectiveness were extracted from surveys. The remainder was split between 23% of the cases using information from databases or company records (e.g., tangible metrics), 9% that used data obtained from experimental manipulations; and 5% that obtained them from direct observation and interviews.

And yet, measuring leadership effectiveness through a survey is, by far, easier, faster, and cheaper than measuring objective effectiveness. Convenience is the main reason why the field has historically shown an overreliance on surveys, as the only source to determine the level of effectiveness of leaders under study. While surveys are arguably a valid criterion measure, fundamental vices have been identified in the way this method is usually employed (Hiller *et al.*, 2011; Antonakis, 2017; Carter *et al.*, 2020).

The real issue is that the vast majority of the surveys relied on subordinates' ratings only (45%), while 18% used only self-reports; 16% did not clearly identify the raters by categories (16%), and less than 3% of the studies used peer or superior ratings. This ubiquitous use of averaged opinions of a single rater group, as major proxy to leadership effectiveness, poses a serious methodological problem within the field of leadership research (Hiller *et al.*, 2011; Carter *et al.*, 2020).

On the other hand, all the considerations previously mentioned about the subjectivity in the assessment of Leadership behaviour, are also valid for the evaluation of their effectiveness: That is, raters' perception is highly influenced by personal beliefs and expectations (Tversky and Kahneman, 1974; Haslam and Fiske, 1992; McKee *et al.*, 2018); the "implicit leadership theories" in the minds of evaluators (Lord, Foti and de Vader, 1984; Phillips and Lord, 1986); the rater's position in relation to the evaluated leader (Hogan and Shelton, 1998; Oh and Berry, 2009), and various other interpersonal perception phenomena pointed out by Dawes, Faust and Meehl (1989).

As it happens with the ratings of Leadership Behaviour, the assessments of Effectiveness obtained from different rater groups are likely to point to totally different aspects of a leader's performance. According to the Socio-analytic theory, a leader that typically engages in behaviours aimed at building relationships with the team, is likely to be

perceived as an effective leader by followers, because they will probably have a better time working with that leader. On the other hand, the superior of the same leader may think that he or she is not productive enough because they engage in so many social behaviours. Superiors will probably prefer behaviours they interpret as leading to productivity (Hogan and Holland, 2003; Oh and Berry, 2009).

It follows that, whenever possible, the measurement of leaders' subjective effectiveness should include, and discriminate, between the four possible sources of information: self, superiors, peers, and followers. This is the approach adopted by the current thesis.

3.3.2.2 Measuring "Objective" Leadership Effectiveness

Judge, Piccolo and Kosalka (2009) propose that "objective" effectiveness can be evaluated from "hard" measures of the leaders' individual, team, or organisational results. Intuitively, it seems obvious that this should be the ultimate measure of real leadership effectiveness. However, trying to define and measure "objective" leadership effectiveness can be very elusive. For the last decade, academic research and theory have only "scratched the surface" of this phenomenon (Antonakis, Day and Schyns, 2012; Zaccaro, 2012; Zaccaro *et al.*, 2018). To start with, objective measures can be badly contaminated by factors unrelated to leadership (e.g., market conditions), and can present inference problems as important as subjective perceptions, no matter how carefully the measures have been conducted (Judge *et al.*, 2009, p.856). The following lines will discuss how and why a leader can actually be effective and ineffective at the same time, depending on the level of analysis, the parameters used, and the criteria or the moment in time in which his or her performance is gauged (Fischer, Dietz and Antonakis, 2017; Carter *et al.*, 2020).

3.3.2.2.1 Effective... at what level?

Perhaps the most notable source of complexity in defining and measuring Leadership Effectiveness is the multi-level nature of its impact (Antonakis, Day and Schyns, 2012). On the first level is the one-to-one influence on each individual follower. This has been the traditional focus of Leader-Member Exchange Theory [LMX] (Dinh *et al.*, 2014) and dyad analysis, yet its dynamics are as intertwined with interpersonal perception as "subjective" leadership effectiveness phenomena discussed above (Zaccaro *et al.*,

2018). The next level has to do with the impact of the leader on his or her direct team. A high percentage of the academic research on leadership focuses on this level (Carter *et al.*, 2020), often highlighting outcomes such as team performance, goal achievement, employee engagement or intention to leave. These first two levels of analysis are nested within larger units that group together several teams, then several functional areas, and several divisions, and can eventually be grouped into large corporations on a national or multinational scale, which often concentrate products and businesses of a very diverse nature.

As leaders rise to higher positions in the hierarchy and become responsible for larger and more diverse units, the level of analysis becomes more macro and the nature of leadership challenges changes (Charan, Drotter and Noel, 2001; Antonakis, Day and Schyns, 2012). Research on leadership effectiveness seems to rest on the assumption that the leader who is effective at the micro level is also effective at the macro level. This would imply that the success of small teams contributes to the success of the unit, the success of units to that of the division, and the divisions' to that of the corporation. This view, which seems logical and common sensical, is far from reflecting the complexity that exists within a large organisation (Carter *et al.*, 2020).

Carter *et al* (2020) review leadership impact at the team and systemic level, demonstrating that defining effective ("functional") leadership at an inter-team or larger organisational level is much more complex than that, and that models of intra-team leadership effectiveness fail to capture this complexity. They review 30 years of empirical findings; concluding that leaders who are successful in supporting the goals of their team, are not always successful in supporting the goals of the larger system, and vice versa (Carter *et al.*, 2020).

They argue that leaders operating in inter-team contexts are subjected to delicate balancing acts between competing demands and conflicting trade-offs. They face multiple dilemmas as part of their day-to-day organisational life, and different leaders choose different strategies to deal with them. The appropriate balance is hard to find (Pittinsky and Simon, 2007). For example, they found that leaders who chose to promote intra-team relations and team goals at the expense of inter-team relations and larger system's goals, were often beneficial for the part and detrimental for the whole

(Cummings and Kiesler, 2005; Luciano, DeChurch and Mathieu, 2018), while their negative impact could still go undetected or even rewarded by those who evaluated their performance. On the other extreme, leaders who chose to “over collaborate” with other teams often led their own teams to “inefficiencies, role overload and decreased motivation” (Carter et al., 2020, p.2).

Sometimes openly and sometimes subtly, leaders can encourage cooperation or competition with their rhetoric and example (Kaiser, Hogan and Craig, 2008). Those who promote competition with other areas could increase motivation and improve the performance of their own team; but doing this could evoke feelings of rivalry and destructive competitiveness between teams (Nickerson and Zenger, 2008; Kilduff, Elfenbein and Staw, 2010; Kilduff, 2014); and could even stimulate unethical behaviours (Chan, Li and Pierce, 2014; Charness, Masclet and Villeval, 2014); or excessive risk taking (Kacperczyk, Beckman and Moliterno, 2015). Literature on multi-team systems has argued that effective leadership should make sure that all the teams within the system act in support of the system’s shared goals, regardless of whether the individual teams “win.” (Lanaj et al., 2013).

Another example of this complexity is the challenge of finding the optimum level of permeability of the team (Benoliel and Somech, 2015), to continuous mutual adjustment when coordinating with other teams (Marks *et al.*, 2005; Davison *et al.*, 2012). Although the permeability of a team to communicating and coordinating with other teams is generally “a good thing”, too much of it could have a negative effect on aspects such as team identity or total workload (Pierce and Aguinis, 2013). This points to the possibility that certain Leadership Behaviours might have non-linear effects either for team or for the system, making it even more difficult to gauge effectiveness (Carter *et al.*, 2020).

These dilemmas are inescapable since organisations are, in essence, composed of differentiated, yet interdependent entities. No organisational team or unit has the means to accomplish its goals on its own. All are open systems that require the collaboration with other internal actors in the “value chain”, forming complicated networks along and across the system (Kirkman and Harris, 2017; Carter *et al.*, 2020). This interdependency, coupled with the competing agendas and differing perspectives create tensions, rivalries or “us versus them” logic. Intergroup conflict needs to be

managed so that the various teams and their different capabilities are coordinated to maximise the performance of the system. Competent leaders, by definition, should be able to navigate these tensions effectively. There is evidence that in many multiteam systems, the best balance of team permeability seems to be a strong team identity, a slightly insular way of functioning, and inter-team coordination happening at the level of formal leaders or a small group of selected “boundary spanners” (Ernst and Yip, 2009; Carter *et al.*, 2020).

Different hierarchical levels can also have competing agendas within an organisation. While executives at the top might need to deal with power dynamics, turf wars and the need to negotiate and compromise, leaders in the middle are often crushed and torn between the demands that come from the top and the expectations and requests coming from their teams (Oshry and Prewitt, 2001; Langan-Fox and Cooper, 2013; Schotter *et al.*, 2017).

A single leader could also be subjected to conflicting messages as to which goals should be prioritized. Matrix structures often imply that many leaders have more than one superior, and it cannot be assumed that both will be aligned (Carter *et al.*, 2020). What is important at a local level might be in tension with the requirements of the headquarters and vice-versa. Or even, the formally established goals might be in tension with the informal messages such as degree of attention from the leader or social recognition (Hall, Frink and Buckley, 2017).

In general, these findings inform the interpretation of the different results that a single Enneagram type could obtain in the different indicators of leadership effectiveness. Above all, they lead to interpreting these results not as a contradiction of the data, but as an expression of the real complexity of a leader’s impact at different levels.

3.3.2.2 Effective... when?

Fischer, Dietz and Antonakis (2017) point out the importance of designing “time-sensitive” models of leadership effectiveness. They argue that some effects of leadership take longer to unfold and last longer. An example would be leaders investing time and effort on people development. It takes time to reap the benefits, and it could be detrimental to task performance in the short term (it is easier and faster for the

leader to just tell people what to do), but it often pays back in the long term (Fischer, Dietz and Antonakis, 2017). Another example of the influence of time is the fact that leaders' behaviours would tend to affect their direct teams rather quickly, whereas organisational-level impact take a long time to unfold.

Fischer, Dietz and Antonakis (2017) also argue that the impact of leadership may vary in time. For example, certain personality traits may have an initial positive effect and then fade away, or an initial negative effect and then increase over time (e.g., Discipline). Research has shown that certain leadership strategies create a short-term reduction in team satisfaction but a long-term increase in performance (Ancona et al. 2001).

These issues are connected to the dilemma between focusing on the short or the long term. Short-term incentives in business organisations can promote leadership behaviour that is overfocused on creating a short-term impact, even at the expense of the very survival of the organisation. Recent and well-known corporate scandals such as Volkswagen's "diesel-gate," or the fall of Lehman Brothers can exemplify these behaviours (Lim, 2012; Wynter-Palmer, 2012; Abdul Karim, 2021; Edmans, Fang and Huang, 2022; Bachmann *et al.*, 2023). However damaging, these behaviours are often rewarded by the system for a long time before their disastrous effects come to surface.

Another element to consider is how dynamic and changing the system is (Antonakis, Avolio and Sivasubramaniam, 2003). The leadership behaviours associated with effectiveness in a highly fluid system, where team composition is continuously changing or where the business environment is volatile and unstable; are certainly very different from the leadership behaviours required to succeed in an environment that is highly predictable and allows for long-term planning (Yukl and Lepsinger, 2006).

These findings illustrate the importance of time as a component of the leadership process. Although this thesis uses a concurrent design that does not allow analysing the changing impact of the leader's personality over time, in order to interpret its findings it is necessary to understand these thesis' findings merely as concurrent associations.

3.3.2.2.3 Effective... in what context?

The relationship between leaders' personality and leadership effectiveness, at these multiple levels and multiple moments in time, will also be moderated by elements of

the context. Zaccaro et al. (2018) mention several contextual variables that have been addressed by leadership literature: task complexity, environmental dynamism, information load, job demands, job autonomy, task novelty, social complexity, scope and scale of responsibility, organisational level, follower diversity, multicultural contexts, follower characteristics, or physical distance from team members (leading face-to-face versus a virtual team) (p.32). For example, Crawford and Kelder (2019) argue that charismatic leaders emerge primarily in times of crisis; and Hogan and Sherman (2020) claim that the reason may be that they are especially effective at aligning the collective when the stakes are high.

The type of industry and the nature of the task and goals will also determine which leadership behaviours are most successful. Leaders who need to deal with conceptual, creative, complex, or decision-making tasks, might need to facilitate specific dynamics within their teams and between teams to be successful, quite different from those needed for more straightforward, or manual tasks (Polley and McGrath, 1984). For example, there is evidence that team performance will suffer if leaders promote a low level of permeability with other teams, isolating it from outside contributions, but only if the team's task requires creativity (Dokko, Kane and Tortoriello, 2014; Carbonell and Rodríguez Escudero, 2019).

Since this thesis is carried out on a single company operating in the aeronautical industry, it is understood from this review that its findings are not necessarily exportable to other types of industry. On the other hand, since the sample includes leaders from all areas and from various countries, any significant association in the data could indicate that specific personality types could consistently tend to produce a specific pattern of outcomes, when leading in similar contexts.

3.3.2.2.4 A leader's individual effectiveness

The effectiveness of leaders is not always mediated by their followers' behaviours. Tuncdogan, Acar and Stam (2017) argue that Leadership Behaviours such as negotiation, decision-making, or design and implementation of work procedures, could influence outcomes directly, independent of what followers do. Leaders can influence organisational success through their participation in the definition of business goals or

strategy, their contribution in the design of organisational structures, decision rights, workflows, or reward systems; or by hiring and talent management decisions (Brass, 2001; Antonakis and House, 2014). For example, a leader that negotiates a good deal with a supplier, would have a direct impact on the cost-efficiency of her unit and the organisation. Hiring decisions could impact the social structure of the organisation, either perpetuating the dominant culture or making it more flexible; they could determine the availability of capable successors, or affect the nature of employee relationships, among other effects (Methot, Rosado-Solomon and Allen, 2018; p.726).

This individual dimension of a leader's effectiveness would also help inform the interpretation of discrepancies in the data. For example, certain personality traits could positively impact leaders' financial results and not be reflected in indicators associated with people, or they could be invisible to followers, while being highly valued by their boss.

3.3.2.2.5 Is “objective” effectiveness objective?

As Hiller et al. (2011) point out, leadership effectiveness can be assessed using objective measures such as company financial performance, employee turnover, sales, cost vs productivity, etc. Although these measures provide unique information, they are also riddled with problems that make them questionable as valid indicators of leaders' effectiveness. For example:

- Company performance measures are influenced by factors such as the nature of goals against which the leader is being evaluated, the scales and indicators used in their measurement, how demanding they are, or the organisational culture in which each leader is nested. Thus, they can hide a high level of subjectivity, which lies in the hand of the direct supervisors or the top managerial executives in charge of setting the standards against which leaders are measured.
- “Hard” measures such as financial performance, sales or productivity are, by definition, more distal, and therefore, affected by many different contextual factors that are beyond the leader's control, such as market conditions or access to resources (Tuncdogan, Acar and Stam, 2017; Zaccaro et al., 2018).

Therefore, it is difficult to compare performance measures and “hard” organisational results between individuals, especially if they belong to different organisations, or even to different areas within the same organisation. These facts should translate into the existence of multiple confounding variables affecting the relationship of leaders’ personality on “objective” outcomes. Thus, it is to be expected that this relationship appears statistically weaker than what it “really is”, from a critical-realist perspective⁶ (Bhaskar, 1998).

3.3.2.3 Measuring Leadership Effectiveness: issues in research design

Perhaps the most pervasive problem in the measurement of Leadership Effectiveness is common-method bias (Podsakoff et al., 2003a), also called endogeneity or single-source bias, when assessing relationships between independent and dependent variables. A common example would be a study exploring the association between a self-assessed personality variable and a self-rated leadership variable, as this thesis is partly doing. In other cases, studies have used followers’ ratings of leadership style as predictors, and followers’ rating of leadership effectiveness as outcome variables. According to Antonakis, (2017), many meta-analyses have failed to consider and discuss the “endogeneity-riddled data” they have used as input, leading to wrong conclusions and poor policy (Ioannidis, 2016; Antonakis, 2017).

Another fundamental problem would be using exclusively “subjective” or “objective” measures of Leadership Effectiveness, and assuming that the relationships obtained for one are valid for the others. This review suggests that the impact of a leader’s personality on these two sets of measures could be contradictory. For example, personality traits that are “socially desirable” (e.g., flexibility) can be rated positively by observers, yet they can have either positive or negative implications for “objective” Leadership effectiveness, and, conversely, traits that are “socially undesirable,” and rated negatively, could again have detrimental or positive implications for the leader’s

⁶ The philosophical positioning of this thesis is discussed in chapter 5.

objective results. Moreover, these relationships could vary depending on the presence or absence of several contextual factors (Judge, Piccolo and Kosalka, 2009, p.863).

For these reasons, this research discriminates between measurements from various sources, and between objective and subjective leadership outcomes. Likewise, when discussing associations between self-assessments of personality and leadership, it will contemplate the possible influence of single-source bias. On the other hand, given the high number of variables involved, this design decided not to measure contextual factors that could moderate this relationship. The research design is discussed fully in chapter 5.

3.3.3 Defining and Measuring Leadership Outcomes: Conclusion

This section reviewed the different definitions of Leadership Outcomes, making a distinction between Emergence and Effectiveness (Mumford *et al.*, 2008; Hu *et al.*, 2019), and between Subjective and Objective Effectiveness (Judge, Piccolo and Kosalka, 2009). It also discussed why defining and measuring leadership effectiveness is such a complex matter, why “subjective” measures are riddled with issues of Interpersonal perception, and how “objective” measures could uncover disparate and often contradictory effects at multiple levels, time frames, or contexts (Hiller *et al.*, 2011; Zaccaro *et al.*, 2018; Carter *et al.*, 2020).

In an ideal world, this complexity should lead researchers to undertake sophisticated measurements of various natures, combining them into careful designs using multi-layered, multi-timed models that integrate contextual elements into a cause-effect process. Indeed, this is what the field is trying to do, to the extent that it’s possible (Fischer, Dietz and Antonakis, 2017; Zaccaro *et al.*, 2018; Crawford and Kelder, 2019). But in practice, this can be costly, time-consuming, and not always feasible, given the multiple constraints that researchers operate under, including the access to the full-blown data that would be needed in order to paint the full picture.

With the purpose of informing a more nuanced understanding of the relationship between the Enneagram model of personality and leadership outcomes, this thesis will incorporate the following suggestions and best practices found in the literature (Oh and Berry, 2009; Hiller *et al.*, 2011; Antonakis, 2017; Tuncdogan, Acar and Stam, 2017):

- Using measures of Leadership Emergence and Effectiveness and clearly identifying them as such.
- Distinguishing between Perceived (“subjective”) and “objective” measures of Leadership Effectiveness
- Using a well validated tool to assess subjective effectiveness measures (Perceived Leadership Outcomes)⁷.
- Distinguishing Perceived Leadership Outcome measures by source (superiors, peers, followers, self) and analysing them independently.
- Incorporating “objective measures” from a heterogeneous set of performance data obtained from company records.

3.4 Leadership, a Review of the Literature: Conclusion

This chapter reviewed the landscape of the academic study of leadership, giving a brief look at the main theories to conceptualize it. Then it delved into the models used by this thesis to conceptualise and measure its first group of dependent variables, Leadership Behaviour, describing the Full Range Leadership Theory and the Instrumental Leadership Style. Finally, it reviewed key literature on the concept of Leadership Outcomes, to inform the interpretation and measurement of the second and third groups of dependent variables used in this thesis: Perceived Leadership Outcomes and Leadership Performance Indicators.

The following chapter will review the empirical evidence of the relationship between the Enneagram model and FFM, and between the latter and Leadership, as a foundation to build the connection between the variables of interest. The chapter will finalise

⁷ The MLQ 360 is the most validated and widely used tool to measure Transformational, Transactional and Passive leadership styles; also providing measures for three perceived leadership outcomes: "overall leadership effectiveness", "satisfaction with the leader" and "Extra-Effort" (willingness to make Extra Effort as a result of a Leader's actions).

presenting the Conceptual Framework of this thesis, its purpose, objectives, research questions, and propositions.

Chapter 4. The Enneagram and Leadership: Conceptual Framework

The previous chapter presented an overview of the relevant literature to illustrate the theory and research underlying the main variables explored by this research: the Enneagram model of personality, Leadership Behaviour, and Leadership Outcomes. The current chapter will provide an overview of the conceptual framework guiding this study, and that justify the research propositions expecting an empirical association between the Enneagram and Leadership.

The chapter is structured in three main sections: the first presents the existing empirical evidence that relates the Enneagram to the Five-factor model or FFM, to other aspects of personality, and to work-place outcomes. The second presents the main empirical evidence connecting FFM with leadership behaviour and outcomes. The third will present the conceptual framework itself, including the aims of this thesis, its research questions, and the research propositions on the expected relationships between the Enneagram model and the three groups of outcome variables: Leadership Behaviours; Perceived Leadership Outcomes and the Leadership Performance Indicators obtained from company data.

4.1 The Enneagram and Leadership: a “bridge” through the Five-factor model.

The Enneagram model describes nine different personality types, each with its characteristic pattern of traits, motives, and values. The previous chapter discussed the quality of the Enneagram model as a theory, concluding that it stands out for its high usability and comprehensibility. Its scientific strengths and weaknesses were discussed, pointing out that on the one hand, it allows balancing the nomothetic with the idiographic, its theory is coherent, parsimonious, and for the most part, verifiable. However, it has not yet gathered enough solid empirical support. And, for various reasons discussed in the previous chapter, this process has been slow. This thesis will help to bridge this gap.

Nevertheless, the last 15 years have witnessed an increase in the academic study of the Enneagram, and the empirical evidence is growing (Hook *et al.*, 2021). The Enneagram types have exhibited consistent and recognizable patterns of association with more established personality models such as the Five-Factor (Newgent *et al.*, 2001; Sutton, 2007; Stevens, 2011), as well as with measures of values and implicit motives (Sutton, 2007), all of which have been consistently related to work-related outcomes. In addition, there is increasing empirical evidence linking the Enneagram directly to work-related outcomes, such as work attitudes and cognitions, or competency profiles (Brown and Bartram, 2005; Sutton, 2007; Delobbe, Halin and Prémont, 2012).

The Enneagram theory has addressed leadership in the form of detailed descriptions of the patterns of behaviour that would be expected from each type when occupying formal or informal leadership positions (M. J. Goldberg, 1999; Lapid-Bogda, 2004; Chestnut, 2017). Additionally, a recent unpublished doctoral dissertation examined the usefulness of the Enneagram in developing leadership skills in high school students in Indonesia (Ho, 2019). However, as stated before, to the best of the researcher's knowledge, the relationship between the Enneagram and leadership has never been tested empirically by academic research. This thesis intends to examine this relationship.

To conceptually frame this exploration, this thesis proposes to draw a "theoretical bridge" between the Enneagram model and Leadership, using the FFM as a "scaffold". Thanks to the immense popularity of the Five-factor model during the last decades, and its ubiquitous presence in research, this thesis will be able to rely on two bodies of empirical evidence to build this bridge: that which connects the Enneagram with the FFM, and that which connects the FFM with the various leadership variables explored in this study. The next section presents a brief review of the main empirical studies connecting the Enneagram with the FFM, other personality models, and some workplace outcomes, all of which will be used in the establishment of this bridge.

4.1.1 Empirical connections between the Enneagram Model and the FFM

To the best of this researcher's knowledge, seven studies so far have examined the relationship between the Enneagram personality model and FFM: Three of them were

published in peer reviewed journals (Newgent et al., 2004; Sutton, Allinson and Williams, 2013; Yilmaz et al., 2016), one as a book in collaboration with a university (Delobbe, Halin and Prémont, 2012); two are unpublished doctoral dissertations (Giordano, 2008; Stevens, 2011); and one is a whitepaper by a business company dedicated to psychometrics (Brown and Bartram, 2005). The paragraphs below describe the general characteristics of each of these studies, and the following sections describe the details of their findings on the relationship between the Enneagram and the FFM, organised according to each Enneagram type.

Sutton (2007), published in Sutton, Allinson and Williams (2013), conducted a study in which the Enneagram types were measured as discrete variables, using a sample of 416 volunteers who had previously identified their Enneagram types during training programmes. She analysed their response patterns in an FFM assessment, as well on other, implicit, aspects of personality: Personal Values (Sagiv and Schwartz, 1995); and Implicit Motives (Sokolowski *et al.*, 2000). She found that each of the types presented a unique pattern of response, confirming most of the research propositions derived from the theoretical description of the types.

Newgent et al. (2004) used the original version of the Riso-Hudson Enneagram Type Indicator (Riso and Hudson, 2000a), to measure the Enneagram types as continuous variables or dimensions, obtaining an independent score per each type-dimension for each of their 287 respondents. They explored the correlations of these scores to the NEO PI-R, a well-established measure of the FFM (Costa and McCrae, 1992). They found an adequate degree of internal consistency for each scale, and mixed support for its convergent validity in relation to the FFM (Newgent et al., 2004).

Brown and Bartram (2005) used a sample of 241 voluntary participants who had previously identified their types through training and expert support. As Sutton, these authors measured the types in terms of discrete variables, and explored their response patterns in the Occupational Personality Questionnaire or OPQ32, a competency assessment that also measures the FFM. They found a strong relationship between the Enneagram Types and both the Five-Factors and the job competency profiles.

Delobbe, Halin and Prémont (2012) tested their Enneagram questionnaire, the HPEI, on 700+ subjects in Belgium, France, and the Netherlands. They found evidence for its concurrent validity, when compared with a French version of the FFM (Barbot, 2008), and with the self-identified types of trained subjects. The authors also reported a significant relationship between the HPEI scales and the Career Anchors model by Schein (1996).

Yilmaz et al. (2016) tested the concurrent validity of their own personality test based on the Enneagram, the Nine Types Temperament Model or NTTM, in relation to a FFM inventory on a sample of 247 Turkish subjects. They run linear regressions finding significant associations between the nine Enneagram scales and the FFM model.

Stevens (2011) applied the Wagner Enneagram Personality Style Scale or WEPSS (Wagner, 1999) to measure the Enneagram types as continuous variables to a sample of 146 subjects. He explored the correlations of these scores to the NEO PI-R (Costa and McCrae, 1992) finding mixed support for its convergent validity.

And finally, Giordano (2008) compared two different versions of the Riso-Hudson Enneagram Type Indicator (Riso and Hudson, 2000a), the original that had already been examined by Newgent et al. (2004), and a new, non-ipsative version. She examined both Enneagram scales' association with the NEO PI-R (Costa and McCrae, 1992) on a sample of 530 subjects (424 females, mean age=55) finding significant patterns for each Enneagram type.

The following sections present the main empirical findings of these studies regarding the relationship between the Enneagram Model and FFM, and other relevant work-related motives, values, and outcomes, organised by Enneagram Type.

4.1.1.1 FFM and Enneagram Type 1, the Reformer

Enneagram literature describes type 1 as principled, disciplined, conscientious, responsible, logical, and self-controlled, but also perfectionistic, critical, stubborn, and judgemental (Naranjo, 1994; Riso and Hudson, 1996; Daniels et al., 2018). Regarding academic studies on the relationship between Type 1 and FFM, there is remarkable alignment in finding a high level of Conscientiousness. Relationships with other factors

appear inconsistent, suggesting the need for further investigation. The details are shown in table 15.

Table 15: Relationship between FFM and Enneagram Type 1.

Enneagram Type 1 / FFM	Agreeableness	Conscientiousness	Extraversion	Openness to Experience	Neuroticism
Sutton et al 2013		High		Low	
Brown et al 2005		High			
Delobbe et al 2009	Low	High			
Yilmaz et al 2016	High	High		High	Low
Stevens 2011	Low	High			High
Newgent et al 2004		High			Low
Giordano 2008 RHETI	Low	High	Low	Low	Low
Giordano 2008 Non ipRHETI	Low	High			High

Literature on the relationship between the Enneagram and work-related motives, values, and outcomes, has found evidence that this type would have higher levels of Internal Work Motivation and Job Involvement (Sutton, Allinson and Williams, 2013); and an occupational competency profile oriented towards *Organising and Executing*, and *Applying Expertise and Technology* (Brown and Bartram, 2005, p.17).

4.1.1.2 FFM and Enneagram Type 2, the Giver

Enneagram literature describes type 2 as caring, generous, helpful, supportive, and demonstrative; but also people-pleasing, susceptible, and emotionally demanding (Naranjo, 1994; Riso and Hudson, 1996; Daniels et al., 2018). Regarding academic studies on its relationship with FFM, the most consistent findings point to a distinct combination of high Extraversion (7 of 8 measures); and high Agreeableness (5 of 8 measures). No other consistent pattern emerged, suggesting the need for further investigation. The details are shown in table 16.

Table 16: Relationship between FFM and Enneagram Type 2.

Enneagram Type 2 / FFM	Agreeableness	Conscientiousness	Extraversion	Openness to Experience	Neuroticism
Sutton et al 2013	High		High		
Brown et al 2005					
Delobbe et al 2009	High		High	High	
Yilmaz et al 2016	High		High		Low
Stevens 2011	High		High		High
Newgent et al 2004			High		
Giordano 2008 RHETI	High		High	High	
Giordano 2008 Non ipRHETI			High		High

Regarding work-related motives, values, and outcomes, and very much aligned to Enneagram theory, Sutton, Allinson and Williams, (2013) found Type 2 to be higher on the implicit motives of *Affiliation* and *Fear of Rejection*; while Brown and Bartram, (2005) found indications that type 2 would have an occupational competency profile oriented towards *Working with People* (Brown and Bartram, 2005, p.17). All these characteristics are highly consistent with the theoretical description of this Enneagram Type.

4.2.1.3 FFM and Enneagram Type 3, the Achiever

Enneagram literature describes type 3 as success-oriented, industrious, fast-paced, goal-focused, efficient, and self-affirmative, but also workaholic, insensitive, impatient, overconcerned for appearances, and sometimes ruthless (Naranjo, 1994; Riso and Hudson, 1996; Wagner, 2010; Daniels et al., 2018). Regarding its empirical connections with FFM, the most consistent findings are a high level of Conscientiousness (6 of 8 measures); high Extraversion (5 of 8 measures), and low Agreeableness (5 of 8 measures), although three of these last measures were obtained using variations of the same instrument, the RHETI (Newgent et al., 2004; Giordano, 2008). No other consistent pattern emerged, as shown in table 17.

Table 17: Relationship between FFM and Enneagram Type 3.

Enneagram Type 3 / FFM	Agreeableness	Conscientiousness	Extraversion	Openness to Experience	Neuroticism
Sutton et al 2013		High	High		
Brown et al 2005			High	High	
Delobbe et al 2009	Low		High	High	Low
Yilmaz et al 2016	Low	High			
Stevens 2011	Low	High	High		Low
Newgent et al 2004	Low	High			
Giordano 2008 RHETI	Low	High			Low
Giordano 2008 Non ipRHETI	Low	High	High		High

Drawing from the Enneagram Theory, Type 3 would be expected to exhibit a high association with the “Dominance” (or “Agency”) component of Extraversion; and not with the “Sociability” component. As mentioned before, research has suggested that the “Dominance” component of Extraversion has a unique pattern of association to performance that would be reinforced by Conscientiousness, in terms of a higher focus on Task Completion and Strategic aspects of leadership, and less focus on cultivating “friendly” relationships.

Literature has associated Type 3 to a higher level of Job self-Efficacy; and a higher drive towards the values and implicit motives of Power and Achievement (Sutton, Allinson and Williams, 2013); and an association to an occupational competency profile oriented to *Entrepreneurial and Commercial Thinking; Leading and Deciding; and Interacting and Presenting* (Brown and Bartram, 2005, p.17).

4.2.1.4 FFM and Enneagram Type 4, the Romantic

Enneagram literature describes type 4 as creative, intuitive, authentic, sensitive, and empathetic; but also melancholic, moody, individualistic, self-absorbed, and withdrawn (Naranjo, 1994; Riso and Hudson, 1996). All the available empirical studies found Enneagram Type 4 to be high in Neuroticism (that is, low in Emotional Stability), and most found it low in Conscientiousness (6 of 8 measures). Although only four out of eight

measures indicated its relationship with high Openness, three of the ones that didn't were obtained using variations of the same instrument (Newgent et al., 2004; Giordano, 2008). Therefore, this study will consider this relationship as significant. Indications are found of a low Extraversion (4 of 8 measures), although two of these were obtained from the same sample and two variations of the same instrument (Giordano, 2008), suggesting the need for further investigation. See detail in table 18.

Table 18: Relationship between FFM and Enneagram Type 4.

Enneagram Type 4 / FFM	Agreeableness	Conscientiousness	Extraversion	Openness to Experience	Neuroticism
Sutton et al 2013				High	High
Brown et al 2005		Low			High
Delobbe et al 2009		Low	Low	High	High
Yilmaz et al 2016		Low		High	High
Stevens 2011				High	High
Newgent et al 2004		Low	Low		High
Giordano 2008 RHETI	Low	Low	Low		High
Giordano 2008 Non ipRHETI	Low	Low	Low		High

Regarding work-related aspects of personality, Sutton, Allinson and Williams (2013) found that type 4 scored higher than the group on the values of self-Direction and Stimulation; lower on the implicit motives of Power and Achievement and higher on Fear of Rejection; as well as higher than the group on Perceived Stress. Brown and Bartram, (2005) on the other hand, found indications of type 4 having an occupational competency profile oriented towards Creating and Innovating, which is also highly consistent with the theoretical description of this type (p.17).

4.1.1.5 FFM and Enneagram Type 5, the Investigator

Enneagram literature describes type 5 as analytic, focused, and perceptive observers, original thinkers, prudent, and austere, but also socially awkward, suspicious, isolated, and detached (Naranjo, 1994; Riso and Hudson, 1996). Academic literature was remarkably consistent regarding a low Extraversion (7 of 8 measures); and relatively

consistent regarding a low Agreeableness (5 of 8 measures). No other consistent pattern emerged, as shown in table 19.

Table 19: Relationship between FFM and Enneagram Type 5.

Enneagram Type 5 / FFM	Agreeableness	Conscientiousness	Extraversion	Openness to Experience	Neuroticism
Sutton et al 2013	Low		Low		
Brown et al 2005	Low			High	
Delobbe et al 2009	Low		Low	High	
Yilmaz et al 2016	Low		Low	Low	
Stevens 2011			Low		High
Newgent et al 2004			Low		
Giordano 2008 RHETI			Low		
Giordano 2008 Non ipRHETI	Low	Low	Low	High	High

Additionally, Sutton, Allinson and Williams, (2013) found that Type 5 scored lower than the group on the value of Stimulation, lower on the implicit motive of Power, and lower than the group on the Job Attitudes and Cognitions of Job Involvement and Self-Efficacy. Brown and Bartram, (2005) found type 5 to be high in the occupational competency profiles of *Applying Expertise and Technology*, and *Creating and Innovating*, both coherent with the Enneagram Theory (p.17).

4.2.1.6 FFM and Enneagram Type 6, the Loyalist

Enneagram literature describes type 6 as committed, responsible, friendly, hardworking team-players; but also anxious, undecided, insecure, and sometimes, ambivalent, and over-reactive (Naranjo, 1994; Riso and Hudson, 1996). Some Enneagram authors have argued that Type 6 might be more difficult to discover from overt behaviours, since they seem to be more willing to adapt to the expectations that other people have of them (Riso and Hudson, 1996). This indication of a greater complexity could be reflected on less clear patterns of relationships found between Type 6 and the FFM, and still, some consistent patterns have emerged. Namely, a high level of Neuroticism (7 of 8 measures); low Extraversion (6 of 8 measures); and some indications of low Openness,

(4 of 8 measures), although two of these were obtained from the same sample and two variations of the same instrument (Giordano, 2008), as shown in table 20.

Table 20: Relationship between FFM and Enneagram Type 6.

Enneagram Type 6 / FFM	Agreeableness	Conscientiousness	Extraversion	Openness to Experience	Neuroticism
Sutton et al 2013					High
Brown et al 2005	High				
Delobbe et al 2009	Low		Low		High
Yilmaz et al 2016	Low		Low	Low	High
Stevens 2011		High	Low		High
Newgent et al 2004			Low	Low	High
Giordano 2008 RHETI			Low	Low	High
Giordano 2008 Non ipRHETI	Low		Low	Low	High

Regarding work-related motives, values, and outcomes, literature shows that Type 6 scores higher than the group on the value of Security, and on the implicit motive of Affiliation (Sutton, 2012). On the other hand, Type 6 was not associated with any particular profile of occupational competency (Brown and Bartram, 2005). Instead, type 6 showed significant diversity in their highest-scoring competencies: Working with People; Applying Expertise and Technology; and Organising and Executing; Interesting to also note their lowest scores: Adapting and Coping; and Creating and Innovating (p.17).

4.1.1.7 FFM and Enneagram Type 7, the Enthusiast

Enneagram literature describes type 7 as optimistic, fun-loving, spontaneous, versatile, outgoing, and adventurous, but also as distractible, scattered, pain-avoidant, impulsive, uncommitted, and self-serving (Naranjo, 1994; Riso and Hudson, 1996). Enneagram Type 7 has shown remarkable consistency across academic studies regarding FFM factors, with a profile of high Extraversion (8 of 8 measures); high Openness to Experience (8 of 8 measures); and low Conscientiousness (7 of 8 measures). Other findings have not been consistent across studies, as shown in table 21.

Table 21: Relationship between FFM and Enneagram Type 7.

Enneagram Type 7 / FFM	Agreeableness	Conscientiousness	Extraversion	Openness to Experience	Neuroticism
Sutton et al 2013		Low	High	High	Low
Brown et al 2005		Low	High	High	
Delobbe et al 2009		High	High	High	Low
Yilmaz et al 2016	High	Low	High	High	
Stevens 2011		Low	High	High	
Newgent et al 2004		Low	High	High	
Giordano 2008 RHETI		Low	High	High	Low
Giordano 2008 Non ipRHETI	Low	Low	High	High	

Literature regarding the relationship between Enneagram 7 and work-related motives, values, and outcomes, is also informative due to its high consistency to the Enneagram theory. Sutton, Allinson and Williams, (2013) for example, found evidence of this type as scoring higher than the rest of the group in the values of Hedonism, Stimulation and Self-Direction, and lower than the group on Conformity. They also found them to score higher than the group on the intrinsic motives of Affiliation and Power. Brown and Bartram, (2005) found indications of type 7 as having an occupational competency profile oriented towards *Interacting and Presenting* (p.17).

4.1.1.8 FFM and Enneagram Type 8, the Challenger

Enneagram literature describes type 8 as self-assured, decisive, wilful, direct, action-oriented, brave, and assertive, but also as arrogant, confrontational, reckless, excessive, impulsive, and aggressive (Naranjo, 1994; Riso and Hudson, 1996). This type also shows remarkable consistency across academic studies of its association with FFM, with respect to high Extraversion (7 of 8 measures) and low Agreeableness (7 of 8 measures). Some indications are found of low Neuroticism (4 of 8 measures), suggesting the need for further investigation. Other findings were not consistent across studies, as shown in table 22.

Table 22: Relationship between FFM and Enneagram Type 8.

Enneagram Type 8 / FFM	Agreeableness	Conscientiousness	Extraversion	Openness to Experience	Neuroticism
Sutton et al 2013	Low		High		
Brown et al 2005			High	High	
Delobbe et al 2009	Low		High	High	Low
Yilmaz et al 2016	Low	Low			
Stevens 2011	Low	High	High		Low
Newgent et al 2004	Low		High		Low
Giordano 2008 RHETI	Low	High	High		Low
Giordano 2008 Non ipRHETI	Low	High	High		

Literature regarding Type 8 and other work-related motives, values, and outcomes, provides evidence of this type scoring higher than the rest of the group in the values of Power and Stimulation, and lower on Conformity; and higher than the group on the attitude of Job Involvement (Sutton, Allinson and Williams, 2013). Brown and Bartram, (2005) found indications of type 8 having an occupational competency profile consisting of high levels in “*Adapting and Coping, Leading and Deciding, Interacting and Presenting, Creating and Innovating, and Entrepreneurial and Commercial Thinking*” (p.17).

4.1.1.9 FFM and Enneagram Type 9, the Peacemaker

Enneagram literature describes type 9 as calm, kind, receptive, empathic, supportive, optimistic, humble, patient, and unassuming; but also complacent, procrastinating, conformist, conflict avoidant, and passive aggressive (Naranjo, 1994; Riso and Hudson, 1996; Wagner, 2010; Daniels et al., 2018). Regarding their FFM pattern, the only consistent association found by the literature is that of high Agreeableness (6 of 8 measures). Although some studies have found additional patterns, none of these are considered consistent, suggesting the need for further investigation. See detail on table 23.

Table 23: Relationship between FFM and Enneagram Type 9.

Enneagram Type 9 / FFM	Agreeableness	Conscientiousness	Extraversion	Openness to Experience	Neuroticism
Sutton et al 2013	High			High	Low
Brown et al 2005			Low	Low	Low
Delobbe et al 2009	High				
Yilmaz et al 2016	High				Low
Stevens 2011	High	Low			
Newgent et al 2004	High				
Giordano 2008 RHETI	High	Low	Low	Low	
Giordano 2008 Non ipRHETI			Low	Low	High

Regarding work-related motives, values, and outcomes, (Sutton, Allinson and Williams, 2013) found that Type 9 scored higher than the group on the values of Tradition and Universalism, and lower on Achievement and Self-Direction, and regarding attitudes, it scored lower than the group on Job Self-Efficacy. Brown and Bartram, (2005) found that Type 9 showed good potential in the occupational competency of *Adapting and Coping* (p.17), which might at first sight sound counterintuitive for a type expected to resist change, but again, this seems to be connected to Type 9's contradictory pattern in relation to Openness: a high level of flexibility regarding openness to concede and to defer to other people's preferences, coexisting with a great desire for general stability and avoidance of uncertainty and conflict.

4.1.1.10 Empirical connections of the Enneagram Model with the FFM and other outcomes: Conclusions

This section reviewed the empirical evidence for a consistent relationship between the Enneagram personality model and the most established personality theory in academic psychology, the FFM (Newgent et al., 2004; Brown and Bartram, 2005; Giordano, 2008; Stevens, 2011; Delobbe, Halin and Prémont, 2012; Sutton, Allinson and Williams, 2013; Yilmaz et al., 2016). This section also went over the evidence regarding the relationship of Enneagram types to unconscious aspects of personality, such as values and motivations (Sutton, Allinson and Williams, 2013). This evidence supports the

theoretical claim that Enneagram types are construed from conscious and unconscious aspects of personality. Finally, the section also reviewed the empirical association between the Enneagram model and work-related outcomes, such as work attitudes and cognitions, and competency profiles (Brown and Bartram, 2005; Sutton, Allinson and Williams, 2013).

The seven studies reviewed above spread across six different tools to measure the Enneagram model: the HPEI (Delobbe, Halin and Prémont, 2012), the NTTM (Yılmaz et al., 2016), the WEPSS (Stevens, 2011), RHETI ipsative form (Newgent et al., 2004; Giordano, 2008), and RHETI non-ipsative form (Giordano, 2008), and self-identification of the type after Enneagram training (Brown and Bartram, 2005; Sutton, Allinson and Williams, 2013).

In summary, it can be argued that although the number of studies is still relatively low, the consistency of their findings is significant. More importantly, the most consistent findings across studies appear highly consistent with the Enneagram theory. The specific patterns associated with each Enneagram Type will be used to inform the interpretation and discussion of the findings of this study (see chapter 10). More in general, this evidence will be used for the construction of the theoretical bridge that allows joining the independent and dependent variables of this thesis: Enneagram and Leadership, through the FFM.

The following section will review the main findings on the relationship between the FFM and Leadership. These will be used to build the second part of the theoretical bridge between the Enneagram and Leadership, thus completing the rationale for the theoretical framework of this study.

4.1.2 Empirical connections between the Five-factor model and Leadership

Chapters 2 and 3 presented the Five-factor model of personality and the Full Range Theory of Leadership as the most established models in their respective fields of study. Unsurprisingly, numerous empirical studies have explored the relationship of the FFM to the FRTL (Bono and Judge, 2004; Judge, Piccolo and Kosalka, 2009; Derue *et al.*, 2011;

Deinert *et al.*, 2015), and to its main components: Transformational, Transactional and Passive-Avoidant Leadership Styles (Avolio and Bass, 1991).

This section will review the most relevant empirical evidence connecting these two models. It will also review the literature that connects FFM with the second model of leadership behaviour used in this thesis, the Instrumental Leadership Style (Antonakis and House, 2014). Finally, the empirical association between FFM factors and different types of leadership outcome measures will be addressed (Judge, Piccolo and Kosalka, 2009). The evidence will be organised according to each of the Five-Factors, to facilitate later discussions in relation to the Enneagram Model (For a summary of the main studies cited in this section see Appendix C).

4.1.2.1 Extraversion and Leadership

People who score high on Extraversion are characterised as energetic, assertive, active, communicative, and optimistic (Costa and McCrae, 1992), and thus, likely to be perceived as “leaderlike” (Hogan, Curphy and Hogan, 1994; Judge, Piccolo and Kosalka, 2009). On the other hand, Extraversion could potentially predispose to behave in “bold, aggressive, and grandiose ways” (Hogan and Hogan, 2001; in Judge, Piccolo and Kosalka, 2009; p.865). These descriptions seem consistent with empirical findings so far.

4.1.2.1.1 Extraversion and Leadership Behaviour

In general terms, Extraversion has been considered the “strongest and most consistent correlate of Transformational Leadership” (Bono and Judge, 2004, p.901). This relationship has been confirmed by several meta-analyses (Derue *et al.*, 2011; Deinert *et al.*, 2015).

The correlation between Extraversion and Transactional Leadership is less clear. There is evidence that one of its dimensions, Contingent Reward, presents a weak correlation with Extraversion, while the others appear to be unrelated (Bono and Judge, 2004; Derue *et al.*, 2011)

There is some evidence of a relationship between Extraversion and Consideration behaviours (Fleishman, 1953; Derue *et al.*, 2011).

On the other hand, the evidence provided by McKee et al. (2018) suggests that Extraversion is a strong correlate of self-ratings of Transformational Leadership, but only a moderate correlate of others' ratings of this style. These authors also found that Extraversion was weakly related to self-ratings in Instrumental Leadership and totally unrelated to others' ratings for the same style.

4.1.2.1.2 Extraversion and Leadership Outcomes

Empirical evidence suggests that extroverts are more likely to emerge as leaders (Judge, Piccolo and Kosalka, 2009; Reichard et al., 2011a), which is not surprising if their behaviour tends to be perceived as "leaderlike" (Hogan, Curphy and Hogan, 1994; Judge, Piccolo and Kosalka, 2009).

Regarding Leadership Effectiveness, the findings are more contradictory. On one hand, Extraversion shows a positive effect on overall Leadership Effectiveness: ($r = .31$) according to Derue et al. (2011), and ($r = .24$) according to Judge et al. (2002). These results were later confirmed by Gottlieb and Gøtzsche-Astrup (2020).

On the other hand, Derue et al. (2011) found no relationship between Extraversion and other seemingly more "objective" leadership performance data: Group Performance; $r = .00$; Job Satisfaction of followers, $p = .07$; or Satisfaction with the Leader, $r = .03$.

Finally, Oh and Berry (2009) did find that Extraversion was a strong correlate of self-ratings of contextual and task performance, and to a lesser extent, to superiors and peers ratings of these dimensions, but no relationship to followers' perception in either.

4.1.2.1.3 Facets of Extraversion

Chapter 2 described the facets of FFM, stating that different authors distinguish a different number and give different names to these facets. Several authors have suggested that lower-level facets might be better predictors of specific measures of performance than the five high-level factors (Judge *et al.*, 2013; Gottlieb and Gøtzsche-Astrup, 2020). In general terms, the factorial structure of Extraversion suggests at least the existence of two distinct groups of facets, which have been labelled "Sociability" and "Dominance" or "Assertiveness" (Morrone-Strupinsky and Depue, 2004).

Do and Minbashian (2014) used meta-analysis to explore the association of these two facets in relation to leadership behaviour and effectiveness and compared it to that of the higher-order factor. They found that Assertiveness (which they called Agency) was weakly associated with Transformational Leadership (.24) and moderately associated with Leadership Effectiveness (.45), when controlling for Sociability; while Sociability (or Affiliation) had no relationship with Transformational Leadership and demonstrated a weak, negative correlation with leadership effectiveness (-.28), when controlled for Assertiveness.

Judge et al. (2013) conducted a meta-analysis to compare the predictive validity of three different levels of FFM "bandwidth": in relation to various measures of Job Performance (although not specific to leadership). They found that the strongest predictors of Relational Performance were the low-level facet of "Positive Emotions" (.28), Extraversion as a whole (.22), and an intermediate aspect he called Enthusiasm (.20). They also found that the strongest predictors of overall job performance were again Positive Emotions (0.20) and Extraversion as a whole (0.20); while Task performance was not related to Extraversion.

An earlier study by Barrick and Mount (1991) found that Potency (or Activity), a facet of Extraversion, was a better predictor of various sales performance measures than the parent scale.

4.1.2.2 Conscientiousness and Leadership

On a theoretical level, Conscientious individuals are characterised as disciplined, efficient, goal-orientated, and with "a strong sense of direction" (Costa and McCrae, 1992). As Judge et al. (2009) put it, "the very nature of Conscientiousness implies a link with Contingent Reward leadership behaviour" (p.865), because they would be expected to be clear in defining role expectations, and fair in assigning consequences to performance (Bass, 1985).

Conscientious leaders have been found to exhibit tenacity and persistence in pursuit of organisational goals (Goldberg, 1992), higher levels of integrity (Hogan and Ones, 1997), and a tendency to foster higher levels of fairness and justice in their work environment (Mayer *et al.*, 2007; Judge, Piccolo and Kosalka, 2009).

On the flip side, Conscientious leaders would tend to be more rigid in relation to policies and procedures, more perfectionistic, and more critical of their team's performance (Hogan and Hogan, 2001); and have shown to be less flexible to adapt to change (le Pine, Colquitt and Erez, 2000; Judge, Piccolo and Kosalka, 2009, p.868).

4.1.2.2.1 Conscientiousness and Leadership Behaviour:

Regarding Leadership Styles, the correlation found between Conscientiousness and Transformational Leadership seems to be very weak: Bono and Judge (2004) found a correlation of .13, while according to Deinert et al. (2015) it would be .17. The latter found a slightly stronger association between this trait and TL's subdimension of Idealised Influence, but not with any other.

Despite what might be anticipated from theory, no significant relationship has been found between Conscientiousness and Transactional Leadership or any of its components (Bono and Judge, 2004).

On the other hand, in line with the theory, a negative but weak relationship between Conscientiousness and Passive-Avoidant Leadership was found (Bono and Judge, 2004).

Regarding self-versus-others' perceptions of behaviours, McKee et al. (2018) found that this FFM factor was the strongest correlate of self-ratings of Transformational Leadership, while it appeared to be totally unrelated to others' ratings of this style, and exactly the same pattern was found for Instrumental Leadership.

Derue et al., (2011), on the other hand, found that the impact of Consciousness on Leadership Effectiveness was mediated by the "initiating structure" (Fleishman, 1953), an equivalent to task-oriented leadership behaviour (Yukl, Gordon and Taber, 2002); and, to a lesser extent, by Transformational Leadership.

It has been suggested that the relationship between Conscientiousness and Leadership Behavioural Style might be moderated by Agreeableness, as there is evidence that Leaders who score high on Consciousness are perceived as harsh and impersonal by followers, but only if they also score low on Agreeableness (Witt, Andrews and Carlson, 2004). It might be assumed that a failure to control the effect of Agreeableness could

cause apparent contradictions in the findings of studies testing the relationship between Consciousness and Leadership Behaviour.

4.1.2.2.2 Conscientiousness and Leadership Outcomes

As expected from theory, there is an established empirical link between Conscientiousness and various measures of job performance (Barrick and Mount, 1991; Judge et al., 2013). A study by Judge et al. (2013) that did not specifically focus on leadership, found that Conscientiousness moderately correlated with Relational⁸ Performance (.32), and weakly with overall Job Performance (.26) and Task Performance (.25).

Regarding Leadership Emergence, Bono and Judge, (2004) found that Conscientiousness was a moderate correlate ($r=.33$). Aligned with theory, conscientious individuals seem likely to emerge as leaders within organisations (Judge, Piccolo and Kosalka, 2009).

As for leadership effectiveness, the picture seems a bit more complex. Again Bono and Judge, (2004) found that Conscientiousness had a very weak correlation of ($r=.16$) (the lowest among the Five-Factors). Contrarily, Deinert et al. (2015) found that it was the only FFM correlate of general Leadership Performance. Finally, Derue et al. (2011) found it to be the second strongest correlate of overall leadership effectiveness ($p = 0.28$).

In terms of specific measures of leadership effectiveness, once again, Derue et al. (2011) found that Conscientiousness was the strongest correlate of Task Leadership Effectiveness (group performance; $p = 0.31$), but it was unrelated to measures of Relational Effectiveness (Follower Job Satisfaction; $p = -.08$; and Satisfaction with the Leader, $r = -.03$). On the other hand, Gottlieb and Gøtzsche-Astrup, (2020), found that Conscientiousness and Agreeableness of the leader were the strongest FFM correlates of "Team Collaboration" and "Organizational Citizenship Behaviour" within the group of followers.

⁸ Also called "contextual" (Judge, Piccolo and Kosalka, 2009)

Additionally, Conscientiousness in CEOs has been negatively associated with success in initiating and managing strategic change (Herrmann and Nadkarni, 2014); and leaders with high Conscientiousness to a tendency to be perceived as abusive supervisors by their followers (Camps, Stouten and Euwema, 2016).

Regarding self-versus-others' perceptions of Leadership Effectiveness, Oh and Berry (2009) found that Conscientiousness was a strong correlate of self-ratings on both Relational and Task Effectiveness, and moderate correlate of both when rated by superiors. Interestingly, Conscientiousness was associated with peers' ratings on Task Effectiveness (although not Relational); and, as it happened with Extraversion, Conscientiousness did not show any relationship with the followers' perception in either of them.

4.1.2.2.3 Facets of Conscientiousness:

Finally, it has been suggested that the Conscientiousness facets could be more associated with certain outcomes than the higher order factor (Gottlieb and Gøtzsche-Astrup, 2020)

For example, Barrick and Mount (1991) found that Achievement, a facet of Conscientiousness, was a stronger correlate of sales performance than the main scale. Likewise, Dudley et al. (2006) found that this same facet, Achievement, fared better than the main scale as a correlate of the general performance of managers.

On the other hand, the study by Judge et al., (2013) did not confirm these findings, since, according to their data, the higher-order factor of Conscientiousness was a better predictor than its facets regarding different performance indicators (non-leadership specific).

4.1.2.3 Agreeableness and Leadership:

The theoretical connection between Agreeableness and leadership has often been found to be ambiguous (Judge, Piccolo and Kosalka, 2009). Agreeable leaders are expected to be friendly, kind (Graziano and Eisenberg, 1997), inclusive, and cooperative. They are expected to promote affiliation and to avoid conflict (Graziano, Jensen-Campbell and Hair, 1996); to stimulate collaboration among team members (Hurtz and Donovan, 2000); to be empathetic when giving feedback for poor performance; and to

encourage fair and friendly work environments (Mayer, Bardes and Piccolo, 2008). These traits translate into people-orientated behaviours, and an overall “likeability” that is considered generally desirable for a leader (Deinert *et al.*, 2015).

On the other hand, high levels of Agreeableness could lead to unassertive or accommodating behaviours in an effort to avoid interpersonal conflict (Graziano and Eisenberg, 1997), an avoidance of making unpopular decisions (Graziano, Jensen-Campbell and Hair, 1996) an excessive compliance to the will of other people, and overall behavioural passivity, behaviours that are generally considered to be “un-leaderlike” (Hogan, Curphy and Hogan, 1994; Hogan and Holland, 2003; Judge, Piccolo and Kosalka, 2009; Deinert *et al.*, 2015).

4.1.2.3.1 Agreeableness and Leadership Behaviour:

Regarding Transformational Leadership and its subdimensions, Bono and Judge (2004) found that Agreeableness correlated positively, but weakly, to overall TL, while it correlated more strongly to its lower-level factors of Idealised Influence and Inspirational Motivation taken together, and, to a slightly lesser extent, to Individualised Consideration. The relationship between Agreeableness and Intellectual Stimulation also turned out to be positive, but weak. Deinert *et al.* (2015) confirmed a weak positive association between Agreeableness and overall Transformational Leadership, also finding a weak positive association with its dimensions of Idealised Influence and Inspirational Motivation. They found no association with Intellectual Stimulation and, surprisingly, with Individualised Consideration. Derue *et al.* (2011) found no relationship between this factor and Transformational Leadership.

Regarding Transactional Leadership, and its subdimensions, Bono and Judge, (2004) found that Agreeableness is the strongest correlate of Contingent Reward, while at the same time, it showed a weak but negative relationship with Management-by-Exception_active.

The same authors found a weak but negative relationship between Agreeableness and Passive-Avoidant Leadership.

These findings appear to be partially contradicted by Derue *et al.* (2011), who found that the relationship between Agreeableness and leadership effectiveness was mediated by

“Consideration” (Fleishman, 1953) and Contingent Reward behaviours, as well as by Passive-Avoidant Leadership, which they found to have a positive relationship with Agreeableness.

Regarding self and others' ratings of Transformational Leadership, McKee, et al. (2018) found that Agreeableness was moderately correlated to both. On the other hand, Agreeableness was weakly but positively related to self-ratings in two dimensions of Instrumental Leadership: Path-goal-facilitation and Outcome-monitoring.

More surprisingly, Agreeableness was the FFM factor most correlated to others' ratings on all four dimensions of Instrumental Leadership, suggesting that agreeable leaders were perceived positively by others, although this study did not distinguish between rater groups and the sample had an overrepresentation of peers and followers over superiors.

Taking the evidence together, it seems that agreeable leaders tend to score positively on those Leadership Behaviours associated with considering, collaborating, and enabling the work of others, and are therefore perceived positively by those most affected by these behaviours: followers and peers. Superiors' ratings would be expected to be less positive (Judge, Piccolo and Kosalka, 2009; Oh and Berry, 2009).

4.1.2.3.2 Agreeableness and Leadership Outcomes

Studies examining the connection between FFM and job performance have found that Agreeableness was very weakly related to overall job performance ($p=.17$), to relational job performance ($p=.18$), and to task job performance ($p=.10$) (Judge et al., 2013). An earlier study found that Agreeableness correlated positively with performance in jobs that have a focus on interpersonal relationships (Mount, Barrick and Stewart, 1998). Other studies have additionally found a negative correlation between Agreeableness and deviant or counterproductive work behaviours (Salgado, 2002).

Empirical studies focused on leadership so far seem to indicate that Agreeableness is related with certain dimensions of leadership and not others.

For example, Bono and Judge (2004) found that Agreeableness had no relationship with Leadership Emergence ($r=.05$).

Regarding the General Effectiveness of Leadership, the findings seem contradictory: Again Bono and Judge (2004) found that Agreeableness was highly correlated with overall Leadership Effectiveness ($r=.21$); while (Derue *et al.*, 2011) found no relationship between this Factor and this outcome ($p = 0.08$).

Gottlieb and Gøtzsche-Astrup (2020) found that Agreeableness, along with Conscientiousness, were the strongest FFM predictors of Leadership Relational Performance criteria, such as "Team Collaboration" and "Organizational Citizenship Behaviour."

Derue *et al.* (2011), found that Agreeableness is the only correlate of Satisfaction with the Leader ($r=.22$); and a weak correlate of Group Performance ($p = 0.20$), while it had no relationship with Follower Job Satisfaction ($p = 0.01$).

Regarding self-versus-others' ratings of leadership effectiveness, Oh and Berry (2009) found that Agreeableness was a strong correlate of self-ratings of both Task and Relational Leadership Effectiveness.

Their study also found that Agreeableness was the strongest FFM correlate of followers' perceptions of leaders' Relational Effectiveness, although it was still a very weak relationship ($p = .12$). Their study found no correlation between Agreeableness and superior's ratings of any kind of Effectiveness, and only a very weak correlation with Peer's ratings of leaders' Relational Effectiveness.

4.1.2.4 Openness and Leadership

People who score high in Openness to Experience are generally described as flexible, unconventional, curious, and with a tendency to prefer autonomous work (Costa and McCrae, 1992; Judge, Piccolo and Kosalka, 2009; Deinert *et al.*, 2015). There is also an increasing amount of evidence of a positive relationship of Openness with Creativity (George and Zhou, 2001; Schilpzand, Herold and Shalley, 2011); with the ability to cope with organisational change (Judge *et al.*, 1999), and with a general attitude of openness to change within organisations (Seppälä *et al.*, 2012).

On the other hand, at a theoretical level, a high level of Openness to experience is expected to introduce too much complexity into decision making, in the attempt to

consider all alternatives and perspectives (Judge, Piccolo and Kosalka, 2009); and has been found to be negatively correlated with the ability to “follow through” with organisational commitments (Erdheim, Wang and Zickar, 2006).

4.1.2.4.1 Openness and Leadership Behaviour

It has been suggested that the importance of Openness to Experience as a predictor of leadership could be increasing due to the dynamic and changing environment that current organisations have to face (Deinert *et al.*, 2015).

Bono and Judge (2004) found a moderate positive relationship between Openness and Transformational Leadership, as well as all its sub-dimensions; while Deinert *et al.*, (2015), also found that Openness was the strongest correlate of these same dimensions.

Regarding Transactional Leadership, Bono and Judge, (2004) failed to find any relationship between Openness and this leadership style; while Derue *et al.*, (2011) seemed to corroborate this by finding that the positive impact of Openness on leadership effectiveness was negatively mediated by “Initiating Structure” (task-related behaviours).

In the same line, Derue *et al.*, (2011) found that the positive relationship between Openness and Leadership Effectiveness was positively mediated by Passive Leadership (Laissez-Faire).

Taken together, these findings seem to imply that a moderately positive effect of Openness on Leadership Effectiveness would be achieved by “letting go” of control and allowing others to exercise their own autonomy.

Regarding self-versus-others’ ratings of Leadership Behaviour, McKee *et al.* (2018) found that self-rated Openness to Experience was moderately associated with self-ratings of Transformational Leadership but weakly related to others’ ratings of this Leadership style.

They also found that Openness to Experience was only related to self-ratings in one dimension of Instrumental Leadership (Path-Goal-Facilitation), and a weak positive relationship with others’ ratings of another (Environmental Monitoring).

4.1.2.4.2 Openness and Leadership Outcomes

Exploring the connections with general job performance (not leadership specific), Judge et al., (2013), found that Openness to Experience was very weakly related to task performance ($r=.12$), and unrelated to overall performance ($r=.08$), and relational performance ($r=.03$).

Regarding Leadership Emergence, Bono and Judge (2004) found that it had a $r=.24$ correlation with leaders' level of Openness to Experience.

These authors also found that Openness had the same correlation of $.24$. with Leadership Effectiveness. Derue et al. (2011), confirmed this finding with exactly the same result ($r=.24$). A later study by Gottlieb and Gøtzsche-Astrup, (2020) found Openness to be the strongest FFM correlate of overall Leadership Performance, together with Extraversion.

Regarding more specific dimensions of Leadership Effectiveness, Derue et al., (2011) found that Openness was very weakly related to Task measures such as Group Performance ($r=.13$); and unrelated to Relational measures of Leadership Effectiveness such as Job Satisfaction of followers ($r=.00$) and Satisfaction with the Leader ($r=.03$).

Regarding self-versus-others' ratings of leadership effectiveness, Oh and Berry, (2009) found that self-assessed Openness to Experience was, again, a strong correlate of self-ratings on Task and Relational Managerial Performance, and interestingly, of peers' ratings on Task Managerial Performance. Openness was also a moderate correlate of superiors' perceptions of both aspects of Leadership Effectiveness, and of peers' ratings on Relational Performance. Finally, Follower's ratings of Task or Relational Leadership Performance were unrelated to leaders' Openness.

4.1.2.5 Neuroticism and Leadership

Emotional stability has often been considered necessary for effective leadership (Northouse, 1997), since negative emotions might hinder performance when facing crises, failures, or difficult interpersonal interactions that are inherent to the role, such as giving or receiving feedback.

People who are Emotionally stable (low in Neuroticism) are expected to be relaxed, predictable in their emotional expressions, less prone to experience stress, anxiety, anger, or other negative feelings at work (Costa and McCrae, 1992; Judge and LePine, 2007), to remain calm in moments of crisis and to recover faster from setbacks (Judge, Piccolo and Kosalka, 2009).

At the same time, these leaders could also be perceived as insensitive, cold, and unemotional (L. R. Goldberg, 1999), seldom instilling emotion into their relationships (L. R. Goldberg, 1999) or not interested in relationships altogether (Judge, Piccolo and Kosalka, 2009). This lack of emotional expression could be interpreted as a lack of empathy or authenticity, affecting the credibility of these leaders (Judge, Piccolo and Kosalka, 2009; Kouzes and Posner, 2014). Farmer and Aguinis (2005) found that inexpressive leaders are perceived by their followers to be more distant, leading to higher levels of dissatisfaction, absenteeism, and turnover.

4.1.2.5.1 Neuroticism and Leadership Behaviour

Bono and Judge famously found a negative relationship between Neuroticism and overall Transformational Leadership, and all its subdimensions (2004).

The findings of Deinert et al., (2015) confirmed this negative relationship between Neuroticism and overall Transformational Leadership, although they also found that it had a positive, albeit weak, relationship with two of its sub-dimensions: Inspirational Motivation and Intellectual Stimulation. They found no relationship between Neuroticism and the other dimensions, Individualised Consideration and Idealised Influence (attributed and behavioural).

Regarding Transactional Leadership, Bono and Judge, (2004) found a negative relationship -although weak- between Neuroticism and Contingent Reward, and no relationship with Management-by-Exception_active. Derue et al., (2011) also found a negative relationship between Neuroticism and Contingent Reward, which would mediate the positive effect of this personality factor on Leadership Effectiveness.

Regarding the leadership behaviours perceived by self and by others, McKee et al., (2017) discovered that: Neuroticism was unrelated to the Transformational Leadership ratings of others, but that it did have a significant negative relationship with the self-

assessments of these behaviours. Exactly the same pattern was observed in the relationship of this trait with the Instrumental Leadership assessments (McKee et al., 2018).

This contradictory relationship between Neuroticism and Leadership could have many different explanations. One is the heterogeneity of the facets within this trait that groups anxiety and vulnerability tendencies on the one hand, and anger and aggression on the other (Allen *et al.*, 2020). The former could be associated with lower self-esteem, a desire to be accepted by others, greater sensitivity to contextual and interpersonal cues, and a willingness to exhibit prosocial behaviours (Hogan and Hogan, 2001; Deinert *et al.*, 2015). The latter, on the other hand, could be more associated with antisocial tendencies, aggression, and impulsiveness (Judge et al., 2009).

4.1.2.5.2 Neuroticism and Leadership Outcomes

At the individual level, and not related to leadership, Emotional Stability (low Neuroticism) has been associated with positive outcomes such as subjective well-being (DeNeve and Cooper, 1998).

Regarding general job performance, unrelated to leadership, Judge et al. (2013) found that Neuroticism had a weak negative correlation with relational job performance ($r = -.16$) and overall job performance ($r = -.10$) and that it was relatively unrelated to task job performance ($r = -.08$). Emotional Stability (low Neuroticism) has also been linked to lower turnover intention (Salgado, 2002), and higher tendency to rely on objective and rational arguments (and less on emotions) when trying to convince others (Cable and Judge, 2003).

In the field of leadership, Neuroticism has shown a weak negative correlation with Leadership Emergence ($r = -.24$) (Judge *et al.*, 2002; Bono and Judge, 2004) and a weak negative correlation with the general effectiveness of leadership ($r = -.22$) (Judge et al., 2002; Bono and Judge, 2004); but has shown no association with leadership variables when evaluated through multivariate analysis

Derue et al., (2011) confirmed this weak negative correlation between Neuroticism and overall Leadership Effectiveness ($r = -0.24$), but, interestingly, found no relationship between Neuroticism and more specific indicators of effectiveness such as Group

Performance ($r=0.03$); Job Satisfaction, ($r= -.02$); and Satisfaction with the Leader, ($r= -.08$).

About the perception of Leadership Effectiveness coming from different raters, Oh and Berry (2009) found that Emotional Stability (Neuroticism's opposite), was also strongly related to self-ratings on task and relational performance, and to a lesser degree, to peers' perceptions of both aspects. Emotional Stability was also a strong to moderate correlate of superior's perception of both aspects, although once again, it showed no relation to followers' perceptions in any of these aspects.

4.1.2.6 Combinations of Five-Factor Traits and Leadership Outcomes

Academic literature so far has found some evidence that the relationship of specific FFM traits with performance may vary considerably depending on the presence or absence of other traits. For example, a study by O'Neil, (2007), found evidence that distinct combinations of FFM traits had different effects over leadership performance:

- A profile of low Conscientiousness and high Openness was associated with an increase in Leadership Effectiveness.
- A combination of high Conscientiousness and high Extraversion predicted a steady increase in Leadership Effectiveness over time.
- A combination of high scores on Dominance and Perfectionism (low-level facets of Extraversion and Conscientiousness, respectively) had a negative effect on Relational leadership effectiveness, unless accompanied with a high score on Agreeableness.
- A combination of extremely low Extraversion and Openness, and low Conscientiousness, was linked to a decline in leadership performance over time.

Along the same lines, a study McCormack and Mellor (2002) found that military leaders who were high in Conscientiousness and low in Extraversion, were more likely to be candidates for promotion and to have their performance rated as effective; apparently contradicting the finding of the classic study by Bono and Judge (2004) regarding the strength of Extraversion as a correlate of leadership.

Mathieu (2013) found an empirical connection between a combination of high Extraversion, high Openness and low Agreeableness, and Narcissism, a dark triad trait

(Paulhus and Williams, 2002). Narcissism has been associated with self-serving attitudes in the allocation of organisational resources (Van Dijk and De Cremer, 2006), a negative perception of their performance by others (Judge, LePine and Rich, 2006); poor relationships, and low integrity (Blair, Hoffman and Helland, 2008). On the other hand, narcissism in CEOs has been associated with greater courage in strategic decision-making, even though their long-term performance was no better than that of their peers (Chatterjee and Hambrick, 2007).

Parr et al. (2016) also examined the impact of trait combinations over leadership effectiveness, using an assessment centre. They found that:

- A combination of high Conscientiousness, Extraversion and Agreeableness, was associated with effectiveness on “Defining and Executing Strategy”, and on “Building Partnerships and Communication”.
- A profile of high Conscientiousness with low Extraversion and low Agreeableness, scored high on “Defining and Executing Strategy” but low on “Building Partnerships and Communication”.
- A profile of high Extraversion, high Openness, and low Conscientiousness performed highest on “Building Partnerships and Communication”.

Different combinations of traits might be more successful in certain aspects of a leadership task and less in others. For example, a study on CEO personality traits associated with initiating and managing strategic change, found that leaders high in Extraversion and Openness tended to be more successful in initiating them, while those high in Agreeableness and low in Neuroticism tended to be more successful in their implementation (Herrmann and Nadkarni, 2014)

Also, as mentioned before, Witt et al. (2004) found that leaders who are highly Conscientious but low on Agreeableness, may be harsh and indifferent when delivering critical feedback to their teams (in Judge, Piccolo and Kosalka, 2009; p.868).

4.1.2.7 Empirical connections between the Five-factor model and Leadership: Conclusion

This section has discussed the empirical findings on the relationship between FFM and leadership, including the main findings regarding the relationship between the Five-

Factor personality model and the leadership behaviours referenced in this study: Transformational, Transactional, Passive and Instrumental Leadership; as well as the relationship between FFM and Leadership Outcomes related to Leadership Emergence and Effectiveness.

In summary, it can be said that FFM traits and their facets have shown to have significant association patterns regarding Leadership Behaviour and Outcomes. More specifically, the empirical findings on the effect of different combinations of FFM traits on leadership illustrate that this influence is not isolated, but depends on the interaction of each trait with the other traits present in the person as a whole. This evidence tends to confirm one of the basic postulates of the Enneagram and other type personality models: that the impact of personality is determined by the characteristics of the person as a whole, not by their isolated traits. Finally, the empirical evidence reviewed above will serve to inform the discussion of the association of each Enneagram type with leadership, understanding each type as a unique combination of traits.

4.1.3 The Enneagram and Leadership: Conclusion

Section 4.2.1 of this chapter reviewed empirical findings on the relationship between the Enneagram Personality Model and FFM, as well as other work-related aspects and outcomes of personality. Section 4.2.2 reviewed the empirical evidence regarding the effect of FFM traits, facets, and combination of traits on Leadership.

This evidence, taken together, allow the construction of a theoretical and empirical bridge between the Enneagram personality model and Leadership through FFM. This is the basis on which the Conceptual Framework presented in the next section is built. The evidence reviewed earlier, connecting the Enneagram to other aspects of personality and workplace outcomes, further reinforces this relationship.

An underlying purpose of this study to discover whether there is any "transitivity" between the associations of FFM traits with Leadership, and Enneagram Types who are associated with those traits. For example, Extraversion is the FFM trait most consistently associated with effective leadership, whereas Neuroticism has been consistently associated with ineffective leadership. To what extent will these patterns be inherited - or not - by Enneagram Types high in Extraversion or Neuroticism? These potential

associations will be addressed in the final discussion, and will be used to contrast, interpret, and comment on the findings of this study.

The following section of this chapter will present a general description of the conceptual framework that guides this study, its objectives, its research questions, and the research propositions about the expected relationships between its independent and dependent variables.

4.2 Conceptual Framework

This section presents the conceptual framework guiding this study, the aims, its research questions, and the research propositions developed to explore these questions. In short, the conceptual framework anticipates a relationship between the Enneagram personality model and three sets of outcome variables: Leadership Behaviours (also called styles), understood as the leaders' prototypical ways of acting and reacting when dealing with the challenges they face in the context of their leadership; Perceived Leadership Outcomes; understood as the appraisal of the quality of their leadership in the eyes of themselves and those around them; and Leadership Performance Indicators, understood as numerical measures of the results obtained by these leaders in the organisations to which they belong. The first two sets of variables are obtained from the MLQ 360 survey. The latter from performance KPIs obtained directly from company data, which include measures of financial performance, potential for promotion, results from employee climate surveys, and measurements of task and people-related work competencies.

4.2.1 Research Aims and Objectives

This thesis aims to examine the relationship of Enneagram Personality Types to Leadership Behaviours and Leadership Outcomes.

For this purpose, three research objectives have been defined:

1. To examine the relationship between the Enneagram Types and Leadership Behaviours, from the perspective of superiors, peers, followers, and leaders themselves.

2. To examine the relationship between the Enneagram Types and Perceived Leadership Outcomes, from the perspective of superiors, peers, followers, and leaders themselves.
3. To examine the relationship between the Enneagram Types and Leadership Performance Indicators obtained from company data.

4.2.2 Research Questions

Five research questions have been raised in relation to these objectives:

1. To what extent is the Enneagram model related to different patterns of Leadership Behaviour and Leadership Outcomes, when these are perceived by the leaders themselves, their superiors, peers, and followers?
2. To what extent is the Enneagram personality model related to Leadership Behaviours described by the Transformational, Transactional, Passive (Bass and Avolio, 1990) and Instrumental Leadership models (Antonakis and House, 2014), when these are perceived by leaders themselves, their superiors, their peers, and their followers?
3. To what extent is the Enneagram model related to Perceived Leadership Outcomes, when these are rated by leaders themselves, their superiors, their peers, and their followers?
4. To what extent is the Enneagram model related to Leadership Performance Indicators related to Leadership Emergence, Task or People Effectiveness?
5. And overall, to what extent is the Enneagram model related to Leadership Behaviour and Leadership Outcomes?

4.2.3 Research Propositions

The research propositions guiding this thesis are presented below. It is important to remember at this point that the Enneagram Personality Model describes nine types as discrete categories with fuzzy borders. However, this thesis has measured the types as if they were continuous variables, using scales to measure the "strength" of each type in each individual. This way of measuring the Enneagram Model has been by several

other research projects before (Newgent et al., 2004; Giordano, 2008; Delobbe et al., 2009; Stevens, 2011; Yilmaz et al., 2016), and its rationale and implications will be discussed further in chapter 5.

Therefore, although the research questions are formulated in terms of Enneagram types to align with the model, the research propositions are expressed in terms of “type scores”, referring to the nine numerical scales used to measure the Enneagram types. These propositions are presented below, organised according to the three sets of dependent variables addressed by this thesis.

4.2.3.1 Research Propositions on Leadership Behaviour:

- RP1: The Leadership Behaviour of a group of leaders will be perceived differently depending on who evaluates it: the leaders themselves, their superiors, peers, or followers.
- RP2: Leaders’ self-assessed Enneagram-type scores will be significantly associated with self-ratings of their Leadership Behaviour.
- RP3: Leaders’ self-assessed Enneagram-type scores will be significantly associated with superiors’ ratings of their Leadership Behaviour.
- RP4: Leaders’ self-assessed Enneagram-type scores will be significantly associated with peers’ ratings of their Leadership Behaviour.
- RP5: Leaders’ self-assessed Enneagram-type scores will be significantly associated with followers’ ratings of their Leadership Behaviour.

4.2.3.2 Research Propositions on Perceived Leadership Outcomes:

- RP6: The Perceived Leadership Outcomes of a group of leaders will differ depending on who rates them: the leaders themselves, superiors, peers, or followers.
- RP7: Leaders’ self-assessed Enneagram-type scores will be significantly associated with self-ratings of their Leadership Outcomes.
- RP8: Leaders’ self-assessed Enneagram-type scores will be significantly associated with superiors’ ratings of their Leadership Outcomes.

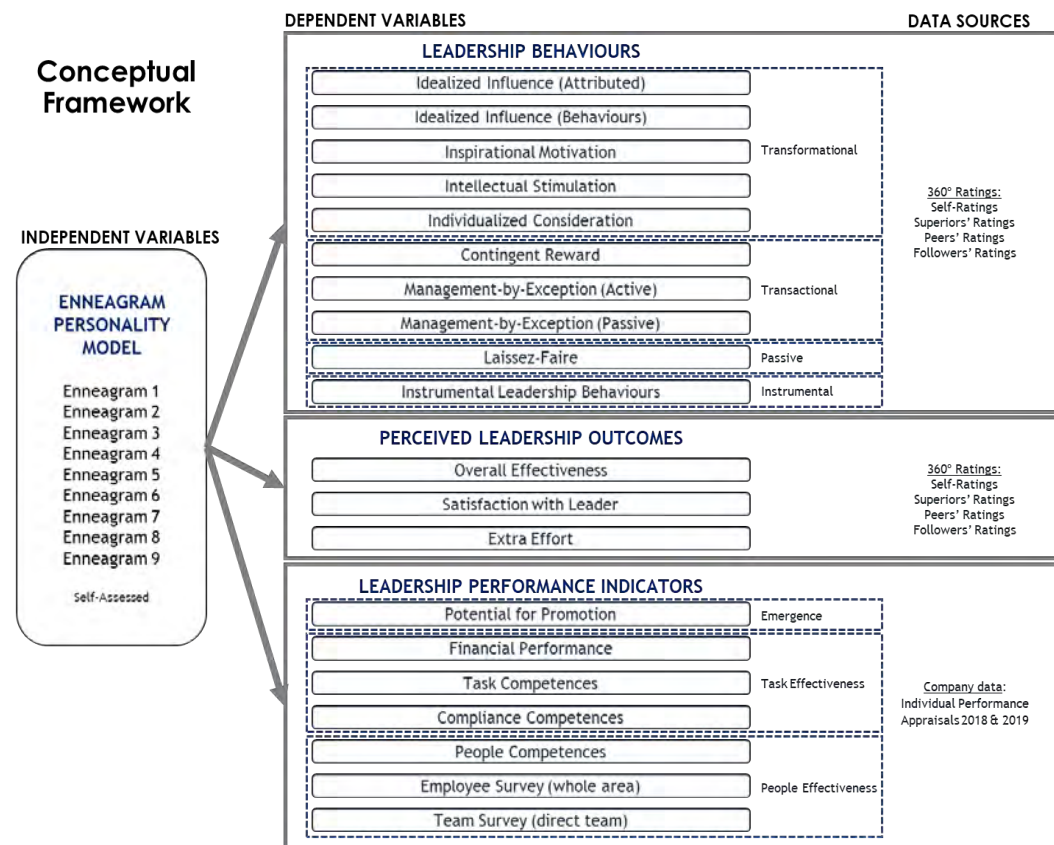
- RP9: Leaders' self-assessed Enneagram-type scores will be significantly associated with peers' ratings of their Leadership Outcomes.
- RP10: Leaders' self-assessed Enneagram-type scores will be significantly associated with followers' ratings of their Leadership Outcomes.

4.2.4.3 Research Propositions on Leadership Performance Indicators:

- RP11: Leaders' self-assessed Enneagram-type scores will be significantly associated with the Performance Indicators they obtain in the exercise of their role.

These research propositions will be contrasted through multiple regression analyses, to examine the relationships between each of the nine scales representing the Enneagram types, and the different dependent variables. Thereafter, the presentation of the findings and their discussion will sometimes use the conventional word "Type" to refer to these type scores, as a way of alluding to the Enneagram literature. The overarching conceptual framework is summarised in Figure 3.

Figure 3: Conceptual framework of this study.



4.3 The Enneagram and Leadership, Conceptual Framework: Conclusion

This chapter has laid the conceptual framework on which this research is founded, establishing a theoretical and empirical bridge between the Enneagram and Leadership. This has been achieved, firstly, by reviewing the empirical findings relating the Enneagram and the Five-factor models of personality. Second, it reviewed literature on the relationship between FFM traits and leadership, particularly leadership behaviours included in the FRTL and IL models, as well as several leadership outcomes. It was then established that there are solid reasons to expect a significant relationship between the independent and dependent variables of this study.

The chapter then went on to state this research's aims and objectives. Namely, to address the relationship between the Enneagram model and three sets of Leadership variables: Behaviours, Perceived Outcomes, and Leadership Performance Indicators obtained from company data. It then presented the research questions and propositions guiding this enquiry. The following chapter will explain the philosophical positioning of this study, as well as the research methods used to examine these relationships.

Chapter 5. Research Methodology

The preceding chapter presented the conceptual framework on which this research is founded, laying out the aims of this thesis, its research questions and propositions. In sum, it was stated that the aim of this thesis was to identify how the Enneagram Personality Types are related to Leadership Behaviour and Leadership Outcomes. To this end, three research objectives were defined. Namely, to examine the relationship between the Enneagram personality Model and three sets of outcome variables: Leadership Behaviours, Perceived Leadership Outcomes and the Performance Indicators obtained from company data.

This thesis set out to address these objectives, first, by examining the patterns of association between the Enneagram personality model and two well-established models of Leadership Behaviour, the Full Range Theory of Leadership (Avolio and Bass, 2004) and the Instrumental Leadership model (Antonakis and House, 2014); as well as examining how these patterns vary depending on who rates these behaviours: leaders themselves, their superiors, peers, or followers. Second, it went on to explore the associations between the Enneagram personality model and three widely used measures of Perceived Leadership Outcomes (Avolio and Bass, 2004); and again, how these vary depending on who rates them: leaders themselves, superiors, peers, or followers. And third, by examining the association of this personality model to a set of Performance Indicators related to Leadership Emergence and Effectiveness, obtained from company records.

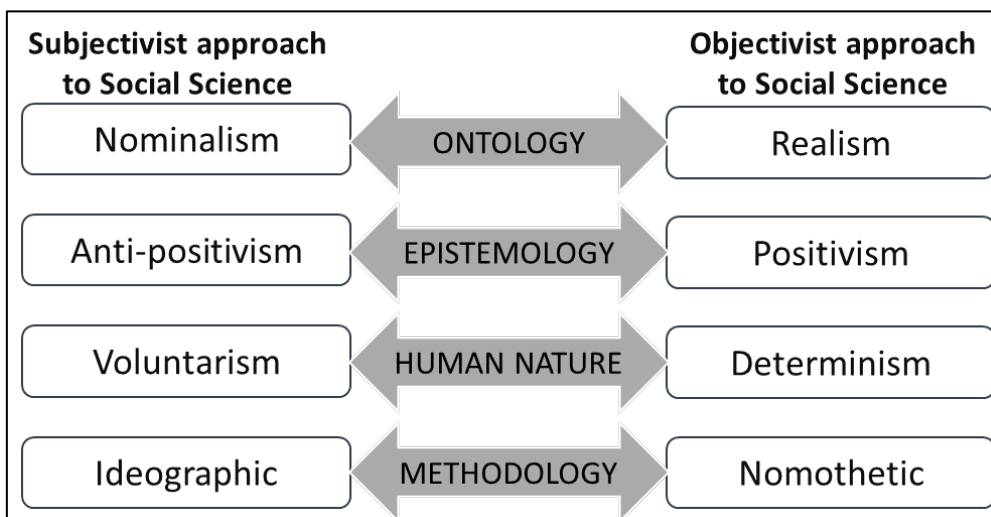
This chapter explains the research methodology employed to examine these relationships, beginning with the research paradigms and philosophical approach within which this study is framed. It then moves on to provide details of the research design, the sampling strategy, the measurement instruments, and the procedures for data collection, data treatment and analysis. The chapter ends with a description of the precautions taken to comply with the ethical standards and data protection of this study's participants.

5.1 Research Philosophy

There is a broad, on-going discussion between different traditions regarding how to make sense and how to approach investigation in social sciences. This debate can be represented as a continuum that runs between two extreme conceptions and philosophical assumptions underlying distinct perspectives on human nature, and consequently, on the ontology, epistemology, and methodology that can best approach social science and research.

These conceptions were summarised by Burrell and Morgan (1979) in the diagram presented in figure 4.

Figure 4: The Subjective-Objective Dimension in Analysing Assumptions about the Nature of Social Science (borrowed from Mukhty, 2013).



5.1.1 Ontology of this Research

The ontological stance of the present research study can be described as “subtle” realism because it conceives the “objective reality” of social phenomena, somewhat independent of the perception of observers, although deeply affected and mutually interacting with that perception (Robson and McCartan, 2016).

This ontological conception has been labelled as Critical Realism (Bhaskar, 1998; Blaikie, 2007). Critical Realism asserts the “reality” of social structures, as being both prior and a result of individual activity and consciousness at the same time, in a mid-point between agency and determinism, where individuals may tend to maintain the social structures they are born into, but can also choose to transform them (Blaikie, 2007).

This philosophical stance distinguishes three domains in reality: the real, composed of underlying structures and mechanisms; the actual, the events that occur as a result; and the empirical, those manifestations that we consciously observe. The causal powers of mechanisms and structures exist at the “real” or “deeper level” of reality, while they are not necessarily expressed, since social activity happens within open and complex systems, where many causal powers may come into action at the same time, affecting each other, and potentially counteracting or enhancing each other’s effects (Blaikie, 2007).

From Bhaskar’s (1998) perspective, these relevant forces underlying social life cannot be observed or measured directly, and thus, the social scientist will have to “imagine” hypothetical models to explain the observed “regularities”. Those models will then have to be tested against evidence (Blaikie, 2007). In this context, the aim of social science is to provide the best possible picture of the mechanisms and structures at work, to explain the observed “regularities” and the “causal powers” that connect them, through theories or models that might be situationally restricted (Menon, 2015).

In line with a Critical Realist view, this research study approaches the construct of “personality” as an underlying “structure” or “mechanism”, that is expected to associate to different “patterns” or “regularities” in leaders’ behaviours and outcomes.

5.1.2 Epistemology of this Research:

Critical Realism proposes that science must strive to capture a “reality” beyond individual subjectivity, although it recognises that our perception of reality is determined by our historical, political, and social context (Blaikie, 2007). Thus, it is based in the belief that the “external world is independent of the mind as well as lodged on the mind” (Creswell, 2014, p.11).

It works under the assumption that only imperfect knowledge is possible in Social Sciences (Blaikie, 2007); and yet, does not abandon the possibility of adopting a Nomothetic methodology and quantitative research design, characteristic to Positivism. On the other hand, this research also considers the complexity of social phenomena (Chalmers, 1999), and the contribution of various sources of subjectivity in the data collected. As such, Critical realism lies between the positivist’s detachment and

“objectivity”; and the constructivist’s acknowledgement of being part of the social reality that is studied (Evered, Louis and Louis, 1981; Mingers, 2006).

This philosophical stance has informed the present research by adopting a positivist epistemology, nomothetic methodology, and quantitative research design; and at the same time, the collection of data from multiple sources, due to the recognition of the inevitable subjectivity present in each of these measurements.

5.1.3 Nature of this Research

Scientific research can be classified into three main types: exploratory, descriptive, and explanatory (Punch, 2009; Casula, Rangarajan and Shields, 2021). The three can be understood as a continuum, in which the study of any field of knowledge would begin with an open exploration of whatever is found; thus, laying the foundation for a description of the phenomena, which, in turn, becomes the basis for subsequent explanations.

Exploratory research focuses on new and unstudied subjects, and according to (Stebbins, 2001) it should be qualitative, based on inductive research methods such as the grounded theory introduced by Glaser and Strauss, (2017), and never use confirmatory mechanisms such as hypotheses. Descriptive research, for its part, would seek to provide an accurate picture of a phenomenon, by describing a process, a mechanism, or a relationship between variables (Punch, 2009). Explanatory or Causal research, on the other hand, aims to discover causality and to explain relationships between variables (Robson and McCartan, 2016), aiming to answer the questions of “why” something happens, or “what is likely” to happen (Hines, 2009).

According to the previous definition, the present study is understood as Descriptive research, since it seeks to describe the relationships between sets of independent and dependent variables, based on previous evidence found in the literature regarding relevant relationships between related variables (Punch, 2009).

5.2 Research Methods

Research methods are the strategies used in the generation and processing of data to answer specific research questions (Oppenheim, 1992). They include the definition of measurement instruments, the strategies to obtain and select the sample, the procedure to collect the data, and the techniques to treat and analyse these data (Saunders, Lewis and Thornhill, 2019). The current section provides a general description of the research methods employed by this study, and of how these methods were applied.

Research methods can be divided into three broadly categories: qualitative, quantitative, or mixed (Teddlie and Tashakkori, 2009). While qualitative methods focus on observing and interpreting social phenomena and the subjective experience of individuals, quantitative methods use numerical measures that can be used for statistical analysis. In social sciences this is usually achieved by the administration of questionnaires (Teddlie and Tashakkori, 2009).

This is the case of this study, that has opted for a nomothetic methodology and a quantitative research design (Creswell, 2014), coherent with its philosophical positioning within a critical realist ontology and a positivistic epistemology. As Collis and Hussey (2003) have pointed out, the positivist paradigm is best served with a quantitative design, since it focuses on the generation of valid data, appropriate for statistical analysis (Collis and Hussey, 2003).

In terms of the use of time, research designs can be fundamentally divided between longitudinal and cross-sectional or concurrent. The former are characterised by the collection of data of the same population at different moments in time. The latter collect data at a specific moment in time (Creswell, 2014).

Descriptive research typically uses concurrent research designs, as this thesis has done. This type of design has some additional advantages when used in the context of business organisations, since longitudinal studies may be affected by practical problems such as participants' attrition due to worker turnover, or a possible loss of access to the organisation due to a change in organisational gatekeepers (Robson and McCartan, 2016). On the other hand, concurrent studies, due to their design, are not considered a

robust way to analyse causality or predictive relationships between variables (Cox, 1992; Field, 2013; Bordacconi and Larsen, 2014).

The following sections of this chapter will describe the methodology used to examine the relationship between the variables of interest, including the strategies and procedures used for the sampling, measurement, data collection and data analysis.

5.2.1 Sampling

5.2.1.1 *Sampling strategy*

A sample is a subset of a population, which, if studied, allows the researcher to draw conclusions that can be generalised to that population (Sekaran and Bougie, 2016). There are two basic groups of sampling strategies: Probabilistic, which is based on chance, e.g.: simple random, stratified random or systematic sampling; and non-probabilistic, which is based on researcher's decisions guided by theory, or criteria such as accessibility or availability of a population, e.g.: purposive sampling, convenience sampling, or quota sampling (Saunders, Lewis and Thornhill, 2019).

The target population of this study was initially defined as a group of leaders from business organisations. Given the difficulty of finding a group of leaders from business organisations who were willing to give their time to fulfil the requirements of a research investigation, this project opted for a convenience sampling strategy (Teddlie and Tashakkori, 2009; Robson and McCartan, 2016), which in this case implied working with those organisations that were willing to participate.

Another important design element is the selection of an appropriate sample size (Sekaran and Bougie, 2016). This should be guided by factors such as representativeness, but also practical considerations such as cost and time-effectiveness, as well as feasibility (Robson and McCartan, 2016). Probabilistic, which is based on chance, e.g.: simple random, stratified random or systematic sampling; and non-probabilistic, which is based on researcher's decisions guided by theory, or criteria such as accessibility or availability of a population, e.g.: purposive sampling, convenience sampling, or quota sampling

In this case, given that the research questions required the application of a 360-degree evaluation for each study subject, it was defined that the sample of leaders would not be less than 100 to be statistically valid, nor would it exceed 150 individuals to be feasible. Initially, the idea was to compose this sample of leaders from different organisations.

5.2.1.2 Gaining access to a Sample.

One of the greatest challenges of doing research in the “real world”, and particularly within fast paced business organisations, is to gain access to a relevant sample of individuals who are willing to participate from a study (Robson and McCartan, 2016). In the case of this thesis, a facilitating factor was that the researcher had previous experience as an HR executive. Her contacts developed from her previous professional life enabled her to reach the top levels of different business organisations.

Initial contact was established with four organisations through an email directed to the head of HR. These emails included a brief introduction to the project and conditions of the research to be carried out. These organisations did not respond or responded negatively.

The fifth company contacted agreed to have a personal meeting between the CHRO and the researcher, so that the latter could provide more details of the project. This meeting was held in person, at the company's headquarters in Santiago (Chile), taking advantage of a personal visit to that city by the researcher. During the meeting with the CHRO, the researcher presented the objectives of the study, the optimal profile of the participants required, the instruments that would be applied, and the ethical standards to be followed (guaranteeing the confidentiality of the data obtained from the participants). As a result of the meeting, the CHRO agreed to carry out the study under two conditions: to receive a full, high-level report at the end of the study; and not having the name of the company disclosed.

After that meeting, the investigator made the decision to focus the investigation solely on this company. The factors considered were: The company was sufficiently large (42,000 employees, 1000 of which were mid-and high-ranking managers, when the study started); multinational (with branches in six Latin American countries, commercial

operations in the United States and Europe), and with a leadership composition that was heterogeneous in terms of nationality, age, and gender. On the other hand, the fact that the entire sample came from a single organisation would considerably simplify the logistics, the alignment of communications and the comparability of the performance indicators to be collected. The organisation stood as one of the most important Latin American airlines at the time of the data collection⁹.

5.2.1.3 Sample Selection

In agreement with HR, it was defined that the sample for this study would be made up of the total population of leaders belonging to the six highest hierarchical tiers of the organisation: C-Level, Vice Presidents, Senior Directors, Directors, Country Managers and Senior Managers. All of them would be invited to participate and the final sample would be composed of those who voluntarily agreed to participate in the study. This inclusion criterion would ensure a sufficient number of participants, while avoiding non-random selection criteria by HR, such as excluding those with lower performance. Only those leaders that had less than 3 months in their current position were excluded from the sample, since raters would not have had enough time to observe their behaviours or their outcomes.

The HR department carried out a first sample selection process considering these inclusion and exclusion criteria, identifying a total population of 144 people who held senior management positions in the countries where the company operates: Brazil, Chile, Peru, Argentina, Colombia, Ecuador, Spain, United States, Germany, Italy, and France.

Likewise, it was defined that all superiors, peers and followers of these leaders would be invited to participate as raters in their 360-surveys, in order to prevent leaders or HR from selecting evaluators based on some biased criteria. Therefore, the only bias present in the selection of the sample of both leaders and the 360-degree raters was

⁹ Part of the research agreement was not to disclose the name of the company.

their willingness to voluntarily participate in the study. The demographic characteristics of the leaders and their raters are described in chapter 6.

5.2.2 Measurement Instruments

This study required instruments to measure the independent variable (Enneagram personality model) and to assess three groups of dependent variables: Leadership Behaviours, Perceived Leadership Outcomes, and Leadership Performance Indicators. The aim of the project was to use the most objective tools possible to give the study greater robustness, considering that it would be exploring a personality model whose validation in the academic field is still in its infancy.

5.2.2.1 *Measuring the Enneagram Personality Model*

To the best of this researchers' knowledge, only five Enneagram questionnaires have been validated by academic studies. These were described in chapter 2, section 2.3.5 of this thesis: the WEPSS (Wagner and Ronald E. Walker, 1983); the NTTM (Yilmaz et al., 2014; Yilmaz et al., 2016b); the RHETI in its ipsative, and non-ipsative versions (Riso and Hudson, 2000a; Newgent et al., 2004; Giordano, 2008), and the HPEI (Delobbe et al., 2009; Delobbe, Halin and Prémont, 2012). This study chose HPEI because it has reported strong validity and reliability measures, because it already had a version in Spanish and Portuguese, and because its author provided the licences, manuals and normative data free of charge.

The Halin Premont Enneagram Inventory or HPEI (Delobbe, Halin and Prémont, 2012) is a self-applied questionnaire based on the Enneagram Model. The original version of this questionnaire was developed in French, and it was initially presented by its authors at the 14th Congress of the European Association of Work and Organisational Psychology in 2009, in Santiago de Compostela, Spain (Delobbe, Halin, Prémont, *et al.*, 2009). The questionnaire is made up of 52 items that are answered with a 5-point Likert scale, and which are scored by giving 0 points to the two lowest categories, and then 1, 2 and 3 points respectively to the highest categories. The results are expressed in terms of numerical scores for each of the nine components of the model. Appendix D presents details of the instructions, evaluation categories, sample items and indications to score.

Only a sample items from the questionnaire can be reproduced for reasons of the agreement established with the authors.

In 2012, its authors published new data for the validation of this tool, reporting Cronbach's Alpha ranging between 0.71 and 0.84, depending on the scale (Delobbe, Halin and Prémont, 2012). Since its publication, the authors have developed versions in multiple languages. In terms of its concurrent validity, the authors of the HPEI have reported a significant association of the HPEI's scales with individuals' self-identified type, with the Five-factor model, with the Schwartz's Values Scales (2021), with the Positive-Affect-Negative-Affect Scale (Watson, Clark and Tellegen, 1988), and with Schein's (1996) Career Anchors (Delobbe et al., 2009; Delobbe, Halin and Prémont, 2012). Section 2.4.5.2.3 of this thesis presents a detail of these studies' results.

It is important to notice that the Enneagram Model is theoretically proposed as a set of types or categorical variables, while the instrument used herein to measure the model is made up of scales that provide a numerical value for each "type" and for each subject. The resulting score indicates the degree of presence or the "strength" of the patterns descriptive of each type within each individual.

This way of measuring types has been adopted by previous Enneagram researchers (Newgent et al., 2004a; Giordano, 2008; Yilmaz, Gencer, et al., 2016) as it allows for the use of multiple regression, and is shared by the other questionnaires mentioned above. And while not theoretically accurate, this way of measuring the model aligns with the "fuzzy" quality of these types (see Chapter 2), as people are given scores for the different types.

To simplify the discussion, the nine measures obtained from the application of this instrument will be referred to as Enneagram 1 or Type 1, Enneagram 2 or Type 2, etc., adding a conceptual label as an aide-memoire. The labels adopted are drawn from Palmer (1995); and from Riso and Hudson (1996) and have been selected because of their representativeness of the type's workplace behaviour. The types, names, and some of their key features are summarised in table 24.

Table 24: Summary of traits of the Enneagram Types.

Enneagram Type:	Name (label):	Summarised description:
1	The Reformer	Principled, disciplined, judgemental
2	The Giver	Caring, sociable, emotionally-demanding.
3	The Achiever	Driven, efficient, competitive.
4	The Romantic	Creative, sensitive, moody.
5	The Investigator	Perceptive, analytical, socially-awkward
6	The Loyalist	Committed, hard-working, anxious.
7	The Enthusiast	Innovative, outgoing, impulsive.
8	The Challenger	Self-assured, decisive, confrontational.
9	The Peacemaker	Patient, unassuming, conformist.

5.2.2.2 Measuring Leadership Behaviours

Also looking for the greater robustness, the instrument of choice to measure the first two groups of dependent variables, Leadership Behaviours and Perceived Leadership Outcomes, was the most widely validated and used by the scientific community: the MLQ, based on the Full Range Leadership model (Bass and Avolio, 1990). The model was enriched with an additional dimension, Instrumental Leadership, recently proposed by (Antonakis and House, 2014) to increase the robustness of the model.

5.2.2.2.1 Transformational, Transactional and Passive Leadership

The Multifactor Leadership Questionnaire (MLQ), 5X short is a 360-degree survey developed by Avolio and Bass (1991) to assess the dimensions of the Full Range Theory of Leadership: Transformational, Transactional and Passive Leadership. This instrument contains 45 items in total, all of them answered with a five-point Likert scale (0 = Not at all to 4 = Frequently, if not always). Thirty-six of these items measure the nine behavioural dimensions that together comprise the three leadership styles defined by the model. These styles conform the higher-order factors, which are, in turn, divided into nine separate subdimensions or behaviours. The subdimensions of Transformational Leadership are: Idealised Influence_attributed (IIA), Idealised Influence_behaviour (IIB), Individualised Consideration (IC), Inspirational Motivation (IM), and Intellectual Stimulation (IS). Those of Transactional Leadership are: Contingent Reward (CR), Management-by-Exception_active (MBEA), and Management-by-

Exception_passive (MBEP). Passive Leadership is defined only in terms of one behaviour, Passive-avoidant or Laissez-faire (LF). It is important to remember that, following the recommendations of Antonakis, Avolio and Sivasubramaniam (2003), this thesis will focus the analysis and discussion on these lower-order factors or behaviours. Appendix F provides sample items and response categories for the MLQ.

The reliability measures of the MLQ reported by Avolio and Bass (1991) are: For a composite measure that puts together Idealised Influence (A and B) and Inspirational Motivation (.92; .92); for Intellectual Stimulation (.83; .78); for Individualised Consideration (.79; .78); for Contingent Reward (.80; .74); for Management-by-Exception_active (.63; .64); and for Passive-Avoidant leadership (.84; .86), where the first values show the internal reliabilities of the original set of samples (N=1,394) and the second values from the replication set of samples (N=1,498). Later replications have confirmed high levels of reliability (Avolio and Bass, 2004. P.64)

5.2.2.2 Instrumental Leadership

Antonakis and House (2014) developed the construct of Instrumental Leadership to measure key leadership behaviours that they found to be missing from the Full-Range Leadership Model (see Chapter 2). They grouped these behaviours into a dimension they called Instrumental Leadership, developing a questionnaire to measure them. Although the questionnaire has not been given a formal name in the literature, this thesis has referred to it as the ILQ, as a parallel to the MLQ. The ILQ consists of eight items that are answered with a five-point Likert scale (0 = Not at all to 4 = Frequently, if not always). The items are grouped into four dimensions: Environmental monitoring, Strategy formulation, Path-goal facilitation, and Outcome monitoring (Antonakis and House, 2014, p.749). These dimensions' reported reliability (Cronbach α) were 0.86, 0.84, 0.77 and 0.86 respectively (Antonakis and House, 2014, p.755).

The ILQ has been positively associated with employee performance (Chammas and Hernandez, 2019), and negatively associated with followers' stress (Rowold, Diebig and Heinitz, 2017). This thesis used the global measure, Instrumental Leadership, as an additional Leadership Behaviour to include in the model, and adapted the items to measure this construct originally designed by Antonakis and House (2014) to a 360

format, to align it with the MLQ methodology. Appendix F provides sample items and response categories used for the ILQ.

5.2.2.3 Measuring Perceived Leadership Outcomes

Chapter 2 discussed the differences between "subjective" and "objective" measures of leadership outcomes, each with their advantages and limitations: the former usually entail problems of interpersonal perception, while the latter tend to suffer from contradictions and measurement problems. This thesis has followed suggestions of best practice (Hiller *et al.*, 2011) by using both, to compare and contrast results, and to mitigate their respective limitations.

The measures of "Perceived Leadership Outcomes" used for this thesis were obtained from the second section of the MLQ. This section aims to measure the raters' perception of leaders in three dimensions: Overall Effectiveness (EFF), Satisfaction with the Leader (SAT), and Extra Effort (EE), with 4, 2, and 3 items respectively. The reliability reported by the authors for these measures ranges from .82 to .84 (Avolio and Bass, 2004, p.78). Appendix F provides sample items and response categories for this section of the MLQ.

5.2.2.4 Measuring Leadership Performance Indicators

For the last group of dependent variables, the aim was to obtain "objective" performance data, at least at the degree of objectivity that performance is evaluated in organisations. The main purpose was to obtain real performance indicators, as heterogeneous as possible, to assess different dimensions of the results these leaders obtain through their leadership. The other objective was to obtain indicators of two important leadership outcomes according to theory: Emergence and Effectiveness.

The company's HR department provided a database with the results of their formal performance appraisal processes of 2018 and 2019, including repeated measures for seven KPIs¹⁰. It should be noted that, even though these indicators have been classified as "objective", all of them are more or less based on discretionary decisions and

¹⁰ Key Performance Indicators

interpersonal perceptions. For example, the indicator of Financial Performance is based on the degree to which a leader has achieved a certain set of financial objectives, but the prior establishment of those objectives, and the degree to which they consider the real opportunities and constraints of the environment, is entirely at the discretion of the leaders' superiors. Appendix D provides a detailed list of measures provided by the company. For the purpose of this research, these measures were grouped into three clusters that are described below:

5.2.2.4.1 Indicator of Leadership Emergence:

1) Potential for Promotion (PfP): collects the average scores for “promotability” assigned to participants by an internal scoring committee composed of their superior, their superior’s boss and their superior’s peers. The annual scores for 2018 and 2019 have been measured in a scale of 1 to 7 (1 = low potential, should be laid-off; 7 = high potential and ready for promotion), and have been averaged to obtain a single score per participant.

5.2.2.4.2 Indicators of Task Effectiveness:

2) Financial Performance (Task Outcome-Financial Performance or TOFP): collects the average financial performance attributed to the leader in the years 2018 and 2019. Each year, the financial performance of this company’s professionals is evaluated by their direct superiors, assigning them a score on a Likert scale of 1 to 5 (1 = low performance; 5 = high performance), to make them comparable with each other.

3) Task Competencies (TCA): collects the average performance rating received by the leaders in the competencies of Analysis, Efficiency and Tolerance to Pressure in the years 2018 and 2019¹¹. The annual scores are assessed on a scale of 1 to 5 (1 = low

¹¹ Every year, employees of this company go through a performance appraisal process in which their performance is evaluated by their direct superiors, and that includes a competency assessment. Each competency is assessed by a Likert-type scale from 1 to 5 (1 = low performance; 5 = high performance).

performance; 5 = high performance). The six measures have been averaged to obtain a single measure for Task Competencies.

- 4) Compliance Competencies (CC): it collects the average performance rating assigned to the leaders by their superiors, regarding the competencies of Safety, and Alignment, in the years 2018 and 2019. The annual scores are assessed on a scale of 1 to 5 (1 = low performance; 5 = high performance). The four measures have been averaged to obtain a single measure for Compliance Competencies.

5.2.2.4.3 Indicators of People Effectiveness:

- 5) People Competencies (PC): it collects the leaders' average performance rating given by their superiors in the competencies of Communication, Customer Orientation and Teamwork, in the years 2018 and 2019. The annual scores are assessed on a scale of 1 to 5 (1 = low performance; 5 = high performance). The six measures have been averaged to obtain a single measure for People Competencies.
- 6) Employee Survey (People's Opinion or PO): collects the average of the perceptions that the employees of the entire area under the leaders' direct and indirect supervision have regarding the dimensions of "direction, accountability, coordination and control, external orientation, leadership, innovation and learning, capabilities, motivation, and culture and climate"¹² collected in an employee survey in the years 2018 and 2019. The annual scores of the two measures were obtained on a scale of 0 to 100% that reflects the percentage of positive evaluations. These two measures have been averaged to obtain a single measure for Employee Survey.
- 7) Team Survey (People's Opinion-followers Pulse or POFPP): collects the average of the perceptions that the direct team has of the leader's actions, collected in a brief survey referring to leadership practices that is applied twice a year, in 2018 and 2019. The scores of the four semi-annual measures were obtained on a scale of 0 to

¹² Organizational Health Index (OHI) by McKinsey & Company, 2023).

100%, reflecting the percentage of positive evaluations; and have been averaged to obtain a single measure for Team Survey.

The measurement instruments used in this thesis are summarised in table 25.

Table 25: Summary of measurement tools included in this study.

TYPE OF VARIABLE	VARIABLE	DIMENSIONS	Abbrev.	MEASUREMENT INSTRUMENT	REPORTED RELIABILITY	SOURCE
Independent Variables	Enneagram personality Model	Enneagram Types (Scales) 1, 2, 3, 4, 5, 6, 7, 8, 9	Enneagram 1,2,3...	HPEI	Cronbach α ranging from 0.71 and 0.84	Self-assessed
Dependent Variables	Leadership Behaviours	Idealized Influence (Att)	IIA	MLQ 360	Cronbach α ranging from 0.63 to .92	Ratings by: Self, Superiors, Peers, Followers
		Idealized Influence (Beh)	IIB			
		Inspirational motivation	IM			
		Intellectual stimulation	IS			
		Individualized consideration	IC			
		Contingent Reward	CR			
		Mgmt-by-Except (Active)	MBEA			
		Mgmt-by-Except (Passive)	MBEP			
	Laissez-Faire	LF				
	Leadership Behaviours	Instrumental Leadership	IL	ILQ	Cronbach α ranging from 0.77 to 0.86	
	Perceived Leadership Outcomes	Overall Effectiveness	EFF	MLQ 360	Cronbach α ranging from 0.82 to 0.84	
		Satisfaction with Leader	SAT			
		Extra Effort	EE			
Leadership Performance Indicators	Potential for Promotion	PfP	Company's formal Performance Appraisal	N/A	Company Data	
	Financial Performance	TOFP				
	Task Competencies	TCA				
	Compliance Competencies	CC				
	People Competencies	PC				
	People's Opinion (Area)	PO				
People's Opinion Followers(Team)	POFP					

5.2.2.5 Licenses and versions in languages

Permissions to use HPEI and ILQ were provided by their respective authors free of charge and in writing. The license to use the MLQ was purchased at a discounted price for researchers. A copy of the licenses and permits to use these instruments are provided in Appendix G.

The MLQ and the HPEI already had versions in English, Spanish and Portuguese. The ILQ was only available in English, so versions in Spanish and Portuguese had to be generated. The eight items of the ILQ were translated into Spanish and Portuguese by native

speakers of these languages who were acquainted with organisational terminology, were back translated into English with the support of a professional Spanish-English translator¹³.

5.2.3 Data Collection in Compliance with Ethical Standards

5.2.3.1 *Data Collection Strategies*

This study used two main strategies for data collection: applying the questionnaires described above through an online platform to obtain primary data, and obtaining secondary data from company records. These are common strategies used in quantitative designs (Creswell, 2014; Saunders, Lewis and Thornhill, 2019) as they allow a significant amount of standardized data to be collected from a large population.

It should be noted that online data collection is becoming a common tool in research, being an efficient and convenient alternative that allows its use in remote places, makes it easier for subjects to decide when and where they want to respond for their convenience or for confidentiality reasons, and minimises the risks of data entry errors that can occur in manual surveys (Mertler, 2002).

Given the multi-national nature of this study, this alternative was the most convenient and efficient choice. It should also be noted that many surveys and internal evaluations of this company are usually carried out online, so the respondents were familiar with the general procedure. In the case of this study, the platform of choice was Online Surveys by Jisc, with a license provided by MMU. This platform is easy to use, it's GDPR compliant and certified to ISO 27001 standard. Data can be downloaded in Excel sheets, ready to upload in SPSS Statistics 26. Additionally, the online platform allowed respondents to freely decide whether to respond or not, without external pressure of any kind.

¹³ Juan Faz, from IAEA.

5.2.3.2 Data Collection process

5.2.3.2.1 Coordination and Logistics

After the meeting with the CHRO described earlier, the researcher was contacted by the Director of Organizational Development of the company, to discuss further details. A meeting with the Director of OD was held by videoconference, to explain once again the characteristics and ethical framework of the study, and to agree on the most appropriate ways to access potential participants and their raters. The Director of OD designated a member of his team as responsible for the logistics of the project on the company's side. This contact person arranged a series of virtual meetings between the researcher and the HR business' partners and OD specialists from the different countries and functional areas that would be included in the study, to explain the objectives and ethical standards of the study, and to agree on the best dates for data collection, considering the operating restrictions existing in each division and location. It was agreed to collect the data in three 'waves', over a period of 4 months. In parallel, the HR team provided a demographic database and the contact information for all the potential participants and of their 360-degree raters.

5.2.3.2.2 Preparing the Instruments

Before the beginning of the data collection period, the questionnaires in English, Spanish and Portuguese were uploaded to the Online Surveys platform, and the correct functioning of the questionnaires was tested by members of the company's HR team. Several iterations occurred until the questionnaires were ready to be accessed by participants and raters, starting from the launch-date and throughout the data collection period.

5.2.3.2.3 Communicating with Participants in Compliance with Ethical Standards

The researcher prepared several documents to communicate the study, its purpose, and its voluntary nature. These documents are included in Appendix F. Upon obtaining the approval of the procedure and the documents by the MMU Ethics Committee, the researcher shared them with the Company's HR team, to proceed with the information process.

Two weeks before data collection began, the company's HR department sent emails, inviting potential subjects and 360-degree raters to participate in the study, and informing them of its characteristics. These emails explained the purpose of the study and the voluntary nature of their participation. Additionally, they attached a Q&A with in-depth information explaining how the data would be used, how confidentiality would be protected, and how to contact the researcher and study oversight team. The document made explicit that there would be no consequences for leaders or raters who chose not to participate, and that they could choose to withdraw their data at any time, without the need to provide a justification. In exchange for their participation, potential subjects were offered the opportunity to receive feedback on their assessment results directly from the researcher. Potential raters were told that if they chose to participate, they would be contributing to the betterment of the company's leadership practices, as well as the purposes of this research. It should be noted that many of the raters were study subjects themselves.

5.2.3.2.4 Collecting the Data

The questionnaires were administered through the online platform, accessible to the participants and raters at their own convenience. As mentioned, the online data-collection helped ensure the confidentiality of the respondents. With the authorization of the MMU Ethics Committee, it was assumed that the mere action of answering the questionnaire on the Online Surveys Platform was indicative of the informed consent of participants, given the voluntary nature of their participation.

Three waves of data-collection were carried out between December 2019 and March 2020. Each wave was initiated by an email inviting leaders and their raters to participate in the process, containing a link to the questionnaires, and a reminder of the voluntary nature of the study. Throughout the data-collection period, up to four automatic reminders were sent to all subjects or raters who had not completed the assessments. These emails again communicated that there would be no consequences for the leaders or raters who chose not to participate, and included a link to the questionnaires. Potential subjects or raters who chose not to answer were not identified or tracked down in any way.

After the data-collection process, the names and personal identification of the participants and raters were removed from the records, so the data would not be identifiable to anyone inside or outside the company, beyond the researcher and the supervision team.

The data-collection process was aborted on March 13, 2020, one week before the official deadline, due to the outbreak of the coronavirus pandemic, and the sudden impact it had on the company's business. This meant that some potential participants and raters who until that day had not responded to their evaluations were lost.

In April 2020, the human resources department provided the researcher with company data from the participants' performance evaluations consisting of various measures from the previous two years.

5.2.3.2.5 Relationship with the Company after Data Collection

In the months after data collection, the researcher gave individualized feedback to several participants by videoconference. Participants who wished to receive these comments were able to do so until the end of 2022. No information has been or will be disclosed to the company or any third party, that might lead to the identification of the answers of any individual participant or rater.

5.2.4 Data Analysis

This section introduces the techniques used for data analysis, and the rationale that justifies them. The following chapter will make a more detailed description of the procedure followed in the application of these methods, as well as the results that were produced.

The choice of data analysis techniques was guided first of all by the nature and philosophical positioning of this study (Pallant, 2016). As mentioned before, this study opted for a nomothetic methodology and a quantitative research design (Creswell, 2014), consistent with its philosophical positioning within a critical realist ontology, its positivist epistemology, and its descriptive nature. All the variables contemplated in this study were quantitative, of a continuous nature, measured at interval level through validated instruments built from items scored with Likert scales.

This study opted for the use of Multiple Linear Regressions to examine the relationship between numerous independent and dependent variables. Multiple linear regression is a robust statistic procedure that linearly combines multiple independent variables to examine the extent to which each of them is related to a dependent variable (Field, 2013), since it allows to isolate the effect of cross-contamination due to the correlation between the independent variables (Field, 2013; Tabachnick and Fidell, 2013).

Other more sophisticated multivariate analysis techniques such as Factor analysis or Structural equation modelling were discarded, since this thesis assumed the Enneagram model as a given, without aspiring to question its structure or discover possible latent variables in the model.

Pearson's correlation coefficients were only calculated as part of the preliminary analyses, to obtain a simple first look at the relationships between all pairs of variables under study and the sign of these relationships. They were not used to interpret results, since they do not make it possible to isolate the effect of the cross-correlation between the independent variables (Field, 2013).

In short, Multiple Linear Regressions were chosen to answer the research questions and to discover if the Enneagram model in general, and its nine types (scales) in particular, are associated with the different leadership variables under study.

On the other hand, since the theory states that the different Enneagram types have no hierarchy, Multiple Regressions were applied using the choice of Forced Entry, which means entering all the independent variables simultaneously in the model; unlike Hierarchical, which presupposes an order between the scales, or Stepwise, which prioritizes a mathematical and a-theoretical criterion (Field, 2013; pgs.321-322).

In addition, this study used some secondary methods recommended by Field (2013) to:

- Detect outliers as part of initial data cleaning (Mahalanobis test)
- Check the reliability of the scales applied (Cronbach's alpha)
- Check the assumptions to run linear regressions: normality of distribution using Q-Q graphs, and collinearity problems using Variance Inflation Factor (VIF), prior to Regressions

- Analyse whether the different rater groups presented distinct rating patterns, and therefore it was justified to treat them as different (ANOVA)

Table 26 presents a summary of main data analysis techniques used to examine this study's research propositions:

Table 26: Summary of Main Data Analysis Techniques used to examine the Research Propositions.

RESEARCH PROPOSITIONS	DATA ANALYSIS TECHNIQUE	INDEP VARIABLES	DEP VARIABLES
Regarding Leadership Behaviour:			
RP1: The Leadership Behaviour of a group of leaders will be perceived differently depending on who evaluates it: the leaders themselves, their superiors, peers, or followers.	Anova of repeated measures	In the case of variables measured by 360, to analyse differences in the assessments of the four rater groups (Self, Superior, Peers and Followers).	
RP2: Leaders' self-assessed Enneagram-type scores will be significantly associated with their self-ratings of their Leadership Behaviour.	Multiple Linear Regression	All the Enneagram Scales, self-assessed by leaders	Each Leadership Behavioural Style as rated by Self
RP3: Leaders' self-assessed Enneagram-type scores will be significantly associated with their superiors' ratings of their Leadership Behaviour.	Multiple Linear Regression		Each Leadership Behavioural Style as rated by Superiors
RP4: Leaders' self-assessed Enneagram-type scores will be significantly associated with their peers' ratings of their Leadership Behaviour.	Multiple Linear Regression		Each Leadership Behavioural Style as rated by Peers
RP5: Leaders' self-assessed Enneagram-type scores will be significantly associated with their followers' ratings of their Leadership Behaviour.	Multiple Linear Regression		Each Leadership Behavioural Style as rated by Followers
Regarding Perceived Leadership Outcomes:			
RP6: The Perceived Leadership Outcomes of a group of leaders will differ depending on who rates them: the leaders themselves, their superiors, peers, or followers.	Anova of repeated measures	In the case of variables measured by 360, to analyse differences in the assessments of the four rater groups (Self, Superior, Peers and Followers).	
RP7: Leaders' self-assessed Enneagram-type scores will be significantly associated with their self-ratings of their Leadership Outcomes.	Multiple Linear Regression	All the Enneagram Scales, self-assessed by leaders	Each Perceived Leadership Effectiveness Dimension as rated by Self
RP8: Leaders' self-assessed Enneagram-type scores will be significantly associated with their superiors' ratings of their Leadership Outcomes.	Multiple Linear Regression		Each Perceived Leadership Effectiveness Dimension as rated by Superiors
RP9: Leaders' self-assessed Enneagram-type scores will be significantly associated with their peers' ratings of their Leadership Outcomes.	Multiple Linear Regression		Each Perceived Leadership Effectiveness Dimension as rated by Peers
RP10: Leaders' self-assessed Enneagram-type scores will be significantly associated with their followers' ratings of their Leadership Outcomes.	Multiple Linear Regression		Each Perceived Leadership Effectiveness Dimension as rated by Followers
Regarding Leadership Performance:			
RP11: Leaders' self-assessed Enneagram-type scores will be significantly associated with the Performance Indicators they obtain in the exercise of their role.	Multiple Linear Regression	All the Enneagram Scales, self-assessed by leaders	Each Leadership Performance Indicator as obtained from Company Data

5.3 Research Methodology: Conclusions

This chapter presented the research methodology of this study, including a discussion of its philosophical stance, and description of its research design and methods. The chapter included a description of the sampling strategies, the measurement instruments, the data collection procedures and how they complied with ethical standards, as well as the statistical techniques employed in the analysis of data. The following chapter will describe the process followed for the treatment of the data and the results of the preliminary analyses performed.

Chapter 6. Data Treatment and Descriptives

The previous chapter described the research methodology adopted by this study to explore its research questions and propositions.

This chapter describes the procedure followed and the results obtained from the preliminary analyses practiced on the data. The first section describes the data processing procedure, including the steps taken to prepare the databases, identify and deal with missing data, errors, and outliers, calculate the aggregate scores for the different scales and subscales, verify the assumptions and to evaluate normality. The second section presents the evaluation of the reliability of the scales, and the descriptive statistics of the different variables involved. Verification of independence between groups of evaluators is also included in the case of variables obtained from a 360-degree survey, and a brief description of the procedure followed to obtain them. The final section of this chapter presents the correlation coefficients between the independent variables and the different sets of outcome variables for each group of raters.

Chapters 7, 8 and 9 will present the results of the multiple regression analyses, which will lead to the examination of the research propositions, following the recommendations of Field, (2013); and Pallant, (2016).

6.1 Data Treatment and preliminary analyses

6.1.1 Data Cleaning

6.1.1.1 Preparation of database

The questionnaires were downloaded from the online surveys' platform and a safety copy, duly encrypted, was kept aside as a backup. The databases were consolidated in a single Excel document, which was then uploaded into SPSS version 27. The databases were then coded and processed in preparation for the analysis, following the indications of (Pallant, 2016).

6.1.1.2 Treatment of missing data

6.1.1.2.1 For the Enneagram personality Scales:

Some missing values were detected on the Enneagram scales, in other words, the Leaders participating in the study left some questions unanswered in their personality self-assessment. Since the measurement of personality is performed at intra-individual level, it was decided to replace those missing values with that subject's average score in the other items composing that scale. Scales were calculated when a minimum of 50% of the items for that scale had been answered. This method of computing missing values by replacing them with the mean of the available scores for that variable and that respondent is common practice in personality research (Van Ginkel *et al.*, 2010) and recommended by Hare (2003); and Bracken and Howell (2004). By applying this procedure it was possible to preserve the sample size.

6.1.1.2.2 For Leadership Behaviours and Perceived Leadership Outcomes (MLQ and ILQ 360-degree surveys)

The calculation of the values per Leadership Scale in the MLQ was carried out without considering the blank items, as recommended by its correction standards (Avolio and Bass, 2004). This method of handling missing data is equivalent to the one applied above (Van Ginkel *et al.*, 2010). Therefore, aggregate scores were calculated per item per rater category. After applying this procedure, missing values were greatly reduced. E.g., an average of .01 per case in the ratings by followers, and of .32 missing values per case in the ratings by Self.

6.1.1.2.3 For Leadership Performance Indicators:

Finally, missing values were also detected in the indicators of leadership performance provided by the company. Considering that all these variables were calculated as average score of a minimum of 2 and a maximum of 6 single measures depending on the variable, it was decided that the same method could be applied. Therefore, the missing values for any given variable were replaced with the mean score for that variable and that respondent, setting a minimum of at least 50% of the single measure to be populated in order to calculate the mean.

6.1.1.3 Aggregate scores for Scales and Subscales

Once checked for missing data, and having decided on their treatment, the aggregate scores for each scale and subscale were calculated in SPSS, following the indications of Pallant (2016), and the authors of the scales employed (Avolio and Bass, 2004; Delobbe, Halin and Prémont, 2012).

6.1.1.4 Treatment of errors and outliers

The Mahalanobis distance was calculated for all cases to assess multivariate outliers (Field, 2013). The procedure followed with each set of variables is described below.

6.1.1.4.1 For Leadership Behaviours and Perceived Leadership Outcomes (MLQ and ILQ 360-degree)

No multivariate outlier was detected with the Mahalanobis distance ($p < .001$) for the evaluations of Leadership Behaviours. On the other hand, some multivariate outliers were located in the assessment of Perceived Leadership Outcomes: two cases in the ratings by followers, one case in the ratings by peers, and one in those by superiors. As multivariate outliers can cause problems for some statistical tests (Field, 2013; Tabachnick and Fidell, 2013), and these cases only represented 0.3% of the total number of ratings, these records were eliminated.

6.1.1.4.2 For the Leadership Performance Indicators:

One multivariate outlier was detected and eliminated from the performance variables provided by the company, once again, representing less than 1% of the total sample.

6.1.1.4.3 For the Enneagram Scale:

The analysis of outliers was carried out by inspecting boxplots in SPSS following recommendations by Field (2013). Two cases with univariate outliers were detected. It was observed that these cases presented outliers in two and three of the Enneagram scales respectively, but did not present outliers in the Leadership Behaviours scales. A qualitative inspection of these outliers was performed at the level of the questionnaire responses, and the outliers were found to be plausible according to the theoretical description of the Enneagram model. Specifically, it was observed that all the unusual values corresponded to behaviours prototypically described as "confrontational". These

are characteristic of the Enneagram Type 8, The Challenger, and uncharacteristic of other personality types (Riso and Hudson, 1996). Therefore, it was considered that the transformation of these variables to reduce the impact of these outliers could have affected valid measures of this type of personality. Consequently, it was decided not to transform them, both for quantitative and qualitative reasons (Field, 2013).

6.1.1.5 Assumptions-checking and Normality Assessment

Normality of the distribution is an important assumption for almost any multivariate analysis that uses continuous variables (Tabachnick and Fidell, 2013). The normality of the distributions was analysed using Q-Q graphs for each variable (Field, 2013). Some dimensions of Leadership Behaviour showed a slight deviation from normality in the case of Self-ratings and followers ratings. However, according to Tabachnick and Fidell, (2013, p.79-80), when the sample is large enough (100+ cases in the case of positive kurtosis, 200+ in the case of negative), even a statistically significant skewness does not make a significant difference in the analysis.

6.1.2 Reliability of the Scales

The reliability of the scales was explored, for which the Cronbach's alpha of all the instruments was calculated, and the descriptive statistics of the variables (means, standard deviations, minimum and maximum scores) were calculated.

6.1.2.1 Reliability of the Enneagram personality scale

Overall, it is observed that the instrument used to measure the Enneagram personality model presented an average internal consistency of .67, reaching acceptable reliability levels (>.70) only in the scales that measure Enneagram 2, 5 and 7; questionable reliability levels on scales measuring Enneagram 1, 3, 4, 6, 9 (>.60); and poor reliability in the case of the scale that measures Enneagram 8 (>.50), according to the cut-off points proposed by Field (2013). Based on these results, it was decided to carry out a more detailed analysis to make a decision on how to proceed.

The two lowest reliability indices were obtained for the Enneagram_8 and Enneagram_6 scales, with alphas of .50 and .61 respectively. On a closer look at the internal consistency of these scales, it was found that item 4 of Enneagram_6 scale ("I often feel

torn between 'having complete trust in someone' and 'having doubts about their true intentions'); and item 5 of Enneagram_8 scale ("I am who I am. I instinctively know what I want and I go for it directly and wholeheartedly") provided very low homogeneity indices (.136 and .102 respectively), so it was considered convenient to eliminate them. This increased the alpha of the Enneagram_6 scale from .61 to .66 and the alpha of the Enneagram_8 scale from .50 to .55.

Enneagram 8 scale, still presenting a poor reliability index, was further analysed. A qualitative review of the four remaining items was carried out, concluding that they each represented different but constitutive aspects of the theoretical description of Enneagram 8. The case was discussed with the supervisory team. After careful consideration, it was decided to retain the scale with its remaining items, four in total, despite its poor reliability (Field, 2013). The basis for this decision was, firstly, that Cronbach's alpha is sensitive to the number of items, being easier to obtain a high alpha when the number of items is high, and more difficult when the number is small (Cortina, 1993). It was considered therefore that the low overall number of items could be influencing this result. Secondly, it was regarded as important to maintain the theoretical integrity of the Enneagram model, so the elimination of this scale was not contemplated as an option, and four items was considered to be a minimum. These Alpha values are also very far from the ones reported by its authors, between .71 and .84 depending on the scale (Delobbe, Halin and Prémont, 2012). These alpha values suggest that the questionnaire may need further refinement and that it should be subjected to critical examination by other teams of researchers.

This deficiency in the instrument will be kept in mind in the interpretation and discussion of this study's results. In particular, the results obtained for Enneagram 8 imply that they must be interpreted with caution. This will be discussed further in the Conclusions and suggestions for future research (chapter 12).

Table 27 shows the final values of the Cronbach's alpha coefficients obtained for the Enneagram personality scale in the study sample, these values ranging between .55 and .78, for the nine Enneagram Scales.

Table 27: Cronbach's Alpha for Enneagram personality Subscales, per rater group.

	<i>N</i>	α (95% CI)
Enneagram_1	133	.66 (.56, .74)
Enneagram_2	133	.78 (.72, .84)
Enneagram_3	133	.65 (.56, .74)
Enneagram_4	133	.66 (.56, .75)
Enneagram_5	133	.71 (.63, .78)
Enneagram_6	133	.66 (.56, .75)
Enneagram_7	133	.71 (.62, .78)
Enneagram_8	133	.55 (.41, .66)
Enneagram_9	133	.67 (.57, .75)

Note. CI = confidence interval.

6.1.2.2 Reliability of the MLQ and ILQ 360-degree leadership scales

Table 28 shows the coefficients of the scales measuring Leadership Behaviours and Perceived Leadership Outcomes obtained from the 360-degree survey, considered separately for each of the four rater groups in the study.

Regarding Leadership Behaviours, most of Cronbach's alphas were above .70, and even several of them oscillated around .90 levels.

On the other hand, the self-assessed Leadership Behaviour scales yielded poor alpha values (>.50) in three cases (Idealised Influence_attributed; Contingent Reward and Laissez-Faire Leadership); and questionable alpha values (>.60) in one (Idealised Influence_behaviour). When assessed by superiors, the scales measuring Leadership Behaviours yielded questionable alpha values (>.60) in four of the ten measures: (Idealised Influence_attributed; Contingent Reward; Management-by-Exception_passive, and Laissez-Faire Leadership). Most alpha values in the case of peers and followers yielded alpha values above .80, some above .70 and only one questionable alpha (>.60) when followers evaluated Management-by-Exception_passive.

Overall, the values of internal consistency that were obtained in the self-evaluation were slightly lower than those obtained when leaders were evaluated by others, being the perceptions of the followers those that provided higher levels of reliability.

Regarding the coefficients of the scales measuring Perceived Leadership Outcomes, Cronbach's alphas have ranged between .70 and .92. The values of internal consistency obtained in the self-evaluation and in the evaluation of the superiors were slightly lower than those obtained in the evaluation of peers and followers. The Cronbach's α coefficient for the subscale Satisfaction with the Leader (SAT) was not calculated since it was only composed of two items.

Table 28 shows the coefficients of the scales measuring Leadership Behaviours and Perceived Leadership Outcomes obtained from the 360-degree survey, considered separately for each of the four groups of raters in the study.

Table 28: Cronbach's Alpha for Leadership Subscales (MLQ and ILQ) per rater group.

	Self		Superiors		Peers		Followers	
	N	α (95% CI)	N	α (95% CI)	N	α (95% CI)	N	α (95% CI)
Leadership Behaviours								
Transformational								
II(A)	121	.51 (.34, .64)	108	.68 (.57, .77)	130	.82 (.76, .86)	133	.82 (.76, .86)
II(B)	129	.61 (.48, .71)	110	.70 (.60, .78)	131	.76 (.68, .82)	133	.79 (.73, .84)
IC	130	.71 (.62, .78)	98	.70 (.59, .79)	127	.80 (.74, .85)	133	.87 (.83, .90)
IM	129	.75 (.67, .82)	114	.91 (.87, .93)	132	.86 (.81, .89)	133	.93 (.91, .95)
IS	128	.73 (.64, .80)	115	.86 (.82, .90)	132	.91 (.88, .93)	133	.91 (.88, .93)
Transactional								
CR	128	.49 (.33, .62)	102	.67 (.55, .76)	130	.77 (.69, .83)	133	.87 (.83, .91)
MBEA	130	.82 (.76, .87)	110	.83 (.78, .88)	130	.83 (.77, .87)	133	.77 (.69, .83)
MBEP	123	.70 (.60, .78)	108	.63 (.51, .74)	129	.76 (.69, .82)	133	.67 (.56, .75)
Passive (LF)	127	.54 (.40, .66)	112	.61 (.47, .71)	132	.77 (.70, .83)	133	.76 (.68, .82)
Instrumental	129	.80 (.75, .85)	97	.84 (.79, .88)	129	.89 (.86, .92)	132	.93 (.91, .95)
Perceived Leadership Outcomes								
EFF	126	.70 (.60, .78)	107	.77 (.69, .84)	131	.89 (.85, .92)	131	.88 (.84, .91)
EE	129	.82 (.76, .87)	94	.87 (.82, .91)	131	.91 (.88, .93)	131	.92 (.90, .94)

Note. CI = confidence interval; II(A) = Idealized Influence (Attributes); II(B) = Idealized Influence (Behaviours); IC = Individual Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation; CR = Contingent Reward; MBEA = Mgmt. by Exception Active; MBEP = Mgmt. by Exception Passive; LF = Laissez-Faire; EFF = Effectiveness; EE = Extra Effort.

6.2 Descriptive Analysis

6.2.1 Characteristics of the Sample

6.2.1.1 *General Description*

In agreement with the VP of human resources (CHRO) of the entity, it was defined that the sample would be made up of all the professionals belonging to the first hierarchical levels of the organisation: C-Level, Vice Presidents, Senior Directors, Directors, and Senior Managers, in all the countries where the company operates: Brazil, Chile, Peru, Argentina, Colombia, Ecuador, Spain, United States, Germany, Italy and France.

The inclusion criterion was belonging to one of these levels, and the exclusion criterion was having less than 3 months of seniority in said position.

The HR department of the company identified a total population of 144 executives fulfilling these criteria, who were defined as the initial sample of the study.

6.2.1.2 *Response Rate*

Of the total number of senior leaders preselected to participate, 11 participants were lost because they did not respond to the personality test, leaving the final sample made up of 133 subjects (92.4% of those contacted).

Participants' Leadership Behaviour and Perceived Leadership Outcomes was evaluated by multiple raters, including the leaders' superiors, their peers, and their followers, as well as the leaders themselves.

Evaluation forms were sent to the total universe of potential raters, to mitigate the impact of rater attrition, and to control the possibility of participants selecting only "favourable" raters (Teddle and Tashakkori, 2009). A total of 2121 evaluation forms were sent to these raters, from which 1655 completed questionnaires were obtained, representing a response rate of 78% of the total¹⁴. Specifically, the totals obtained were:

¹⁴ This company has a long tradition and well-established discipline of conducting surveys and online appraisals, usually obtaining response rates between 70 and 85%.

130 Self-ratings of the participants, 129 ratings by their superiors (with an average of 1.11 evaluations for each participant¹⁵), 730 evaluations by peers (with an average of 5.53 evaluations for each participant) and 666 evaluations by the followers (with an average of 5.01 evaluations for each participant).

Consequently, the subsamples for each rater group were configured as follows: 130 subjects in the self-assessment group (97.7% of the participants), 116 subjects in the group evaluated by superiors (87.2% of the participants), 132 subjects in the group evaluated by peers (99.2% of the participants); and 133 subjects in the group evaluated by their followers (100% of the participants).

6.2.1.3 Demographics

The subjects of this study were a group of 133 senior leaders from a single business organisation, with an average age of 46.31 years ($SD = 7.17$). 78.2% of them were men (104) and 21.8% women (29).

As for their nationality, 28.6% were Chileans, 17.3% Brazilians, 14.3% Argentines, 9% Colombians, 7.5% Peruvians, 9.8% from other Latin American countries, 5.3% from the USA and 8.2% from Europe.

Regarding their hierarchical level, 14.3% were CEO, VPs and Country Chairs, 44.4% were Senior Directors, 19.5% Directors, 16.5% Senior Managers, and 5.3% Managers.

As for its functional area, 33.1% belonged to Commercial departments, 15.8% to Operations, 10.5% to HR, 9.8% to Finance, 9.8% to Customer Service, 6.7% to IT and 14.3% to other areas.

Regarding the location of their job, 42.1% worked in Chile, 15.1% in Brazil, 7.5% in Colombia, 7.5% in Peru, 6% in Argentina, 10.5% in other Latin American countries, 6% in the USA, 4.5% in Europe and 0.8% in Australia.

¹⁵ In matrix structures, some participants have more than one superior.

Participants had an average of 11.83 years of tenure in the company ($SD = 6.62$). Regarding the size of the areas supervised by participants, and thus indicative of their level of influence over company's employees, 33.1% of the study participants had direct supervision over a team five followers or less, 48.1% supervised teams of 5 - 9 and 18.8% supervised direct teams of 10 professionals or more.

Regarding the size of the areas for which they were ultimately responsible, including employees reporting directly and indirectly to them, 26.3% of the participants supervised areas with 20 or fewer employees, 32.3% supervised areas with 20 to 100 employees, 21.8% did it from 101 to 500 employees and 19.6% were responsible for 500 employees or more.

In terms of the number of individuals who acted as raters, a total of 668 employees of the company completed questionnaires. Of these, 72% performed a single evaluation, 14.1% from 2 to 5, 10.6% from 6 to 10 and 3.3% between 11 and 20. Regarding the hierarchical position that the raters had with respect to their ratees, 32 evaluated in the role of superiors, 162 in the role of peers, 636 in the role of followers and 130 acted as self-raters. Table 29 shows the data on the main characteristics of the four groups of raters:

Table 29: Sociodemographic and organisational characteristics of the raters, by rater group.

		Self		Superiors		Peers		Followers	
		<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Gender	Male	101	77.7	29	90.6	120	74.1	398	62.6
	Female	29	22.3	3	9.4	42	25.9	238	37.4
Position	Analyst	-	-	-	-	5	3.1	240	37.7
	Senior Manager	26	20.0	2	6.3	37	22.8	145	22.8
	Director	23	17.7	5	15.6	40	24.7	96	15.1
	Manager	7	5.4	-	-	11	6.8	91	14.3
	Senior Director	58	44.6	8	25.0	53	32.7	55	8.7
	CEO&VP	16	12.3	17	53.1	16	9.9	9	1.4
Area	Commercial	44	33.8	16	50.0	49	30.2	176	27.7
	Operations	21	16.2	2	6.3	25	15.5	125	19.7
	Customer Serv.	13	10.0	4	12.5	17	10.5	80	12.6
	HR	13	10.0	1	3.1	14	8.6	70	11.0
	Finance	12	9.2	3	9.4	24	14.8	60	9.4
	Other	27	20.8	6	18.7	33	20.4	125	19.6
Location	Chile	54	41.5	20	62.5	72	44.7	217	34.2
	Brazil	19	14.6	3	9.4	26	16.2	129	20.3
	Perú	10	7.7	1	3.1	9	5.6	63	9.9
	Colombia	10	7.7	1	3.1	15	9.3	47	7.4
	USA	8	6.2	3	9.4	12	7.4	39	6.1
	Ecuador	6	4.6	1	3.1	5	3.1	39	6.1
	Argentina	8	6.2	2	6.3	8	5.0	33	5.2
	Europe	6	4.6	1	3.1	6	3.7	32	5.2
	Others	9	6.9	-	-	8	5.0	36	5.6
Age	<i>M (DT)</i>	46.23 (7.19)		46.31 (6.08)		44.69 (7.49)		40.40 (7.86)	

Regarding the language in which the participants completed the questionnaires, 80.6% completed them in Spanish, 16.4% in Portuguese, and 3% in English. In the case of the raters, 74.4% responded in Spanish, 24% in Portuguese and 1.6% in English.

6.2.2 Descriptive Statistics of Independent and Dependent Variables

An initial exploration of the data was performed by calculating the Descriptive statistics for all the variables under study, including N, Mean, Standard deviation, and Minimum and Maximum values in each case.

In the case of the variables that were measured using a 360-degree survey, Leadership Behaviours and Perceived Leadership Outcomes, an ANOVA of repeated measures was carried out, to analyse whether there were differences in the assessments of the four rater groups (self, superior, peers and followers). In cases where the Mauchly sphericity assumption has not been met, the results have been adjusted with the sphericity estimate that provides the highest observed power (Field, 2013).

6.2.2.1 Descriptive statistics of the Enneagram Personality Scales

To understand the following scores, it is important to keep in mind that they were calculated based on the answers given by each participant for each of the Enneagram Scales (1 to 9) of the HPEI questionnaire. In other words, each individual presented scores for each of the nine scales of the Enneagram (see justification in Chapter 5, Methodology, Instruments). The descriptive statistics of the nine Enneagram Scales according to the Enneagram questionnaire answered by the leaders participating from the study are presented in Table 30.

Table 30: Descriptive statistics for the Enneagram personality subscales.

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Enneagram_1	133	3.92	0.50	2.33	5.00
Enneagram_2	133	3.39	0.66	1.20	5.00
Enneagram_3	133	3.70	0.52	2.33	4.83
Enneagram_4	133	2.41	0.66	1.00	3.80
Enneagram_5	133	3.06	0.53	1.25	4.38
Enneagram_6	133	3.50	0.63	1.25	4.75
Enneagram_7	133	3.74	0.51	2.00	4.83
Enneagram_8	133	3.62	0.61	1.75	5.00
Enneagram_9	133	3.54	0.51	1.50	4.83

Note. *M* = Mean; *SD* = Standard deviation; *Min* = Minimum; *Max* = Maximum.

The highest score has been obtained in Enneagram_1, representing The Reformer personality type, with an average of 3.92 and the lowest in Enneagram_4, The Romantic personality type, with 2.41 points. This suggests that the most prevalent personality type in the sample would be Enneagram 1 (The Reformer) and the rarest, Enneagram 4 (The Romantic).

On the other hand, it must be considered that the measurements of the Enneagram model considered for the analyses for the different rater groups have slight variations, since not all the individuals in the sample who self-assessed their personality obtained evaluations from every rater group. Table 31 collects these slight variations, showing the descriptive statistics of the Enneagram model that will finally be used for the analysis regarding the ratings of Self, superiors, peers, and followers respectively:

Table 31: Means and standard deviations for the Enneagram personality subscales, per rater group

	Self			Superiors			Peers			Followers		
	N	M	SD	N	M	SD	N	M	SD	N	M	SD
Enneagram_1	130	3.92	0.50	116	3.90	0.48	132	3.92	0.50	133	3.92	0.50
Enneagram_2	130	3.41	0.63	116	3.41	0.66	132	3.40	0.66	133	3.39	0.66
Enneagram_3	130	3.69	0.52	116	3.68	0.52	132	3.71	0.52	133	3.70	0.52
Enneagram_4	130	2.43	0.65	116	2.41	0.65	132	2.42	0.66	133	2.41	0.66
Enneagram_5	130	3.07	0.51	116	3.06	0.54	132	3.07	0.53	133	3.06	0.53
Enneagram_6	130	3.51	0.59	116	3.50	0.64	132	3.49	0.63	133	3.50	0.63
Enneagram_7	130	3.74	0.51	116	3.73	0.51	132	3.74	0.51	133	3.74	0.51
Enneagram_8	130	3.61	0.61	116	3.62	0.63	132	3.62	0.62	133	3.62	0.61
Enneagram_9	130	3.55	0.48	116	3.51	0.51	132	3.53	0.51	133	3.54	0.51

Note. M = Mean; SD = Standard deviation.

Finally, it is interesting to observe how the Enneagram scales were distributed in terms of the highest score per individual subject. Although the methodology of this study does not allow to consider this as a valid indicator of the discrete Enneagram Type of each leader, this measure can be used to inform the analysis and discussion of results. These data are presented in Appendix E.

6.2.2.2 Descriptive statistics of Leadership Behaviours

Table 32 shows the descriptive statistics of the assessment of the Leadership Behaviours according to each of the rater groups. When leaders evaluated themselves, the highest score was assigned to the Inspirational Motivation (IM) dimension of Transformational Leadership.

When leaders are valued by their superiors, the highest score is assigned to the Idealised Influence_attributed (IIA) dimension of Transformational Leadership, and to the Contingent Reward (CR) dimension of Transactional Leadership. When leaders are rated by their peers, the highest score is given to Contingent Reward (CR). And when they are rated by their followers, the highest score is obtained by Idealised Influence_attributed (IIA). In the four groups of ratings, the lowest score is obtained by the Passive-avoidant style.

To understand these scores, it is important to note that for Passive (LF) and Management-by-Exception_passive, low scores are desirable, as they are considered

indicative of the "absence" of leadership. Although the latter is classified as Transactional Behaviour in the model, it tends to behave statistically like Passive Leadership, and the same authors state that its grouping with Passive Leadership is useful (Avolio and Bass, 2004, p.3). As this thesis has followed the suggestion of Antonakis et al. (2003), to use all these dimensions as independent behaviours, it has not been necessary to go deeper into the discussion on how to group them into higher-order factors. All other behaviours in this model are considered indicative of "positive" leadership and therefore high scores are desirable.

Table 32: Descriptive statistics for Leadership Behaviours (MLQ and ILQ) per rater group.

	Self					Superiors				
	N	M	SD	Min	Max	N	M	SD	Min	Max
Transformational										
II(A)	130	4.15	0.45	2.75	5.00	115	4.10	0.51	2.75	5.00
II(B)	130	4.23	0.52	2.50	5.00	115	3.76	0.62	2.00	5.00
IC	130	4.25	0.51	3.00	5.00	113	3.95	0.58	2.75	5.00
IM	130	4.38	0.49	3.25	5.00	115	3.76	0.72	1.00	5.00
IS	130	4.23	0.49	2.75	5.00	116	3.79	0.72	2.00	5.00
Transactional										
CR	130	4.34	0.43	3.00	5.00	115	4.10	0.46	2.50	5.00
MBEA	130	3.41	0.87	1.00	5.00	116	3.36	0.85	1.00	5.00
MBEP	129	1.65	0.64	1.00	4.50	115	1.89	0.66	1.00	4.50
Passive (LF)	130	1.23	0.37	1.00	3.00	115	1.42	0.48	1.00	3.00
Instrumental	130	4.26	0.44	3.25	5.00	115	3.91	0.54	2.50	5.00
	Peers					Followers				
	N	M	SD	Min	Max	N	M	SD	Min	Max
Transformational										
II(A)	132	3.88	0.52	2.43	4.75	133	4.24	0.50	2.58	5.00
II(B)	132	3.75	0.45	2.44	4.75	133	4.05	0.49	2.42	4.83
IC	132	3.64	0.52	1.83	5.00	133	3.94	0.54	2.38	5.00
IM	132	3.78	0.47	2.50	4.75	133	4.22	0.54	2.56	5.00
IS	132	3.69	0.50	2.17	5.00	133	4.12	0.50	2.42	4.92
Transactional										
CR	132	3.91	0.40	2.67	4.88	133	4.15	0.48	2.67	4.92
MBEA	131	3.41	0.49	2.00	4.42	133	3.39	0.51	1.75	4.75
MBEP	132	1.84	0.49	1.00	4.00	133	1.67	0.43	1.00	3.00
Passive (LF)	132	1.49	0.37	1.00	3.33	133	1.38	0.35	1.00	2.67
Instrumental	132	3.74	0.43	2.48	5.00	132	4.12	0.47	2.75	4.92

Note. M = Mean; SD = Standard deviation; Min = Minimum; Max = Maximum; II(A) = Idealized Influence (Attributes); II(B) = Idealized Influence (Behaviours); IC = Individual Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation; CR = Contingent Reward; MBEA = Mgmt. by Exception Active; MBEP = Mgmt. by Exception Passive; LF = Laissez-Faire.

6.2.2.3 Descriptive statistics of Perceived Leadership Outcomes

Table 33 shows the descriptive statistics of the 360 ratings in the three dimensions of Perceived Leadership Outcomes, separated by rater group. In all four evaluations, the highest score is obtained in Effectiveness and the lowest in Extra Effort (High scores are indicative of higher perceived performance).

Table 33: Descriptive statistics for Perceived Leadership Outcomes Subscales (MLQ) per rater group.

	Self					Superiors				
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
EFF	130	4.27	0.44	2.67	5.00	114	4.12	0.55	2.75	5.00
EE	130	4.19	0.57	2.67	5.00	106	3.86	0.72	2.00	5.00
SAT	130	4.27	0.47	3.00	5.00	115	4.06	0.69	2.00	5.00
	Peers					Followers				
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
EFF	131	3.91	0.49	2.42	5.00	131	4.37	0.42	2.50	5.00
EE	131	3.48	0.68	1.50	5.00	131	4.10	0.57	2.22	5.00
SAT	131	3.82	0.59	2.17	5.00	131	4.16	0.56	2.17	5.00

Note. *M* = Mean; *SD* = Standard deviation; *Min* = Minimum; *Max* = Maximum; EFF = Effectiveness; EE = Extra Effort; SAT = Satisfaction.

6.2.2.4 Descriptive statistics of Leadership Performance Indicators

Finally, Table 34 collects the descriptive statistics regarding the leadership performance indicators provided by the company. Out of these, and considering the different measurement scales, the highest score is obtained in the indicator that collects the Opinion of the leader's direct team (86.75) regarding the leader's practices, and the lowest score in the indicator is the one reflecting Potential for Promotion (4.03), in each

case, considering the different scales of measurement¹⁶. (High scores are indicative of higher performance).

Table 34: Descriptive statistics for the Leadership Performance Indicators (LPI).

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
PfP	129	4.03	1.32	1.00	7.00
TOFP	124	3.44	0.32	2.75	4.28
TCA	124	3.48	0.37	2.33	4.67
CC	124	3.43	0.36	2.75	4.50
PC	124	3.29	0.28	2.63	4.00
PO	114	70.17	8.13	49.00	89.00
POFP	110	86.75	9.62	61.75	99.67

Note. *M* = Mean; *SD* = Standard deviation; *Min* = Minimum; *Max* = Maximum; *PfP* = Potential for Promotion; *TOFP* = Financial performance; *TCA* = Task Competencies; *CC* = Compliance Competencies; *PC* = People Competencies; *PO* = Opinion of Employees of the area; *POFP* = Opinion of direct team.

6.3 Correlations between the Variables

This section presents the Pearson correlation coefficients between the different variables considered in this study. The information has been organized according to those correlations that are most relevant for the purpose of this thesis, that is, those found between the independent variables and the different sets of leadership outcomes.

The correlation between measurements within the same group of variables, that is, between the different Enneagram Scales, between Leadership Behaviours, between Perceived Leadership Outcomes and between Leadership Performance Indicators, is

¹⁶ Four indicators are measured in a Likert Scale from 1 to 5: Financial performance (TOFP); Task Competencies (TCA); Compliance Competencies (CC) and People Competencies (PC). Two indicators that are based on Employee Surveys and measured in percentages of positive perceptions: the Opinion of the Direct Team (POFP) and the Opinion of the Employees of the Area as a whole (PO). Potential for Promotion is measured on a Likert scale from 1 to 7.

also presented in each of the following sections, since each of the analyses is made up of slightly different samples depending on the composition of each rater group. The correlations obtained between all these variables will be summarised and discussed preliminarily at the end of this section.

6.3.1 Enneagram Scales and Leadership Behaviours: Correlations between the Variables

6.3.1.1 Correlations between Self-rated Enneagram Scales and Self-ratings of Leadership Behaviours

Table 35 shows the correlation coefficients of the variables of the Enneagram personality Model and the Leadership Behaviours. It is observed that the leader's self-ratings in the five dimensions of Transformational Leadership (IIA, IIB, IC, IM and IS), the three dimensions of Transactional Leadership (CR, MBEA and MBEP) and Instrumental Leadership, correlated positively and significantly with eight of the nine Enneagram scales in the model ($p < .05$); whereas the correlation of Passive Leadership style (LF) with the Enneagram_1 is negative and significant ($p < .05$).

Table 35: Pearson correlations of Self-rated Enneagram personality type scores with Leadership behaviours according to the self-perception of the leaders.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.
1.Enneagram_1																			
2.Enneagram_2	.170																		
3.Enneagram_3	.506**	.102																	
4.Enneagram_4	.043	.298**	.123																
5.Enneagram_5	.046	.202*	-.060	.246**															
6.Enneagram_6	.363**	.214*	.110	.034	.136														
7.Enneagram_7	.201*	.273**	.342**	.359**	-.089	.118													
8.Enneagram_8	.267**	.036	.250**	.290**	-.157	.055	.205*												
9.Enneagram_9	.029	.399**	-.006	.101	.366**	.073	.094	-.210*											
10.II(A)	.123	-.052	.221*	-.072	-.111	.044	.186*	0.96	.126										
11.II(B)	.120	.000	.109	.101	.078	-.026	.331**	.174*	.161	.460**									
12.IC	.025	.148	.129	-.012	.029	.030	.120	.046	.301**	.498**	.479**								
13.IM	.272**	.097	.281**	.009	-.053	-.046	.207*	.148	.259**	.468**	.530**	.613**							
14.IS	.205*	.001	.131	.097	.108	.211*	.305**	.116	.186*	.491**	.350**	.362**	.400**						
15.CR	.201*	.022	.188*	-.086	.146	.153	.092	-.001	.145	.430**	.448**	.444**	.521**	.410**					
16.MBEA	.180*	.191*	.108	.056	.108	.394**	.039	.177*	.093	.193*	.174*	.201*	.052	.222*	.192*				
17.MBEP	-.015	.130	-.029	.060	.274**	.038	-.128	.054	.066	-.098	-.035	-.012	.008	.011	-.044	.004			
18.Passive (LF)	-.210*	.063	-.090	.128	.141	-.013	-.062	-.143	-.048	-.220*	-.044	-.199*	-.237*	-.137	-.182*	.058	.221*		
19.Instrumental	.246**	-.018	.218*	-.008	.096	.134	.212*	.089	.277**	.582**	.579**	.564**	.613**	.596**	.664**	.269**	-.078	-.197	

Note: II(A) = Idealized Influence (Attributes); II(B) = Idealized Influence (Behaviours); IC = Individual Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation;
 CR = Contingent Reward; MBEA = Mgmt. by Exception Active; MBEP = Mgmt. by Exception Passive; LF = Laissez-Faire.
 * p < .05; ** p < .01.

6.3.1.2 Correlations between Self-rated Enneagram Scales and superiors' ratings of Leadership Behaviours

The results of the correlation coefficients of the Enneagram Scales with the Leadership Behaviours evaluated by superiors collected in Table 36 indicate that only two of these behaviours show the presence of any correlation: Idealised Influence_behaviour shows a weak positive correlation with Enneagram_3, the Achiever ($r = .274$; $p = .003$); and Passive-Avoidant Leadership has a weak positive correlation with Enneagram_4, the Romantic ($r = .230$; $p = .013$) and weak negative correlation with Enneagram_6, the Loyalist ($r = -.197$; $p = .035$). None of the other Leadership Behaviours analysed from the perspective of superiors correlate significantly with any of the Enneagram scores that leaders attribute to themselves.

Table 36 also shows the correlations between the self-assessed Enneagram Scales who were effectively evaluated by superiors, that is, all the leaders who were considered for this analysis. As the table shows, approximately half of the coefficients present a significant positive correlation between them, ranging from mild to moderate (From .206 to .479).

Regarding the correlations between Leadership Behaviours as evaluated by superiors, it was detected that they show several strong correlations both within and between higher order dimensions:

- All the subdimensions within Transformational Leadership show a positive correlation, from moderate to strong, with one another (from .447 to .671); with Contingent Reward (from .452 to .639); and with Instrumental Leadership (from .521 to .697).
- In addition, Contingent Reward shows a positive and strong correlation to instrumental leadership (.668); a negative and moderate correlation with Passive-Avoidant Leadership (-.318) and Management by Exception_passive (-.381); and no significant correlation to Management-by-Exception_active.
- Management-by-Exception_active leadership style shows a positive but weak correlation Idealised Influence_attributed (.265).
- Management-by-Exception_passive shows a negative correlation, from weak to moderate, with all the Transformational Leadership Behaviours (from -.185 to -

.388); with Contingent Reward (-.381); and with Instrumental Leadership (-.355); and a positive and strong correlation with Passive-Avoidant Leadership (.552).

- Finally, Passive-Avoidant Leadership shows negative correlations: moderate in the case of Idealised Influence_attributed (-.414), Individualized Consideration (-.302); Contingent Reward (-.318) and Instrumental Leadership (-.322); and weak in the case of Intellectual Stimulation (-.227).

Table 36: Pearson correlations of Self-rated Enneagram personality type scores with superiors' ratings of Leadership Behaviours.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.
1.Enneagram_1																			
2.Enneagram_2	.216*																		
3.Enneagram_3	.479**	.128																	
4.Enneagram_4	.101	.313**	.149																
5.Enneagram_5	.100	.272**	-.043	.319**															
6.Enneagram_6	.387**	.299**	.094	.124	.231*														
7.Enneagram_7	.175	.214*	.339**	.331**	-.128	.138													
8.Enneagram_8	.278**	-.060	.246**	.305**	-.229*	-.029	.282**												
9.Enneagram_9	.035	.475**	-.011	.133	.434**	.168	.021	-.206**											
10.II(A)	-.096	-.011	-.026	-.131	-.124	-.014	-.014	-.161	.070										
11.II(B)	.027	-.007	.274**	.099	.006	-.014	.098	.033	-.027	.588**									
12.IC	-.110	-.127	.069	-.103	-.094	-.085	-.012	-.064	-.032	.604**	.569**								
13.IM	-.085	-.061	.123	-.047	-.028	-.084	.082	-.126	-.003	.473**	.671**	.452**							
14.IS	-.144	-.107	-.048	-.029	-.135	-.029	.000	-.072	-.124	.536**	.536**	.543**	.447**						
15.CR	-.009	.054	.115	.143	-.126	.082	.081	.004	-.073	.639**	.628**	.576**	.452**	.526**					
16.MBEA	-.122	-.094	-.013	-.146	.031	-.122	-.177	-.096	-.132	.265**	.165	.042	.175	.096	.113				
17.MBEP	-.069	-.102	.132	.030	.032	-.147	-.013	.111	-.091	-.385**	-.303**	-.230*	-.185*	-.388**	-.381**	-.016			
18.Passive (LF)	-.063	-.026	.086	.230*	.077	-.197*	.107	.141	-.092	-.414**	-.156	-.302**	-.136	-.227*	-.318**	-.125	.552**		
19.Instrumental	-.076	-.055	.146	.069	-.151	-.044	.091	.051	-.123	.632**	.645**	.697**	.521**	.688**	.668**	.117	-.355**	-.322**	

Note. II(A) = Idealized Influence (Attributes); II(B) = Idealized Influence (Behaviours); IC = Individual Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation; CR = Contingent Reward; MBEA = Mgmt by Exception Active; MBEP = Mgmt by Exception Passive; LF = Laissez-Faire.

* p < .05; ** p < .01.

6.3.1.3 Correlations between Self-rated Enneagram Scales and peers' ratings of Leadership Behaviours

The results of the correlation coefficients of the Enneagram personality scales with the Leadership Behaviours evaluated by peers are shown in Table 37. The only significant relationships found in this analysis were: a weak positive correlation between Enneagram_2, the Helper, and Individualized Consideration ($r = .172$; $p = .049$); and a weak and positive correlation between Enneagram_4, the Romantic and Management-by-Exception_active leadership style ($r = .175$; $p = .045$). No other Enneagram Scaled presented significant correlations to any other leadership style based on the peer perspective.

As for the correlations between the self-assessed Enneagram Scales who were effectively evaluated by peers, that is, all the leaders who were considered for this analysis, the correlations are very similar to the ones presented before, since the samples of leaders considered for each analysis are almost identical. In this case, just over half of the coefficients are significant, showing positive correlations that go from mild to moderate (ranging between .176 and .503).

Regarding the correlation between the different Leadership Behaviours as perceived by peers, it was detected that:

- All the Behaviours within Transformational Leadership show positive correlations both with each other (between .521 and .826); with Contingent Reward (from .548 to .771); and with Instrumental Leadership (between .450 and .779). All these correlations are strong, except Inspirational Motivation with Instrumental Leadership, which is moderate (.450); reflecting that these coefficients, in general, tend to be higher than those observed for the self-assessment and the superiors' assessment of leadership behaviour.
- Contingent Reward is correlated with all other Leadership Behaviours except for Management-by-Exception_active. Once again, the correlation coefficients are higher than those found for the Self and the superiors' assessment, being positive and strong with Instrumental Leadership (.759) and the different dimensions of Transformational Leadership (from .548 to .776); and negative and

strong with Passive-Avoidant Leadership (-.569) and Management by Exception_passive (-.529).

- Management-by-Exception_active only shows a moderate negative correlation with Management by Exception_passive (-.318), and a weak negative correlation with Passive-Avoidant Leadership (-.290).
- Management by Exception_passive shows higher correlation values than in previous evaluations: presenting negative correlations, from moderate to strong, with the different dimensions of Transformational Leadership (from -.319 to -.610); with Contingent Reward (-.529), and with Instrumental Leadership (-.487), and positive and strong in the case of Passive-Avoidant Leadership style (.746).
- And finally, Passive-Avoidant Leadership shows significant negative correlations, from moderate to strong with almost all other Leadership Behaviours (from -.304 to -.679), except for the already mentioned weak negative correlation with Management-by-Exception_active; and the strong positive correlation with Management-by-Exception_passive.

Table 37: Pearson correlations of Self-rated Enneagram personality type scores with peers' ratings of Leadership Behaviours.

Pearson correlations of self-rated Enneagram personality type scores with peers' ratings of Leadership Behaviours.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.
1.Enneagram_1																			
2.Enneagram_2	.210*																		
3.Enneagram_3	.503**	.091																	
4.Enneagram_4	.062	.318**	.100																
5.Enneagram_5	.083	.262**	-.051	.250**															
6.Enneagram_6	.393**	.298**	.103	.080	.212*														
7.Enneagram_7	.203*	.243**	.324**	.350**	-.123	.106													
8.Enneagram_8	.248**	-.005	.237**	.273**	-.201*	.016	.233**												
9.Enneagram_9	.078	.460**	.004	.129	.434**	.176*	.054	-.248**											
10.II(A)	-.073	.092	-.055	.052	.021	.132	.060	.077	.117										
11.II(B)	-.089	.138	-.079	.135	.074	-.051	.049	-.025	.072	.560**									
12.IC	-.103	.172*	-.043	.046	.050	.091	.013	.107	.107	.826**	.627**								
13.IM	-.037	.070	.003	.059	.017	-.014	.021	-.084	.020	.551**	.680**	.521**							
14.IS	-.168	-.044	-.034	.075	-.008	.028	-.066	-.035	.006	.709**	.595**	.635**	.537**						
15.CR	-.047	.077	.011	.054	.012	.071	-.011	.112	.071	.771**	.591**	.739**	.548**	.712**					
16.MBEA	.035	.079	-.088	.175*	-.002	.088	.147	.058	.048	.119	.090	.034	-.098	.021	.148				
17.MBEP	.028	-.064	-.001	-.080	-.049	-.056	-.061	-.016	-.094	-.559**	-.442**	-.610**	-.319**	-.459**	-.529**	-.318**			
18.Passive (LF)	.008	-.109	.017	-.104	.018	-.134	-.029	-.114	-.094	-.679**	-.370**	-.666**	-.304**	-.502**	-.569**	-.290**	.746**		
19.Instrumental	-.107	.046	-.073	.056	-.026	.148	.022	.052	.070	.779**	.597**	.760**	.450**	.776**	.759**	.091	-.487**	-.611**	

Note. II(A) = Idealized Influence (Attributes); II(B) = Idealized Influence (Behaviours); IC = Individual Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation;
CR = Contingent Reward; MBEA = Mgmt by Exception Active; MBEP = Mgmt by Exception Passive; LF = Laissez-Faire.
* $p < .05$; ** $p < .01$.

6.3.1.4 Correlations between Self-rated Enneagram Scales and followers' ratings of Leadership Behaviours

Table 38 shows the correlation coefficients of the Enneagram personality scales with the Leadership Behaviours evaluated by followers.

These results indicate that only three of the Leadership Behaviours show a relationship to an Enneagram variable: a weak positive correlation between Enneagram_5, the Researcher, and Idealised Influence_behaviour ($r = .188$; $p = .030$); a weak positive correlation between Enneagram_2, the Helper ($r = .175$; $p = .044$); and a weak negative correlation between Enneagram_8, the Challenger and Intellectual stimulation ($r = -.242$; $p = .005$).

The other Leadership Behaviours according to the perception of the followers, do not correlate significantly with any of the other Enneagram personality scales that managers attribute to themselves.

As for the correlations between the leaders' self-assessed Enneagram variables who were effectively evaluated by followers, that is, all the leaders who were considered for this analysis, it is observed that many of them are significant and positive, showing weak to moderate correlations (ranging from .177 to .499).

Regarding the correlations between Leadership Behaviours according to followers' perspective, it was found that:

- All the dimensions within Transformational Leadership obtain strong positive correlations with each other (from .675 to .834), with Contingent Reward (from .756 to .857), and with instrumental leadership (.739 to .865), with the values of these coefficients being the highest among all rater groups.
- Contingent Reward Leadership is significantly related to all the other Behaviours except for Management-by-Exception_active. The coefficients are strong and positive in the case of Instrumental Leadership (.892) and the Transformational Behaviours (from .756 to .857); negative and strong with Passive-Avoidant Leadership (-.542); and negative and moderate with Management by Exception_passive (-.485). The values of these coefficients are higher than those of Self and of superiors' evaluations.

- Management-by-Exception_active only shows significant correlations, both positive and weak, with Idealised Influence_behaviour (.206) and Individualized Consideration (.173).
- Management by Exception_passive shows a negative correlation from moderate to strong with the different dimensions of Transformational (from -.421 to -.505), Contingent Reward (-.485) and Instrumental Leadership Behaviours (-.552); and a positive and strong relationship with Passive-avoidant style (.585).
- Passive-Avoidant Leadership correlates significantly with all other Leadership Behaviours except for Management-by-Exception_active. The correlations are negative with almost all the Behaviours with moderate to strong coefficients (-.375 to -.596), and positive and strong for the already reported relationship with Management by Exception_passive style.

Table 38: Pearson correlations of Self-rated Enneagram personality type scores with followers' ratings of Leadership Behaviours.

Pearson correlations of self-rated Enneagram personality type scores with followers' ratings of Leadership Behaviours

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	
1.Enneagram_1																				
2.Enneagram_2	.207*																			
3.Enneagram_3	.499**	.093																		
4.Enneagram_4	.058	.321**	.104																	
5.Enneagram_5	.081	.264**	-.047	.253**																
6.Enneagram_6	.394**	.296**	.101	.077	.209*															
7.Enneagram_7	.202*	.243**	.324**	.350**	-.122	.106														
8.Enneagram_8	.247**	-.004	.237**	.273**	-.200*	.015	.233**													
9.Enneagram_9	.078	.458**	.002	.127	.432**	.177*	.054	-.248**												
10.II(A)	-.060	.099	-.054	-.051	-.007	.034	.039	-.061	.049											
11.II(B)	-.095	.142	-.108	.031	.188*	-.019	.027	-.131	.099	.697**										
12.IC	-.075	.175*	-.102	-.033	.114	.017	-.053	-.143	.154	.758**	.791**									
13.IM	-.074	.107	-.051	-.003	.050	-.073	.026	-.107	.051	.747**	.766**	.750**								
14.IS	-.091	.072	-.137	-.081	.077	.053	-.018	-.242**	.072	.834**	.675**	.778**	.700**							
15.CR	-.050	.090	-.059	-.036	.080	.051	-.052	-.105	.084	.821**	.756**	.857**	.790**	.777**						
16.MBEA	-.090	.034	-.133	.048	.067	.087	.087	-.117	-.001	-.081	.121	.206*	.173*	.016	.148	.156				
17.MBEP	-.009	-.131	-.004	-.043	-.073	.045	-.114	.027	-.083	.505**	-.479**	-.456**	-.421**	-.488**	-.485**	-.090				
18.Passive (LF)	-.011	-.080	-.033	.056	-.089	-.030	-.011	-.004	-.055	-.596**	-.422**	-.451**	-.375**	-.484**	-.542**	-.038	.585**			
19.Instrumental	-.088	.050	-.110	-.100	.055	.038	-.090	-.159	.064	.854**	.739**	.862**	.743**	.865**	.892**	.166	-.552**	-.596**		

Note. II(A) = Idealized Influence (Attributes); II(B) = Idealized Influence (Behaviours); IC = Individual Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation;
 CR = Contingent Reward; MBEA = Mgmt by Exception Active; MBEP = Mgmt by Exception Passive; LF = Laissez-Faire.
 * $p < .05$; ** $p < .01$.

6.3.2 Enneagram Scales and Perceived Leadership Outcomes: Correlations between the Variables

This section presents the Pearson Correlation coefficients between the Enneagram Scales and the Perceived Leadership Outcomes organised by rater groups.

6.3.2.1 Correlations between Self-rated Enneagram Scales and Self-Rated Perceived Leadership Outcomes

Table 39 shows the correlation coefficients of the variables of the Enneagram personality Model and the Perceived Leadership Outcomes measured by the MLQ 360. It is observed that the three dimensions of Leadership Outcomes: Effectiveness, Extra Effort and Satisfaction with Leadership, showed a weak but positive correlation with three of the Enneagrams bases in the model ($p < .05$).

As for the correlation of the different dimensions of Perceived Leadership Outcomes between them, it is observed that these are positive and strong (between .536 and .673)

Table 39: Pearson correlations of Self-rated Enneagram personality type scores with Self-rated Perceived Leadership Outcomes.

Pearson correlations of self-rated Enneagram personality type scores with self-rated Perceived Leadership Outcomes

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1.Enneagram_1												
2.Enneagram_2	.170											
3.Enneagram_3	.506**	.102										
4.Enneagram_4	.043	.298**	.123									
5.Enneagram_5	.046	.202*	-.060	.246**								
6.Enneagram_6	.363**	.214*	.110	.034	.136							
7.Enneagram_7	.201*	.273**	.342**	.359**	-.089	.118						
8.Enneagram_8	.267**	.036	.250**	.290**	-.157	.055	.205*					
9.Enneagram_9	.029	.399**	-.006	.101	.366**	.073	.094	-.210*				
10.EFF	.106	-.010	.301**	-.014	.036	.042	.190*	.019	.260**			
11.EE	.241**	.010	.302**	.054	.061	.081	.229**	.131	.129	.673**		
12.SAT	.182*	.090	.191*	-.083	.049	.089	.164	-.071	.242**	.558**	.536**	

Note. EFF = Overall Effectiveness; EE = Extra Effort; SAT = Satisfaction with the Leader.
* $p < .05$; ** $p < .01$

6.3.2.2 Correlations between Self-rated Enneagram Scales and Superior's ratings of Perceived Leadership Outcomes

Table 40 shows the correlation coefficients of the self-assessed Enneagram personality variables, with those of Perceived Leadership Outcomes, as rated by superiors. The table shows a weak negative correlation of Enneagram_5, The Investigator, to Perceived Leadership Outcomes ($r = -.207$; $p = .027$) and Extra Effort ($r = -.200$; $p = .040$). It also shows positive and strong correlations between the three dimensions of Perceived Leadership Outcomes, as rated by superiors (between .497 and .719).

Table 40: Pearson correlations of Self-rated Enneagram personality type scores with superiors' ratings of Perceived Leadership Outcomes.

Pearson correlations of self-rated Enneagram personality type scores with superiors' ratings of Perceived Leadership Outcomes

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1.Enneagram_1												
2.Enneagram_2	.182											
3.Enneagram_3	.488**	.134										
4.Enneagram_4	.085	.293**	.150									
5.Enneagram_5	.059	.192*	-.046	.299**								
6.Enneagram_6	.364**	.218*	.099	.092	.143							
7.Enneagram_7	.194*	.263**	.341**	.348**	-.099	.186*						
8.Enneagram_8	.309**	-.007	.250**	.332**	-.188*	.028	.269**					
9.Enneagram_9	-.019	.406**	-.012	.097	.361**	.053	.067	-.216*				
10.EFF	-.023	-.100	.025	.070	-.207*	.084	.097	.014	-.103			
11.EE	-.073	.016	.035	.039	-.200*	.007	.062	.001	-.049	.719**		
12.SAT	-.042	.088	.046	.025	-.152	.081	.057	-.078	.022	.578**	.497**	

Note. EFF = Effectiveness; EE = Extra Effort; SAT = Satisfaction.

* $p < .05$; ** $p < .01$

6.3.2.3 Correlations between Self-rated Enneagram Scales and peers' ratings of Perceived Leadership Outcomes

Table 41 presents the correlation coefficients of the self-assessed Enneagram personality variables, with those of Perceived Leadership Outcomes, as rated by peers. The table shows that no significant correlation has been obtained between these variables.

The correlations between the dimensions of Perceived Leadership Outcomes as rated by peers are positive and strong (between .747 and .801). In fact, they are so strong, that they would appear to be measuring the same phenomenon.

Table 41: Pearson correlations of Self-rated Enneagram personality type scores with peers' ratings of Perceived Leadership Outcomes.

Pearson correlations of self-rated Enneagram personality type scores with peers' ratings of Perceived Leadership Outcomes

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1.Enneagram_1												
2.Enneagram_2	.181*											
3.Enneagram_3	.506**	.093										
4.Enneagram_4	.048	.301**	.100									
5.Enneagram_5	.046	.191*	-.055	.229**								
6.Enneagram_6	.373**	.228**	.107	.049	.130							
7.Enneagram_7	.219*	.286**	.326**	.366**	-.098	.146						
8.Enneagram_8	.275**	.045	.241**	.296**	-.163	.071	.220*					
9.Enneagram_9	.034	.399**	.002	.098	.369**	.075	.096	-.207*				
10.EFF	-.097	.067	-.060	.057	-.023	.126	.045	.081	.061			
11.EE	-.109	.078	-.098	.047	.000	.106	.008	.075	.070	.801**		
12.SAT	-.100	.165	-.029	.061	.055	.171	.041	.006	.152	.756**	.747**	

Note. EFF = Effectiveness; EE = Extra Effort; SAT = Satisfaction.

* $p < .05$; ** $p < .01$

6.3.2.4 Correlations between Self-rated Enneagram Scales and Follower's ratings of Perceived Leadership Outcomes

Table 42 the correlation coefficients of the Enneagram personality scales with Perceived Leadership Outcomes, as valued by the followers. The only outcome dimension that shows a significant correlation with the leaders' personality is Satisfaction with the Leader, which presents a weak negative correlation with Enneagram_1, the Reformer ($r = -.185$; $p = .035$), and with Enneagram_8, the Challenger ($r = -.175$ $p = .046$).

As observed in the case of peers, the correlations between the different Perceived Leadership Outcomes are positive and very strong (between .748 and .787), again suggesting that followers might be evaluating based on a global perception.

Table 42: Pearson correlations of Self-rated Enneagram personality type scores with followers' ratings of Perceived Leadership Outcomes.

Pearson correlations of self-rated Enneagram personality type scores with followers' ratings of Perceived Leadership Outcomes

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1.Enneagram_1												
2.Enneagram_2	.142											
3.Enneagram_3	.490**	.069										
4.Enneagram_4	.025	.289**	.092									
5.Enneagram_5	.051	.207*	-.047	.238**								
6.Enneagram_6	.375**	.223*	.101	.042	.128							
7.Enneagram_7	.190*	.255**	.309**	.354**	-.092	.142						
8.Enneagram_8	.256**	.018	.228**	.287**	-.158	.066	.201*					
9.Enneagram_9	-.011	-.364	-.032	.073	.386**	.069	.054	-.246**				
10.EFF	-.084	.005	.010	-.039	-.026	-.068	.007	-.075	-.048			
11.EE	.010	.063	-.056	-.077	.041	-.046	.004	-.084	.041	.787**		
12.SAT	-.185*	.113	-.108	-.072	.031	-.029	-.023	-.175*	.055	.785**	.748**	

Note. EFF = Effectiveness; EE = Extra Effort; SAT = Satisfaction.

* $p < .05$; ** $p < .01$

6.3.3 Enneagram Scales and Leadership Performance Indicators: Correlations between the Variables

This section presents the Pearson Correlation coefficients between the independent variables (Enneagram scales) and the Leadership Performance Indicators provided by the company. Table 43 shows the correlation coefficients of the Enneagram personality scales with several indicators provided by the company, referred to the individual performance of each leader in a variety of areas.

Results indicate that two Task-Effectiveness indicators: Financial Performance (TOFP) and Task Competencies (TCA); and two People-Effectiveness Indicators: Opinion of direct Team (POFP) and People Competences (PC) correlated significantly with Enneagrams personality scales: Enneagram_2: the Helper showed a weak negative correlation with Financial performance (TOFP) ($r = -.180$; $p = .045$); and with Task competences ($r = -.204$; $p = .023$); and Enneagram_7: the Enthusiast showed a weak negative correlation with 'Opinion of the direct team' ($r = -.227$; $p = .018$). On the other hand, Enneagram_3: the Achiever, showed a weak positive correlation with People competences ($r = .188$; $p = .037$).

Regarding the correlations between the Enneagram personality scales for the base from which the performance indicators were provided, most of the coefficients are significant, showing positive correlations of mild to moderate (ranging from .186 to .509).

Regarding the correlations between the Leadership Performance Indicators provided by the company, all the coefficients that have been found to be significant, are positive; particularly:

- Of Potential for Promotion with Financial performance (.371), Task competencies (.496) and People competencies (.421).
- Of Financial performance with Task competencies (.425) and People competencies (.311).
- Of Task competencies with Compliance competencies (.398) and People competencies (.314).
- Of Compliance competencies with People competencies (.311).

- Of Opinion of Employees in Area with Opinion of Direct Team (.320).

Some positive but weak correlations were also found:

- Of Potential for Promotion with Compliance competencies (.198) and 'Opinion of employees in area' (.212).

Table 43: Pearson correlations of Self-rated Enneagram personality type scores with Leadership Performance Indicators.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
1.Enneagram_1																
2.Enneagram_2	.219*															
3.Enneagram_3	.509**	.092														
4.Enneagram_4	.055	.325**	.106													
5.Enneagram_5	.062	.295**	-.053	.270**												
6.Enneagram_6	.320**	.355**	.114	.208*	.302**											
7.Enneagram_7	.187*	.252**	.328**	.350**	-.140	.089										
8.Enneagram_8	.295**	-.006	.352**	.296**	-.234*	-.051	.299**									
9.Enneagram_9	.078	.455**	.001	.127	.468**	.187*	.052	-.230**								
10.PfP	-.026	-.127	.036	.020	-.102	-.047	-.001	.127	-.013							
11.TOFP	-.134	-.180*	.074	-.079	-.014	-.087	.029	.001	-.033	.371**						
12.TCA	-.140	-.204*	-.059	.012	.000	-.011	-.053	.070	-.065	.496**	.425**					
13.CC	-.152	.009	-.151	.059	-.079	-.096	.063	-.031	.042	.198*	.131	.398**				
14.PC	.046	.033	.188*	.103	-.063	-.049	.161	.140	.069	.421**	.311**	.314**	.311**			
15.PO	.121	-.127	.073	-.053	.053	.065	-.098	-.013	.055	.212*	.029	-.001	.005	.131		
16.POPF	-.050	-.007	-.112	-.142	.005	-.016	-.227*	-.106	.141	.170	-.112	-.080	.063	.069	.320**	

Note. PfP = Potential for Promotion; TOFP = Financial Performance; TCA = Task Competencies (Efficiency, Analysis, Dealing with Pressure); CC = Compliance Competencies (Safety, Alignment); PC = People Competencies (Communication, Teamwork, People Development, Customer Care); PO = Opinion of employees in area (people survey on whole area); POPF = Opinion of direct team (semi-annual pulse on leadership practices).

* p < .05; ** p < .01.

6.3.4 Correlations between the Variables: Summary and Conclusions

The following table provides a summary of the correlation coefficients between the Enneagram personality scales and the different measures of Leadership Behaviours, as evaluated by Self, superiors, peers, and followers. To synthesise the information in a single view, only the dimensions that present a significant level of correlation have been included, represented by their abbreviation, indicating their level of significance (* $p < .05$; ** $p < .01$), and indicating their direction with a (+) or a (-) sign.

Table 44: Summary of Pearson correlations of Self-rated Enneagram personality type scores with Leadership Behaviours, according to the different rater groups.

	SUMMARY OF CORRELATIONS OF ENNEAGRAM SCALES WITH LEADERSHIP BEHAVIOURS			
	SELF	SUPERIORS	PEERS	FOLLOWERS
Enneagram_1	(+) IM**, IL**, IS*, CR*, MBEA* (-) LF*	—	—	—
Enneagram_2	(+) MBEA*	—	(+) IC*	(+) IC*
Enneagram_3	(+) IM**, IIA*, CR*, IL* (-) LF*	(+) IIB**	—	—
Enneagram_4	—	(+) LF*	(+) MBEA*	—
Enneagram_5	(+) MBEP**	—	—	(+) IIB*
Enneagram_6	(+) MBEA**, IS*	(-) LF*	—	—
Enneagram_7	(+) IIB**, IS**, IIA*, IM*, IL*	—	—	—
Enneagram_8	(+) IIB*, MBEA*	—	—	(-) IS**
Enneagram_9	(+) IC**, IM**, IL**, IS*	—	—	—

Note. (+) = Positive correlation; (-) Negative Correlation; II(A) = Idealised Influence (Attributes); II(B) = Idealised Influence_behaviour; IC = Individualised Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation; CR = Contingent Reward; MBEA = Mgmt. by Exception Active; MBEP = Mgmt. by Exception Passive; LF = Laissez-Faire.
* $p < .05$; ** $p < .01$.

The following table provides a summary of the correlation coefficients between the Enneagram personality scales and the different dimensions of Perceived Leadership Outcomes, as evaluated by Self, superiors, peers, and followers. To provide a summarised view with all the information, only the dimensions that present a significant level of correlation have been included, represented by their abbreviation, indicating their level of significance (* $p < .05$; ** $p < .01$), and indicating their direction by means of a (+) or a (-) sign.

Table 45: Summary of Pearson correlations of Self-rated Enneagram personality type scores with Perceived Leadership Outcomes, according to the different rater groups.

Summary of Findings	SUMMARY OF CORRELATIONS OF ENNEAGRAM SCALES WITH PERCEIVED LEADERSHIP OUTCOMES			
	Self	Superiors	Peers	Followers
Enneagram_1	(+) EE**; SAT*	—	—	(-) SAT*
Enneagram_2	—	—	—	—
Enneagram_3	(+) EFF**; EE**; SAT*	—	—	—
Enneagram_4	—	—	—	—
Enneagram_5	—	(-) EFF*; EE*	—	—
Enneagram_6	—	—	—	—
Enneagram_7	(+) EFF*; EE**	—	—	—
Enneagram_8	—	—	—	(-) SAT*
Enneagram_9	(+) EFF**; SAT**	—	—	—

Note. (+) = Positive correlation; (-) Negative Correlation; EFF = Effectiveness; EE = Extra Effort; SAT = Satisfaction.
 * $p < .05$; ** $p < .01$.

The following table provides a summary of the correlation coefficients between the Enneagram personality scales and the Leadership Performance Indicators, grouped into three different clusters: Emergence, Task Effectiveness and People Effectiveness. To provide a summarised view with all the information, only the dimensions that present a significant level of correlation have been included, represented by their abbreviation, indicating their level of significance (* $p < .05$; ** $p < .01$), and indicating their direction by means of a (+) or a (-) sign.

Table 46: Summary of Pearson correlations of Self-rated Enneagram personality type scores with Leadership Performance Indicators, grouped per category.

Summary of Findings	SUMMARY OF CORRELATIONS OF ENNEAGRAM SCALES WITH LEADERSHIP PERFORMANCE INDICATORS		
	Emergence Indicators	Task Effectiveness Indicators	People Effectiveness Indicators
Enneagram_1	—	—	—
Enneagram_2	—	(-) TOFP*; TCA*	—
Enneagram_3	—	—	(+) PC*
Enneagram_4	—	—	—
Enneagram_5	—	—	—
Enneagram_6	—	—	—
Enneagram_7	—	—	(-) POFP*
Enneagram_8	—	—	—
Enneagram_9	—	—	—

Note. PfP = Potential for Promotion; TOFP = Financial Performance; TCA = Task Competencies (Efficiency, Analysis, Dealing with Pressure); CC = Compliance Competencies (Safety, Alignment); PC = People Competences (Communication, Teamwork, People Development, Customer Care); PO = Opinion of employees in area' (people survey on whole area); POFP = Opinion of direct team (semi-annual pulse on leadership practices).

* p < .05; ** p < .01..

The main conclusion that can be drawn from the previous analysis is that the total number of significant correlations between independent and dependent variables is very low, considering the large number of variables involved. Even in the case of correlations of the self-rated Enneagram scales with the self-rated Leadership Behaviours, the number of significant relationships between independent and dependent variables is only 10 (of a total of 90 possible correlations). However, even in this case, none of the significant correlations found was strong (>.50), only a few were moderate (>.30), and most were weak (>.10), according to the cut-off points proposed by Cohen (1988). In sum, the results of the analysis of the correlations between independent and dependent variables anticipate that a low association will be found through the multiple regressions.

This contrasts with the large number of moderate and strong correlations found between measures within the same set of variables: between the Enneagram scales, between Leadership Behaviours; between Perceived Leadership Outcomes and

between Leadership Performance Indicators. In the case of the Enneagram measurement, the high correlation found between its different scales, together with the low reliability measures reported by this study for these scales, suggest that the instrument used to measure the independent variables does not adequately discriminate between the different types of personality described by the Enneagram personality model. That is, some measurement problems are already evident that will likely affect subsequent analyses. This will be considered and discussed when interpreting the results of this study. Having said this, it is also necessary to comment that the analyses prior to the multiple regression verified that the minimum assumptions to execute it were met, such as the absence of multicollinearity, as will be reported in the next chapter.

6.4 Ex Post Analysis: Checking for Common Method Variance

It was considered necessary to check whether the relationships between self-rated Enneagram and self-rated Leadership Behaviour could be potentially affected by Common Method Variance or CMV (Podsakoff et al., 2003b). CMV is a methodological problem that can occur when the variance in observed variables is influenced by measurement artifacts, yielding an artificial correlation that does not reflect the true underlying constructs. One of the cases in which CMV is typically observed is when the various constructs are assessed through self-report surveys (George and Mallery, 2009). Another possible cause of CMV is item similarity (Podsakoff et al., 2003b), as can happen when the constructs being examined are both operationalised in terms of behaviours, such as Personality and Leadership Behaviour.

To check for the presence of Common Method Variance, Harman's single factor test was performed (Harman, 1967). This is one of the most used tests to diagnose CMV (Krishnaveni and Deepa, 2013; Fuller *et al.*, 2016). The test was run on SPSS following the steps suggested by Analysis INN (2020) with all the self-assessed variables of the study, the Enneagram scales and the self-rated Leadership Behaviours, since they are the most potentially affected by CMV. The analysis found that the total variance

extracted by a single factor ranged between 10.00% (for Management-by-Exception_passive) and 11.16% (for Inspirational Motivation), well below the 50% cut-off point proposed by Harman (1967). The detail of these results can be found in Appendix H.

Although many authors have criticized the Harman one-factor test for Common Method Variance (Podsakoff and Organ, 1986; Malhotra, Kim and Patil, 2006), a study by Fuller et al. (2016) empirically demonstrated that the Harman test only fails to detect CMV when it is elevated at levels higher than 70%. So, based on this analysis, it can be reasonably assumed that CMV was not a major problem affecting the results of this study.

6.5 Data Treatment and Descriptives: Conclusion

The current chapter described the procedure followed and the results obtained from the preliminary analyses practiced on the data. More specifically, it presented the procedure followed for data treatment, the evaluation of the validity and reliability of the scales, the calculation of the descriptive statistics of the variables involved, and the correlation coefficients between the independent variables and the different sets of outcome variables, always separately for each rater group.

The next chapter will present the results of the multiple regression analyses and the examination of the research propositions regarding the relationship of the Enneagram Personality Model to Leadership Behaviours, as perceived by the different rater groups. The following two chapters will do the same regarding the other two sets of dependent variables: Perceived Leadership Outcomes and Leadership Performance Indicators.

Chapter 7. Results: The Enneagram Model and Leadership Behaviour

The purpose of this thesis is to address the relationship between the Enneagram model and Leadership. In order to do so, it has established three research objectives, each addressing the relationship between the Enneagram and three distinct sets of leadership outcome variables: (1) Leadership Behaviours, (2) Perceived Leadership Outcomes, and (3) Leadership Performance Indicators provided by the company.

To facilitate the navigation and understanding of the information, the results of this investigation will be presented in three different chapters, organised according to its three Research Objectives.

The current chapter will present the results regarding Research Objective 1:

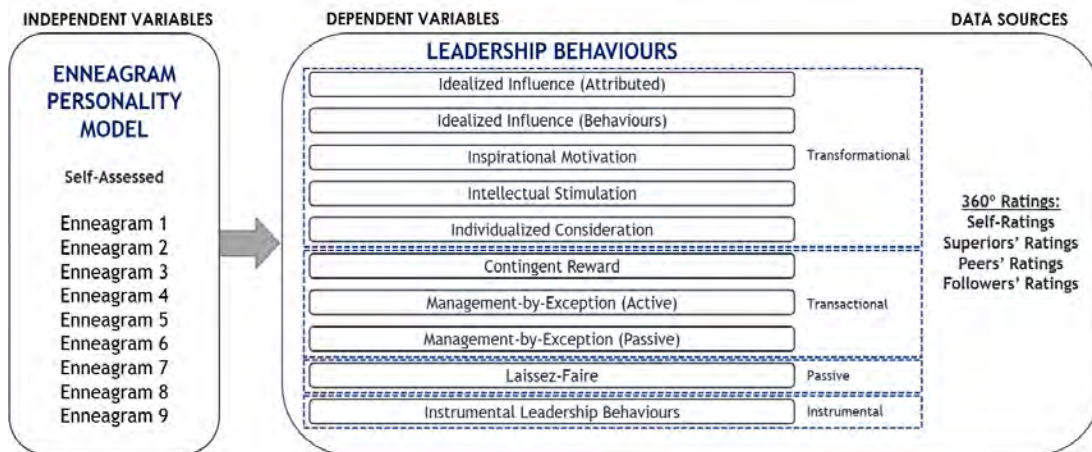
To examine the relationship between the Enneagram Types and Leadership Behaviours, from the perspective of superiors, peers, followers, and leaders themselves.

And its related Research Propositions:

- RP1: The Leadership Behaviour of a group of leaders will be perceived differently depending on who evaluates it: the leaders themselves, their superiors, peers, or followers.
- RP2: Leaders' self-assessed Enneagram-type scores will be significantly associated with self-ratings of their Leadership Behaviour.
- RP3: Leaders' self-assessed Enneagram-type scores will be significantly associated with superiors' ratings of their Leadership Behaviour.
- RP4: Leaders' self-assessed Enneagram-type scores will be significantly associated with peers' ratings of their Leadership Behaviour.
- RP5: Leaders' self-assessed Enneagram-type scores will be significantly associated with followers' ratings of their Leadership Behaviour.

These are represented in Figure 5.

Figure 5: Conceptual Framework of the relationship between the Enneagram and Leadership Behaviours.



Results relevant to this Research Objective will be presented in the following order: First, Research Proposition 1 will be examined through an ANOVA of repeated measures to establish the independence between rater groups (self, superiors, peers, followers) in the case of the variables measured with a 360.

Second, it will examine the results of the Multiple Linear Regressions performed to explore the association between the Enneagram Model and Perceived Leadership Outcomes, separately for each of the rater groups, establishing in each case whether or not the findings support the validity of Research Propositions 2-5. The chapter will end with a summary of the results, highlighting the main findings about the relationship between the Enneagram Model and Leadership Behaviours. The next two chapters will replicate this structure, in relation to Research Objectives 2 and 3.

The connections and contradictions of these findings with existing literature, as well as their implications for theory and practice will be discussed in Chapters 10 and 11.

It should be remembered at this point that this presentation of results will use, interchangeably, the terms "Enneagram Type Score", "Enneagram Type" or simply, "Enneagram", followed by a number from 1 to 9, to refer to the nine independent variables measures in this study. In all cases, these terms will refer to numerical variables resulting from the application of nine scales that make up the HPEI, an instrument designed by Delobbe, Halin and Prémont (2012) to measure Enneagram types as if they were continuous variables (see detail in Chapter 5). Scores for each "type" are calculated

based on each participant's responses on each Enneagram subscale. In other words, each participant in the study obtained scores for each of the nine Enneagram types.

7.1 Leadership Behaviour: Analysing Independence between Rater Groups

This section presents the key findings of the ANOVA of repeated measures to establish the independence between rater groups (self, superiors, peers, followers) in the case of the variables measured with a 360-degree survey, and discusses the implications of these findings regarding Research Proposition No. 1.

Research Proposition 1 stated that:

The Leadership Behaviour of a group of leaders will be perceived differently depending on who evaluates it: the leaders themselves, their superiors, peers, or followers.

Accordingly, it has been checked whether the scores that participants obtain in each of the Leadership Behaviours (or subscales of the Leadership Behavioural Styles) differ depending on the rater group.

The results for the subscales of Transformational Leadership indicate that the scores vary significantly in the dimensions of: Idealised Influence_attributed ($F(3, 336) = 17.901, p < .001, \eta^2 = .138$); Idealised Influence_behaviour ($F(3, 336) = 32.707, p < .001, \eta^2 = .226$); Individualised Consideration ($F(3, 330) = 35.019, p < .001, \eta^2 = .241$); Inspirational Motivation ($F(2.74, 307.03) = 45.983, p < .001, \eta^2 = .291$); and Intellectual Stimulation ($F(2.72, 306.85) = 36.957, p < .001, \eta^2 = .246$).

The results for the subscales of Transactional Leadership indicate that the scores vary significantly in the dimensions of: Contingent Reward ($F(3, 336) = 24.202, p < .001, \eta^2 = .178$); and Management-by-Exception_passive ($F(2.76, 309.37) = 5.355, p = .002, \eta^2 = .046$).

In Passive-Avoidant Leadership ($F(3, 336) = 9.578, p < .001, \eta^2 = .079$) and Instrumental Leadership ($F(3, 336) = 37.155, p < .001, \eta^2 = .249$) the means obtained by the participants also vary significantly.

In general, it is observed that there was a large difference between rater groups in the case of behaviours associated with Transformational Leadership, also large in the behaviours of Contingent Reward and Instrumental Leadership, and from insignificant to medium in both Management by Exception_ passive and active and in Passive-Avoidant Leadership. Table 47 summarises these findings, and the detail and sign of these differences is presented below.

Table 47: Means, standard deviations and one-way ANOVAs for the subscales of the Leadership Behaviours (MLQ and ILQ) per rater group.

	Self			Superiors			Peers			Followers			p
	N	M	SD	N	M	SD	N	M	SD	N	M	SD	
Transformational													
II(A)	113	4.13	0.46	113	4.09	0.52	113	3.86	0.50	113	4.28	0.46	<.001*
II(B)	113	4.23	0.50	113	3.75	0.63	113	3.72	0.43	113	4.06	0.49	<.001*
IC	111	4.26	0.53	111	3.93	0.58	111	3.61	0.48	111	3.96	0.53	<.001*
IM	113	4.37	0.48	113	3.76	0.72	113	3.76	0.44	113	4.24	0.51	<.001*
IS	114	4.21	0.49	114	3.78	0.72	114	3.62	0.47	114	4.14	0.49	<.001*
Transactional													
CR	113	4.34	0.43	113	4.09	0.47	113	3.89	0.40	113	4.16	0.48	<.001*
MBEA	113	3.49	0.84	113	3.36	0.86	113	3.46	0.47	113	3.39	0.50	.392
MBEP	113	1.65	0.64	113	1.88	0.66	113	1.83	0.49	113	1.69	0.43	.002*
Passive (LF)	113	1.25	0.38	113	1.41	0.48	113	1.50	0.38	113	1.40	0.36	<.001*
Instrumental	113	4.24	0.43	113	3.90	0.54	113	3.69	0.41	113	4.13	0.46	<.001*

Note. M = Mean; SD = Standard deviation; II(A) = Idealized Influence (Attributes); II(B) = Idealized Influence (Behaviours); IC = Individual Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation; CR = Contingent Reward; MBEA = Mgmt. by Exception Active; MBEP = Mgmt. by Exception Passive; LF = Laissez-Faire.

* p < .05

When comparing between pairs of rater groups, it is found that:

Within Transformational Leadership:

- Idealised Influence_attributed obtains a higher assessment by followers (4.28) than by peers (3.86) ($p < .001$); and that of superiors (4.09) ($p = .007$); a higher self-rating (4.13) than the rating assigned by the peers (3.86) ($p = .001$); and a higher rating by superiors (4.09) than that of peers (3.86) ($p = .001$).
- Idealised Influence_behaviour, shows a higher self-assessment (4.23) than the rating made by peers (3.72) ($p < .001$), superiors (3.75) ($p < .001$) and followers (4.06) ($p = .031$); and a higher rating of followers (4.06) than that of peers (3.72) ($p < .001$) and superiors (3.75) ($p < .001$).

- Individualised Consideration shows a higher leader's self-assessment (4.26) than the evaluation made by peers (3.61) ($p < .001$), superiors (3.93) ($p < .001$) and followers (3.96) ($p < .001$); a higher rating of followers (3.96) than that of peers (3.61) ($p < .001$); and a higher rating of superiors (3.93) than that of peers (3.61) ($p < .001$).
- Inspirational Motivation shows a higher self-assessment (4.37) than the assessment made by superiors (3.76) ($p < .001$) and peers (3.76) ($p < .001$); and a higher rating of followers (4.24) than that of superiors (3.76) ($p < .001$) and peers (3.76) ($p < .001$).
- The Intellectual Stimulation factor shows a higher self-assessment (4.21) than the evaluation of peers (3.62) ($p < .001$) and superiors (3.78) ($p < .001$); and a higher evaluation of followers (4.14) than that of peers (3.62) ($p < .001$) and superiors (3.78) ($p < .001$).

Within Transactional Leadership:

- Contingent Reward shows a higher self-rating (4.34) than the rating by peers (3.89) ($p < .001$), superiors (4.09) ($p < .001$) and followers (4.16) ($p = .013$); a higher followers' rating (4.16) than that by peers (3.89) ($p < .001$); and a higher rating by superiors (4.09) than that of peers (3.89) ($p < .001$).
- Management-by-Exception_passive has a lower self-rating (1.65), than the rating made by the superiors (1.88) ($p = .047$); and a lower rating of followers (1.69) than that of superiors (1.88) ($p = .014$) and peers (1.83) ($p = .027$).

In Passive-Avoidant Leadership:

- The self-assessment of leaders (1.25) is lower than the assessment by peers (1.50) ($p < .001$), superiors (1.41) ($p = .020$) and followers (1.40) ($p = .014$).
- It should be remembered that, as many authors point out, lower scores are desirable in the case of Management-by-Exception_passive and Passive-Avoidant Leadership, and they are often grouped together (Antonakis, Avolio and Sivasubramaniam, 2003, p.266; Avolio and Bass, 2004, p.3). Thus, the general trend continues that leaders' perceptions of their own leadership behaviour are more positive than the perceptions of others.

In Instrumental Leadership:

- The self-assessment of leaders (4.24) is higher than the assessment made by peers (3.69) ($p < .001$) and superiors (3.90) ($p < .001$); the rating of followers (4.13) is higher than that of peers (3.69) ($p < .001$) and superiors (3.90) ($p = .002$); and the rating of superiors (3.90) is higher than that of peers (3.69) ($p < .001$).

In summary, the results of the successive one-way ANOVA analyses, confirm that the different rater groups exhibit significantly different patterns of ratings of in all Leadership Behaviours except MBEA.

Therefore, RP 1 is supported.

This result also justifies the need of performing a separate analysis per rater group when evaluating the association between the Leaders' Enneagram type and the ratings of Leadership Behaviour. The results of these analyses are presented in the sections that follow.

7.2 The Enneagram Model and Self-Ratings of Leadership Behaviour

7.2.1 Detail of Findings

This section presents the main findings of the multiple linear regressions performed to examine the relationship between the Enneagram personality Model, self-assessed by a group of leaders, and their self-rated Leadership Behaviours. The validity of Research Proposition 2 will be examined in relation to these results, followed by a summary of the key findings.

Research Proposition 2 proposed that:

Leaders' self-assessed Enneagram-type scores will be significantly associated with self-ratings of their Leadership Behaviour.

Table 48 shows the results of multiple linear regression analyses of self-rated Transformational Leadership styles, with respect to the subscales of the Enneagram

personality model. For Idealised Influence_attributed dimension of this leadership style, Enneagram 9, The Peacemaker, obtains a significant yet small beta value of $\beta = .245$, with no other Enneagram types presenting statistically significant coefficients. The value of the adjusted coefficient of determination (R^2_{adjusted}) revealed that the model explains the 7.4% of the variance in this leadership behaviour.

For the dimension of Idealised Influence_behaviour, The Enthusiast, or Enneagram 7, obtains a significant and moderate beta value of $\beta = .379$, followed by the weak values of Enneagram 9, The Peacemaker ($\beta = .201$) and Enneagram 8, the challenger ($\beta = .187$). The complete model explains the 13.7% of variance in this dimension of Transformational Leadership.

In the case of Individualised Consideration, Enneagram 9, The Peacemaker, obtains a significant and moderate beta value of ($\beta = .334$; and the model explains 7.1% of the variance in this dimension.

For the dimension of Inspirational motivation, once again Enneagram 9, The Peacemaker, obtains a significant and moderate beta value of $\beta = .344$, followed by Enneagram 1, The Reformer with a weak value of $\beta = .212$. The model explains 17.6% of the variance in this dimension.

Finally, in the case of Intellectual Stimulation, Enneagram 7, The Enthusiast, obtains a significant and moderate beta value of ($\beta = .320$), followed by the weak and negative value of Enneagram 2, the Giver ($\beta = -.238$) and a positive value of Enneagram 9, The Peacemaker ($\beta = .224$). The model accounts for 14.8% of the variance in this leadership substyle.

There are no collinearity problems since the values of the variance inflation factor VIF are lower than 10 and tolerance statistics are higher than 0.10. In all models, the Durbin-Watson indicator was close to 2 thus fulfilling the assumption of independence of residuals.

Table 48: Multiple regression analysis of self-assessed Enneagram type scores and self-assessed Leadership Behaviours comprised by the Transformational Leadership Style.

	Variables	B	β	t	p	T	VIF	Model
II(A)	Constant	2.783		5.096	.000**			$R^2 = .138$ $R^2_{\text{adjusted}} = .074$ $F(9, 120) = 2.137;$ $p = .031^*$ D-W = 1.842
	Enneagram 1	-.003	-.004	-.034	.973	.614	1.629	
	Enneagram 2	-.117	-.163	-1.633	.105	.718	1.393	
	Enneagram 3	.144	.166	1.596	.113	.667	1.499	
	Enneagram 4	-.093	-.133	-1.299	.196	.681	1.468	
	Enneagram 5	-.088	-.099	-1.005	.317	.736	1.358	
	Enneagram 6	.028	.037	.398	.691	.823	1.215	
	Enneagram 7	.149	.166	1.653	.101	.716	1.397	
	Enneagram 8	.074	.100	1.026	.307	.756	1.322	
	Enneagram 9	.232	.245	2.449	.016*	.717	1.394	
II(B)	Constant	1.869		3.108	.002**			$R^2 = .197$ $R^2_{\text{adjusted}} = .137$ $F(9, 120) = 3.278;$ $p = .001^{**}$ D-W = 2.134
	Enneagram 1	.086	.082	.785	.434	.614	1.629	
	Enneagram 2	-.146	-.179	-1.852	.066	.718	1.393	
	Enneagram 3	-.061	-.061	-.612	.542	.667	1.499	
	Enneagram 4	-.064	-.081	-.815	.417	.681	1.468	
	Enneagram 5	.131	.128	1.347	.180	.736	1.358	
	Enneagram 6	-.084	-.096	-1.062	.291	.823	1.215	
	Enneagram 7	.388	.379	3.915	.000**	.716	1.397	
	Enneagram 8	.159	.187	1.987	.049*	.756	1.322	
	Enneagram 9	.217	.201	2.078	.040*	.717	1.394	
IC	Constant	2.505		4.117	.000**			$R^2 = .135$ $R^2_{\text{adjusted}} = .071$ $F(9, 120) = 2.089;$ $p = .036^*$ D-W = 1.867
	Enneagram 1	-.108	-.106	-.981	.329	.614	1.629	
	Enneagram 2	.028	.035	.353	.724	.718	1.393	
	Enneagram 3	.134	.139	1.339	.183	.667	1.499	
	Enneagram 4	-.094	-.121	-1.176	.242	.681	1.468	
	Enneagram 5	-.033	-.034	-.339	.735	.736	1.358	
	Enneagram 6	.013	.015	.162	.872	.823	1.215	
	Enneagram 7	.066	.066	.660	.511	.716	1.397	
	Enneagram 8	.103	.124	1.272	.206	.756	1.322	
	Enneagram 9	.351	.334	3.328	.001**	.717	1.394	
IM	Constant	2.123		3.855	.000**			$R^2 = .233$ $R^2_{\text{adjusted}} = .176$ $F(9, 120) = 4.053;$ $p < .001^{**}$ D-W = 2.108
	Enneagram 1	.207	.212	2.074	.040*	.614	1.629	
	Enneagram 2	-.035	-.046	-.484	.629	.718	1.393	
	Enneagram 3	.122	.131	1.340	.183	.667	1.499	
	Enneagram 4	-.064	-.086	-.888	.376	.681	1.468	
	Enneagram 5	-.094	-.099	-1.060	.291	.736	1.358	
	Enneagram 6	-.128	-.157	-1.782	.077	.823	1.215	
	Enneagram 7	.110	.114	1.210	.229	.716	1.397	
	Enneagram 8	.101	.128	1.387	.168	.756	1.322	
	Enneagram 9	.348	.344	3.642	.000**	.717	1.394	
IS	Constant	1.640		2.917	.004**			$R^2 = .208$ $R^2_{\text{adjusted}} = .148$ $F(9, 120) = 3.499;$ $p = .001^{**}$ D-W = 2.083
	Enneagram 1	.107	.109	1.051	.296	.614	1.629	
	Enneagram 2	-.183	-.238	-2.478	.015*	.718	1.393	
	Enneagram 3	-.038	-.041	-.414	.680	.667	1.499	
	Enneagram 4	-.020	-.027	-.276	.783	.681	1.468	
	Enneagram 5	.092	.096	1.018	.311	.736	1.358	
	Enneagram 6	.127	.154	1.725	.087	.823	1.215	
	Enneagram 7	.309	.320	3.332	.001**	.716	1.397	
	Enneagram 8	.081	.101	1.086	.280	.756	1.322	
	Enneagram 9	.228	.224	2.339	.021*	.717	1.394	

Note. II(A) = Idealized Influence (Attributes); II(B) = Idealized Influence (Behaviours); IC = Individual Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation; T = Tolerance; VIF = Variance inflation factor; D-W = Durbin-Watson; * $p < .05$, ** $p < .01$.

Multiple linear regression analyses of Transactional Leadership styles with respect to the subscales of the Enneagram personality model are presented in Table 29.

In the case of Contingent Reward Leadership behaviour, this model only explains 5.6% of the variance, and is not statistically significant ($F(9, 120) = 1.848; p = .066$). None of the coefficients shown by the independent variables is significant either.

In the case of Management-by-Exception_active, Enneagram 6, The Loyalist obtains a significant and moderate beta value of $\beta = .368$, followed by the weak value of Enneagram 8, The Challenger ($\beta = .198$); and the model explains 14.6% of the variance of this dependent variable.

For Management-by-Exception_passive, the model explains 5.4% of the variance and again, has not achieved statistical significance ($F(9, 119) = 1.805; p = .074$). Regarding the coefficients of the different independent variables, the only one that has achieved statistical significance has been Enneagram 5, The Investigator with a weak value of $\beta = .290$.

According to VIF values (< 1.65) and tolerance statistics (between .60 and .83) no problem of collinearity is observed; and, according to the Durbin-Watson statistic (between 1.80 and 2.08) the assumption of independence of residuals is fulfilled.

Table 49: Multiple regression analysis of self-assessed Enneagram type scores and self-assessed Leadership Behaviours comprised by the Transactional Leadership Style.

Variables	B	β	t	p	T	VIF	Model
Constant	2.695		5.204	.000**			$R^2 = .122$ $R^2_{adjusted} = .056$ $F(9, 120) = 1.848;$ $p = .066$ $D-W = 1.986$
Enneagram 1	.072	.084	.769	.444	.614	1.629	
Enneagram 2	-.055	-.082	-.809	.420	.718	1.393	
Enneagram 3	.111	.136	1.301	.196	.667	1.499	
Enneagram 4	-.120	-.184	-1.771	.079	.681	1.468	
CR Enneagram 5	.141	.169	1.694	.093	.736	1.358	
Enneagram 6	.062	.086	.912	.364	.823	1.215	
Enneagram 7	.089	.106	1.044	.299	.716	1.397	
Enneagram 8	.017	.024	.243	.808	.756	1.322	
Enneagram 9	.108	.121	1.202	.232	.717	1.394	
Constant	-.165		-.164	.870			$R^2 = .205$ $R^2_{adjusted} = .146$ $F(9, 120) = 3.443;$ $p = .001**$ $D-W = 2.080$
Enneagram 1	-.077	-.044	-.422	.674	.614	1.629	
Enneagram 2	.143	.104	1.080	.282	.718	1.393	
Enneagram 3	.105	.063	.633	.528	.667	1.499	
Enneagram 4	-.061	-.046	-.466	.642	.681	1.468	
MBEA Enneagram 5	.099	.058	.611	.542	.736	1.358	
Enneagram 6	.540	.368	4.102	.000**	.823	1.215	
Enneagram 7	-.120	-.070	-.724	.470	.716	1.397	
Enneagram 8	.282	.198	2.113	.037*	.756	1.322	
Enneagram 9	.106	.058	.606	.546	.717	1.394	
Constant	.813		1.039	.301			$R^2 = .120$ $R^2_{adjusted} = .054$ $F(9, 119) = 1.805;$ $p = .074$ $D-W = 1.655$
Enneagram 1	-.120	-.089	-.807	.421	.609	1.643	
Enneagram 2	.147	.146	1.441	.152	.720	1.388	
Enneagram 3	.045	.036	.346	.730	.668	1.496	
Enneagram 4	-.040	-.041	-.388	.699	.674	1.483	
MBEP Enneagram 5	.365	.290	2.867	.005**	.724	1.381	
Enneagram 6	.008	.007	.078	.938	.827	1.209	
Enneagram 7	-.190	-.150	-1.478	.142	.719	1.391	
Enneagram 8	.148	.141	1.418	.159	.748	1.338	
Enneagram 9	-.066	-.050	-.487	.627	.717	1.395	

Note. CR = Contingent Reward; MBEA = Mamt by Exception Active; MBEP = Mamt by Exception Passive; T = Tolerance; VIF = Variance inflation factor; D-W = Durbin-Watson; * $p < .05$, ** $p < .01$. □

The multiple linear regression analysis of Passive-Avoidant Leadership style with respect to the type scores for the Enneagram personality model is presented in Table 50. The model explains 5.3% of variance but has not been found significant ($F(9, 120) = 1.808$; $p = .073$); likewise, none of the coefficients of the independent variables have not been significant except for the negative contribution of the Enneagram 1, The Reformer ($\beta = -.228$).

No collinearity problems are observed according to the values of VIF (< 1.63) and the tolerance statistics (between .60 and .83); and the assumption of independence of residuals is fulfilled according to the value of Durbin-Watson of 1.806.

Table 50: Multiple regression analysis of self-assessed Enneagram type scores and self-assessed Laissez-Faire (or Passive) Leadership Behaviour.

	Variables	B	β	t	p	T	VIF	Model
Passive (LF)	Constant	1.924		4.337	.000**			$R^2 = .119$ $R^2_{adjusted} = .053$ $F(9, 120) = 1.808;$ $p = .073$ $D-W = 1.806$
	Enneagram 1	-.168	-.228	-2.084	.039*	.614	1.629	
	Enneagram 2	.063	.109	1.074	.285	.718	1.393	
	Enneagram 3	.040	.057	.545	.587	.667	1.499	
	Enneagram 4	.085	.151	1.459	.147	.681	1.468	
	Enneagram 5	.088	.123	1.232	.221	.736	1.358	
	Enneagram 6	.029	.148	.503	.616	.823	1.215	
	Enneagram 7	-.049	-.068	-.670	.504	.716	1.397	
	Enneagram 8	-.090	-.150	-1.522	.131	.756	1.322	
	Enneagram 9	-.132	-.173	-1.713	.089	.717	1.394	

Note. LF = Laissez-Faire; T = Tolerance; VIF = Variance inflation factor; D-W = Durbin-Watson; * $p < .05$, ** $p < .01$.

Finally, the multiple linear regression analysis of Instrumental Leadership style according to the self-assessment of the leaders in relation to the Enneagram personality subscales is included in the table 51. With regards to the individual scales, the only significant coefficients were obtained by Enneagram 9, The Peacemaker, with a moderate beta value of $\beta = .358$, followed by the negative and weak value of Enneagram 2, the Giver ($\beta = -.247$) and the positive and weak of Enneagram 7, The Enthusiast ($\beta = .203$). Overall, the model explains 16.8% of the variance of Instrumental Leadership.

There are no collinearity problems according to VIF (< 1.63) and the tolerance values (between .61 and .83), and once again, the assumption of independence of residuals is accomplished, with a Durbin-Watson value of 2.328.

Table 51: Multiple regression analysis of self-assessed Enneagram type scores and self-assessed Instrumental Leadership Behaviour.

	Variables	B	β	t	p	T	VIF	Model
Instrumental	Constant	1.807		3.619	.000*			$R^2 = .226$ $R^2_{adjusted} = .168$ $F(9, 120) = 3.899;$ $p < .001^{**}$ $D-W = 2.328$
	Enneagram 1	.125	.141	1.373	.172	.614	1.629	
	Enneagram 2	-.171	-.247	-2.608	.010*	.718	1.393	
	Enneagram 3	.073	.088	.890	.375	.667	1.499	
	Enneagram 4	-.075	-.111	-1.141	.256	.681	1.468	
	Enneagram 5	.058	.067	.721	.472	.736	1.358	
	Enneagram 6	.047	.064	.722	.472	.823	1.215	
	Enneagram 7	.177	.203	2.143	.034*	.716	1.397	
	Enneagram 8	.080	.111	1.204	.231	.756	1.322	
	Enneagram 9	.327	.358	3.777	.000**	.717	1.394	

Note. T = Tolerance; VIF = Variance inflation factor; D-W = Durbin-Watson; * $p < .05$, ** $p < .01$.

7.2.2 The Enneagram Model and Self-Ratings of Leadership Behaviour: Summary

Overall, the Enneagram model as a whole explained between 5.3% and 17.6% of the total variance in self-rated Leadership Behaviours. Most of these percentages were statistically significant, with the exception of Laissez-Faire, and Management-by-Exception_passive. Interestingly, the two behaviours whose variance could not be explained by the model are those in which low scores (rather than high) are considered desirable¹⁷, since Laissez-Faire is defined as absence of leadership, and Management-by-Exception_passive refers to leaders who only intervene when things have already gone wrong (Avolio and Bass, 2004). All socially desirable leadership behaviours were significantly explained by the model, when self-assessed by the leaders.

Regarding the results found for the individual scales of the Enneagram, the total number of significant associations between the nine subscales and the ten self-rated Leadership Behaviours was very low: only 17 in total (out of a possible total of 90), of which, six were moderate and 11 weak.

On the other hand, seven of the nine Enneagram subscales had a significant association to at least one self-rated Leadership Behaviour. The highest number of significant associations was shown by Type 9, the Peacemaker, with six associations; followed by Type 7, the Enthusiast, with three associations. Types 1, the Reformer, 2, the Giver, and 8, the Challenger, showed two significant associations each. The other types yielded only one significant association (Types 5, the Investigator and 6, the Loyalist), or none (Types 3, the Achiever and 4, the Romantic).

Taking all this evidence together, RP 2 is partially supported.

¹⁷ In line with this and following the trends of the normative data for the MLQ, the mean scores for the Leadership Behaviours with low desirability are always lower than 1.9, and the mean scores for the scales with high desirability are higher than 3.6, regardless of the rater group (see Chapter 6).

This means that it can be claimed that these results provide mixed support to the proposition that Leaders' self-assessed Enneagram-type scores will be significantly associated with their self-ratings of their Leadership Behaviour.

The figures below present a summary of the significant relationships between the Enneagram scales and the Leadership Behaviours. Only the significant relationships are displayed, indicating their degree of significance, *p<.05 or **p<.01. These findings are discussed in Chapters 10 and 11, delving into their possible explanation and their connections to Literature.

Figure 6: Findings on the relationship between Enneagram type 1 (The Reformer) and self-rated Leadership Behaviours.

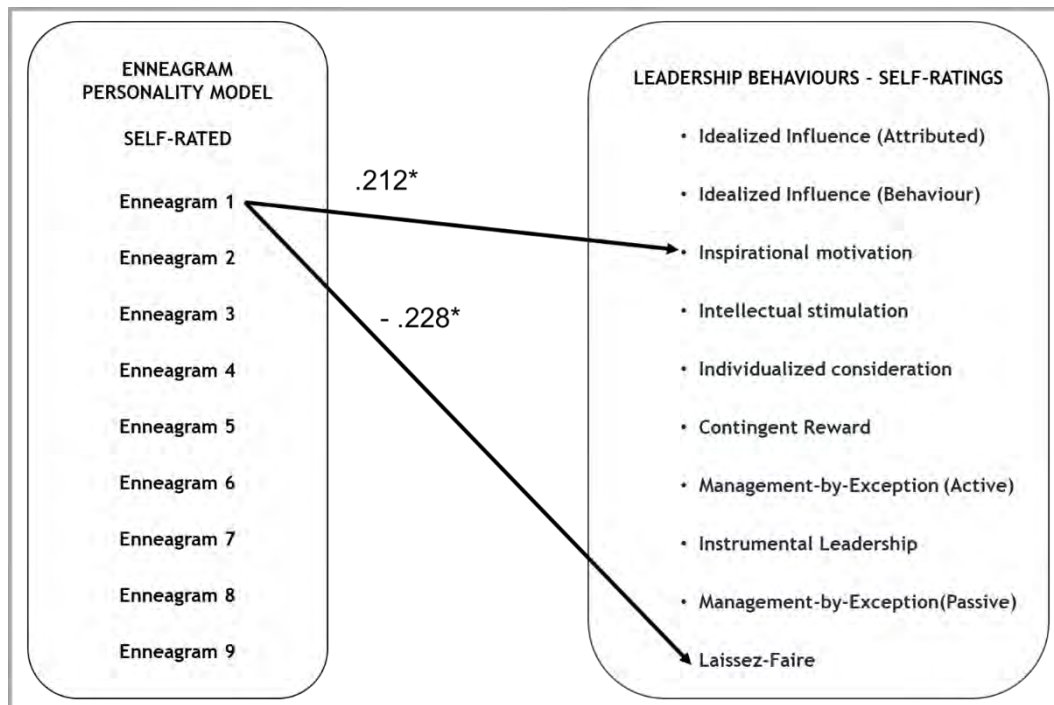


Figure 7: Findings on the relationship between Enneagram type 2 (The Giver) and self-rated Leadership Behaviours.

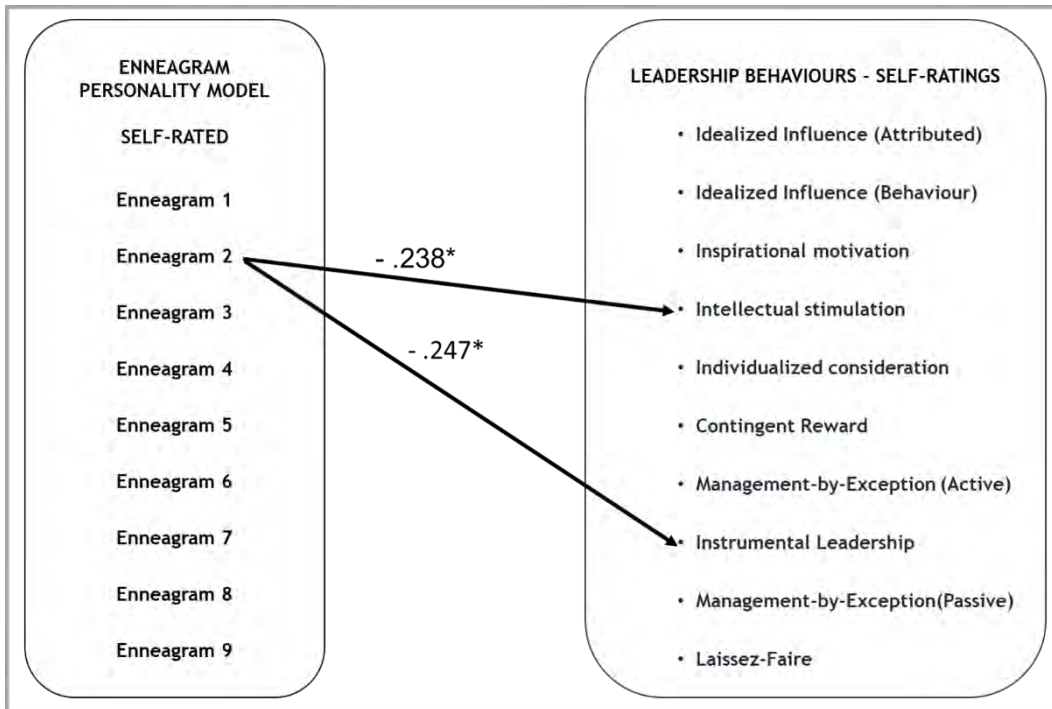


Figure 8: Findings on the relationship between Enneagram type 5 (The Investigator) and self-rated Leadership Behaviours.

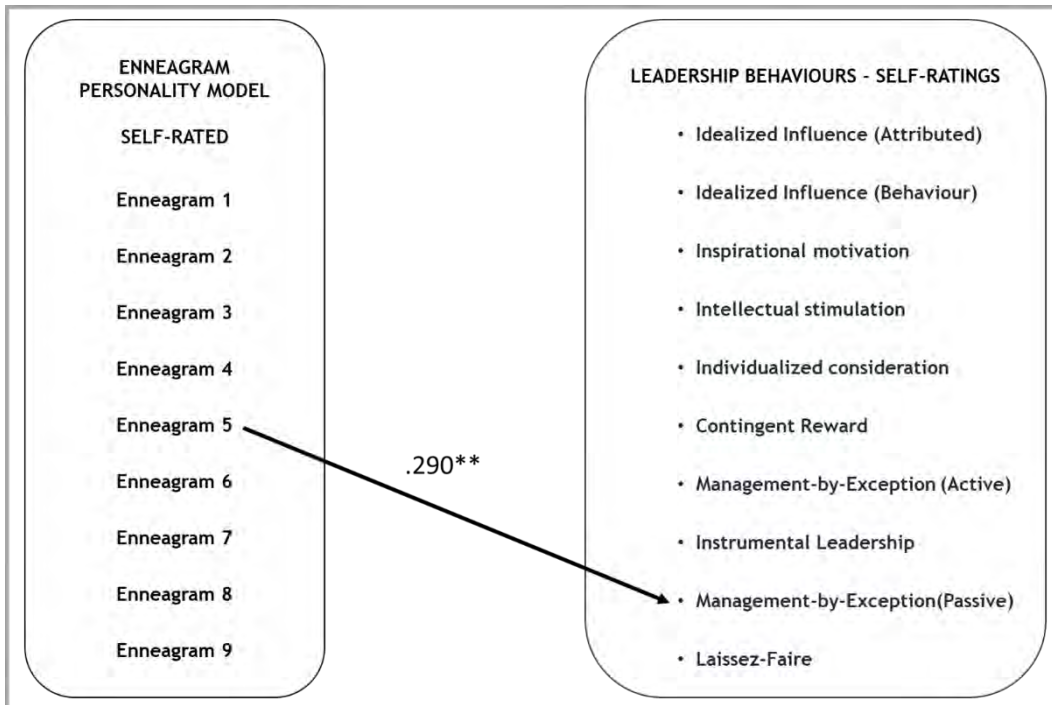


Figure 9: Findings on the relationship between Enneagram type 6 (The Loyalist) and self-rated Leadership Behaviours.

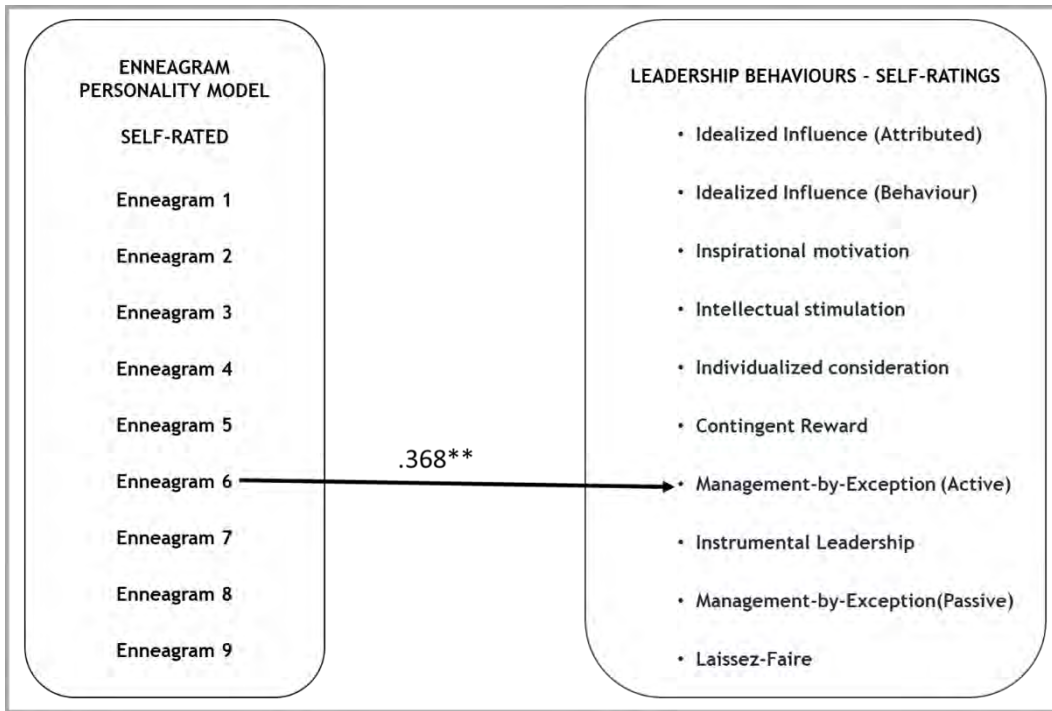


Figure 10: Findings on the relationship between Enneagram type 7 (The Enthusiast) and self-rated Leadership Behaviours.

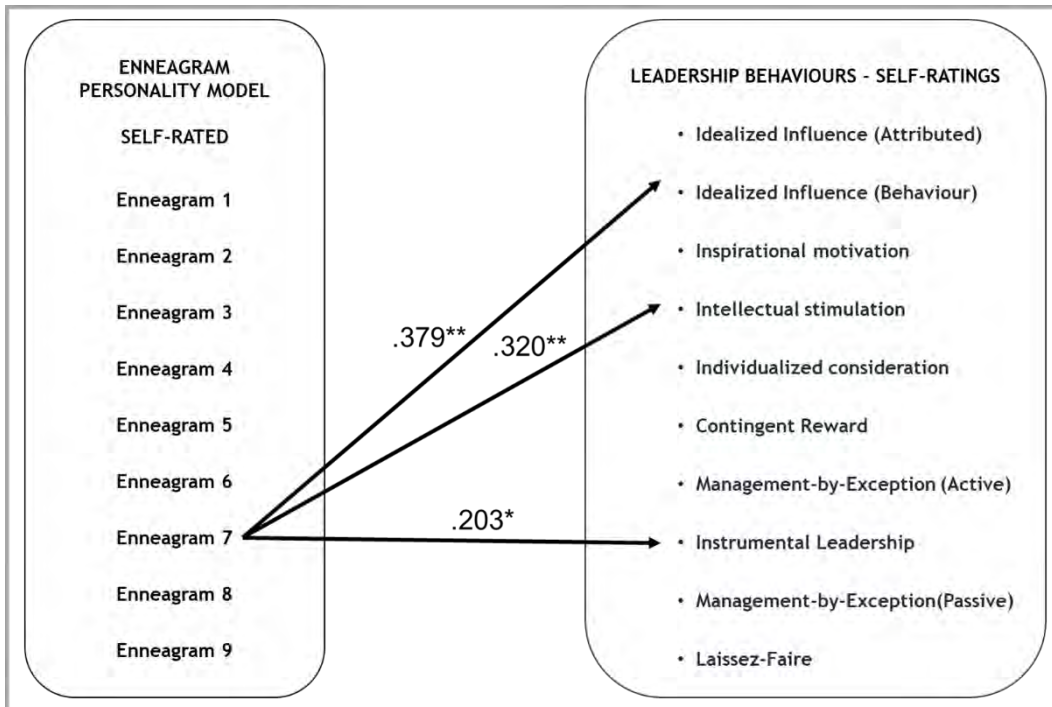


Figure 11: Findings on the relationship between Enneagram type 8 (The Challenger) and self-rated Leadership Behaviours.

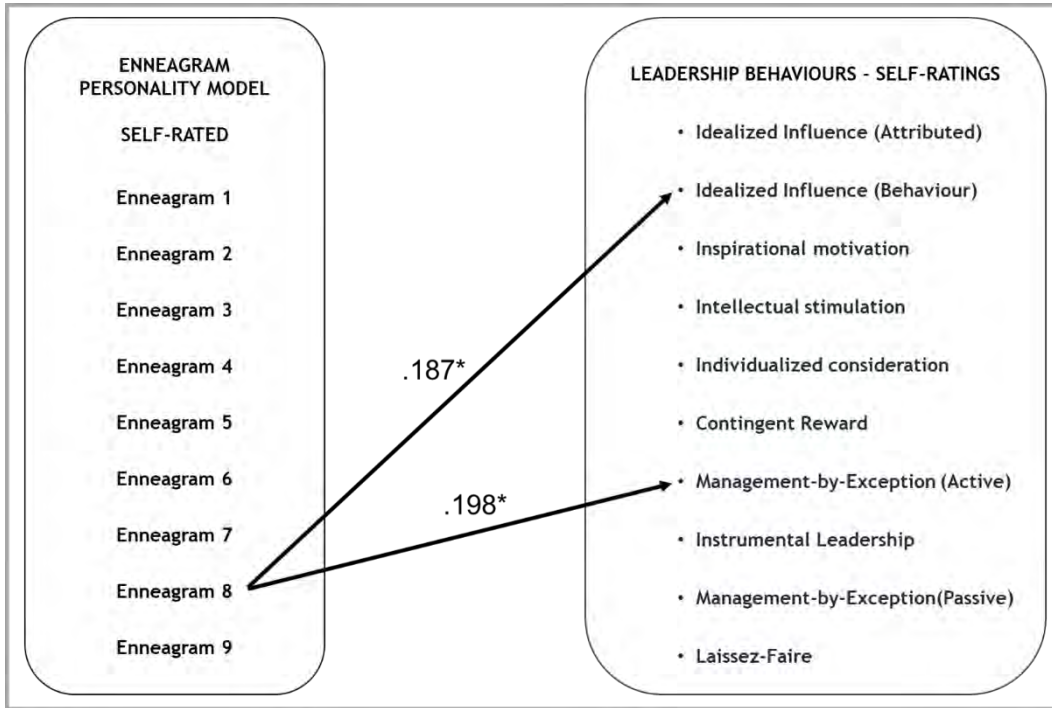
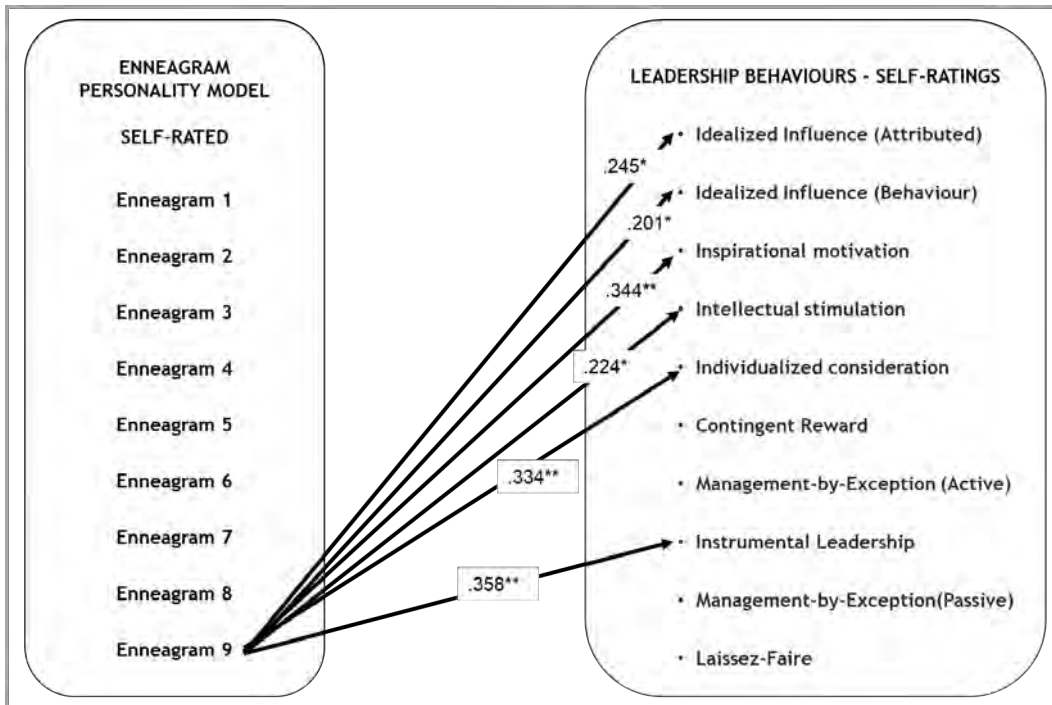


Figure 12: Findings on the relationship between Enneagram type 9 (The Peacemaker) and self-rated Leadership Behaviours.



7.3 The Enneagram Model and Superiors' Ratings of Leadership Behaviour

7.3.1 Detail of Findings

This section presents the main findings of multiple linear regressions exploring the relationship between the self-assessed Enneagram personality types of a group of leaders and their Leadership Behaviours, as rated by their superiors. Once again, it is necessary to keep in mind that the Enneagram types were measured using numerical scales. The validity of Research Proposition 3 will be examined in relation to these results, followed by a summary of the key findings.

Research Proposition 3 stated that:

Leaders' self-assessed Enneagram-type scores will be significantly associated with superiors' ratings of their Leadership Behaviour.

Table 52 shows the results of multiple linear regression analyses of Transformational Leadership styles rated by superiors, in relation to the Enneagram type scores.

For the Transformational dimensions of Idealised Influence_attributed; Individualised Consideration, Inspirational Motivation and Intellectual Stimulation, the models do not explain the variances and none of the individual analyses has been shown to be significant ($F(9, 105) = .849; p = .573$) ($F(9, 103) = .663; p = .740$) ($F(9, 105) = .954; p = .483$) ($F(9, 106) = .714; p = .695$). Moreover, all the coefficients of the independent variables in these four leadership behaviours are also not significant.

In the case of Idealised Influence_behaviour, although the model explains 2.1% of variance, it has not been significant ($F(9, 105) = 1.267; p = .264$); and the coefficients of the independent variables were also not significant except for the one corresponding to Enneagram 3, The Achiever ($\beta = .338$).

The values of VIF ($< a .71$) and tolerance (between .58 and .76) indicate the absence of collinearity problems; and in all models the Durbin-Watson statistic close to 2 points shows that the assumption of independence of residuals is met.

Table 52: Multiple regression analysis of self-assessed Enneagram type scores and superiors' ratings on Leadership Behaviours comprised by the Transformational Leadership Style.

	Variables	B	B	t	p	T	VIF	Model
II(A)	Constant	4.804		7.107	.000**			$R^2 = .068$ $R^2_{\text{adjusted}} = -.012$ $F(9, 105) = .849; p = .573$ D-W = 1.865
	Enneagram 1	-.065	-.061	-.496	.621	.587	1.703	
	Enneagram 2	-.012	-.015	-.130	.897	.633	1.580	
	Enneagram 3	.034	.035	.304	.762	.687	1.456	
	Enneagram 4	-.031	-.039	-.329	.743	.627	1.594	
	Enneagram 5	-.187	-.196	-1.636	.105	.616	1.624	
	Enneagram 6	.027	.034	.316	.752	.754	1.327	
	Enneagram 7	.011	.011	.095	.924	.723	1.383	
	Enneagram 8	-.128	-.156	-1.346	.181	.657	1.521	
	Enneagram 9	.124	.124	1.054	.294	.644	1.554	
II(B)	Constant	3.062		3.798	.000**			$R^2 = .098$ $R^2_{\text{adjusted}} = .021$ $F(9, 105) = 1.267; p = .264$ D-W = 1.996
	Enneagram 1	-.160	-.123	-1.017	.311	.588	1.700	
	Enneagram 2	-.045	-.047	-.410	.683	.646	1.548	
	Enneagram 3	.405	.338	3.019	.003**	.685	1.460	
	Enneagram 4	.084	.088	.750	.455	.623	1.605	
	Enneagram 5	.021	.018	.155	.877	.617	1.622	
	Enneagram 6	.004	.004	.037	.970	.750	1.333	
	Enneagram 7	.002	.002	.016	.987	.721	1.387	
	Enneagram 8	-.049	-.050	-.436	.664	.661	1.513	
	Enneagram 9	-.036	-.030	-.256	.798	.642	1.558	
IC	Constant	4.552		5.898	.000**			$R^2 = .055$ $R^2_{\text{adjusted}} = -.028$ $F(9, 103) = .663; p = .740$ D-W = 1.755
	Enneagram 1	-.170	-.142	-1.135	.259	.585	1.709	
	Enneagram 2	-.098	-.112	-.937	.351	.646	1.547	
	Enneagram 3	.188	.170	1.469	.145	.686	1.458	
	Enneagram 4	-.044	-.050	-.411	.682	.615	1.625	
	Enneagram 5	-.061	-.058	-.472	.638	.616	1.623	
	Enneagram 6	-.002	-.002	-.018	.986	.748	1.336	
	Enneagram 7	.008	.007	.064	.949	.709	1.411	
	Enneagram 8	-.056	-.061	-.512	.610	.644	1.553	
	Enneagram 9	.049	.043	.362	.718	.637	1.570	
IM	Constant	4.049		4.316	.000**			$R^2 = .076$ $R^2_{\text{adjusted}} = -.004$ $F(9, 105) = .954; p = .483$ D-W = 2.212
	Enneagram 1	-.168	-.113	-.920	.360	.588	1.700	
	Enneagram 2	-.083	-.076	-.649	.518	.646	1.548	
	Enneagram 3	.274	.199	1.756	.082	.685	1.460	
	Enneagram 4	-.025	-.022	-.189	.851	.623	1.605	
	Enneagram 5	.010	.007	.060	.952	.617	1.622	
	Enneagram 6	-.063	-.056	-.518	.606	.750	1.333	
	Enneagram 7	.161	.115	1.042	.300	.721	1.387	
	Enneagram 8	-.198	-.174	-1.505	.135	.661	1.513	
	Enneagram 9	.002	.001	.010	.992	.642	1.558	
IS	Constant	5.606		5.906	.000**			$R^2 = .057$ $R^2_{\text{adjusted}} = -.023$ $F(9, 106) = .714; p = .695$ D-W = 1.857
	Enneagram 1	-.189	-.125	-1.022	.309	.589	1.696	
	Enneagram 2	-.066	-.060	-.512	.610	.645	1.551	
	Enneagram 3	.030	.022	.190	.850	.686	1.458	
	Enneagram 4	.088	.080	.669	.505	.623	1.606	
	Enneagram 5	-.182	-.136	-1.135	.259	.617	1.620	
	Enneagram 6	.074	.066	.605	.546	.754	1.325	
	Enneagram 7	.016	.012	.105	.916	.720	1.389	
	Enneagram 8	-.144	-.125	-1.078	.284	.661	1.514	
	Enneagram 9	-.120	-.086	-.727	.469	.642	1.557	

Note. II(A) = Idealized Influence (Attributes); II(B) = Idealized Influence (Behaviours); IC = Individual Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation; T = Tolerance; VIF = Variance inflation factor; D-W = Durbin-Watson; * $p < .05$, ** $p < .01$.

Table 53 shows multiple linear regression analyses of Transactional Leadership behaviours with respect to Enneagram type scores. For Contingent Reward leadership behaviour, the model accounts for 1.8% of the variance but has been non-significant. ($F(9, 105) = 1.232$; $p = .283$); the coefficients of the independent variables are not significant except that of Enneagram 4, The Romantic ($\beta = .244$).

In the case of Management-by-Exception_active, the model explains 1.5% of the variance and has been non-significant ($F(9, 106) = 1.194$; $p = .307$); and all the coefficients of the independent variables are not significant.

In the case of Management-by-Exception_passive, the model explains 0.8% of the variance and has not been significant ($F(9, 105) = 1.100$; $p = .369$); while the coefficients of the independent variables have not been significant for any of the Enneagram type scores in relation to this behavioural style.

There are no collinearity problems according to IVF values (< to 1.71) and tolerance statistics (between .58 and .76) and in all models the Durbin-Watson statistic was close to 2.

Table 53: Multiple regression analysis of self-assessed Enneagram type scores and superiors' ratings on Leadership Behaviours comprised by the Transactional Leadership Style.

	Variables	B	β	t	P	T	VIF	Model
CR	Constant	4.495		7.494	.000**			$R^2 = .096$ $R^2_{adjusted} = .018$ $F(9, 105) = 1.232;$ $p = .283$ $D-W = 2.006$
	Enneagram 1	-.086	-.089	-.738	.462	.588	1.700	
	Enneagram 2	.028	.040	.348	.729	.646	1.548	
	Enneagram 3	.128	.144	1.282	.203	.685	1.460	
	Enneagram 4	.173	.244	2.075	.040*	.623	1.605	
	Enneagram 5	-.201	-.235	-1.987	.050	.617	1.622	
	Enneagram 6	.094	.130	1.213	.228	.750	1.333	
	Enneagram 7	-.046	-.051	-.464	.643	.721	1.387	
	Enneagram 8	-.099	-.134	-1.173	.243	.661	1.513	
	Enneagram 9	-.066	-.073	-.634	.528	.642	1.558	
MBEA	Constant	5.305		4.814	.000**			$R^2 = .092$ $R^2_{adjusted} = .015$ $F(9, 106) = 1.194;$ $p = .307$ $D-W = 1.973$
	Enneagram 1	-.234	-.132	-1.094	.277	.589	1.696	
	Enneagram 2	.073	.056	.485	.629	.645	1.551	
	Enneagram 3	.200	.122	1.091	.278	.686	1.458	
	Enneagram 4	-.177	-.135	-1.152	.252	.623	1.606	
	Enneagram 5	.247	.156	1.328	.187	.617	1.620	
	Enneagram 6	-.093	-.070	-.654	.515	.754	1.325	
	Enneagram 7	-.200	-.121	-1.105	.272	.720	1.389	
	Enneagram 8	-.038	-.028	-.246	.806	.661	1.514	
	Enneagram 9	-.326	-.196	-1.694	.093	.642	1.557	
MBEP	Constant	1.764		2.069	.041*			$R^2 = .086$ $R^2_{adjusted} = .008$ $F(9, 105) = 1.100;$ $p = .369$ $D-W = 2.230$
	Enneagram 1	-.225	-.165	-1.359	.177	.588	1.700	
	Enneagram 2	-.047	-.047	-.406	.686	.646	1.548	
	Enneagram 3	.274	.217	1.928	.057	.685	1.460	
	Enneagram 4	-.029	-.029	-.243	.808	.623	1.605	
	Enneagram 5	.196	.162	1.363	.176	.617	1.622	
	Enneagram 6	-.102	-.100	-.927	.356	.750	1.333	
	Enneagram 7	-.051	-.040	-.366	.715	.721	1.387	
	Enneagram 8	.141	.135	1.179	.241	.661	1.513	
	Enneagram 9	-.095	-.074	-.640	.524	.642	1.558	

Note. CR = Contingent Reward; MBEA = Mamt by Exception Active; MBEP = Mamt by Exception Passive; T = Tolerance; VIF = Variance inflation factor; D-W = Durbin-Watson; * $p < .05$, ** $p < .01$.

Table 54 shows the multiple linear regression analysis of Passive-Avoidant Leadership style with respect to the Enneagram type scores. The model explains 6.3% of the variance but has not been significant ($F(9, 105) = 1.850; p = .068$); in addition, the coefficients of the independent variables have not been significant except for the negative and weak beta value of Enneagram 6, The Loyalist ($\beta = -.220$). There are no collinearity problems according to VIF values (< to 1.71) and tolerance statistics (between .58 and 76), and the assumption of independence of residuals is fulfilled with a Durbin-Watson statistic value of 2,322.

Table 54: Multiple regression analysis of self-assessed Enneagram type scores and superiors' ratings on Laissez-Faire (or Passive) Leadership Behaviour.

Variables	B	β	t	p	T	VIF	Model
Constant	1.248		2.065	.041*			$R^2 = .137$ $R^2_{\text{adjusted}} = .063$ $F(9, 105) = 1.850;$ $p = .068$ D-W = 2.322
Enneagram 1	-.076	-.076	-.646	.519	.588	1.700	
Enneagram 2	-.003	-.003	-.031	.976	.646	1.548	
Enneagram 3	0.076	.082	.752	.454	.685	1.460	
Enneagram 4	.128	.175	1.520	.132	.623	1.605	
Passive (LF) Enneagram 5	.145	.164	1.419	.159	.617	1.622	
Enneagram 6	-.164	-.220	-2.104	.038*	.750	1.333	
Enneagram 7	.067	.072	.670	.504	.721	1.387	
Enneagram 8	.051	.067	.598	.551	.661	1.513	
Enneagram 9	-.118	-.127	-1.122	.265	.642	1.558	

Note. LF = Laissez-Faire; T = Tolerance; VIF = Variance inflation factor; D-W = Durbin-Watson; * $p < .05$, ** $p < .01$.

Table 55 shows the multiple linear regression analysis of the Instrumental Leadership style evaluated by superiors in relation to the Enneagram type scores. The model explains 0.2% of the variance and has not been significant ($F(9, 105) = 1.027$; $p = .424$); and none of the coefficients of the independent variables has been significant.

There are no problems of collinearity according to VIF values (< to 1.71) and tolerance (between .58 and .76), and the independence of the residuals is fulfilled with a Durbin-Watson statistic value of 1,817.

Table 55: Multiple regression analysis of self-assessed Enneagram type scores and superiors' ratings on Instrumental Leadership Behaviour.

Variables	B	β	t	p	T	VIF	Model
Constant	4.399		6.246	.000**			$R^2 = .081$ $R^2_{\text{adjusted}} = .002$ $F(9, 105) = 1.027;$ $p = .424$ D-W = 1.817
Enneagram 1	-.191	-.170	-1.393	.166	.588	1.700	
Enneagram 2	-.020	-.025	-.211	.833	.646	1.548	
Enneagram 3	.219	.212	1.871	.064	.685	1.460	
Enneagram 4	.104	.126	1.064	.290	.623	1.605	
Instrumental Enneagram 5	-.144	-.144	-1.208	.230	.617	1.622	
Enneagram 6	.032	.038	.351	.726	.750	1.333	
Enneagram 7	.003	.003	.024	.981	.721	1.387	
Enneagram 8	-.039	-.046	-.397	.692	.661	1.513	
Enneagram 9	-.079	-.075	-.644	.521	.642	1.558	

Note. T = Tolerance; VIF = Variance inflation factor; D-W = Durbin-Watson; * $p < .05$, ** $p < .01$.

7.3.2 The Enneagram Model and Superiors' Ratings of Leadership Behaviour: Summary

First and foremost, the results regarding the relationships explored in this section show a general lack of associations between the data. The Enneagram model as a whole

explained between 0 and 6.3% of the total variance in superiors' ratings of Leadership Behaviours, none of them being significant.

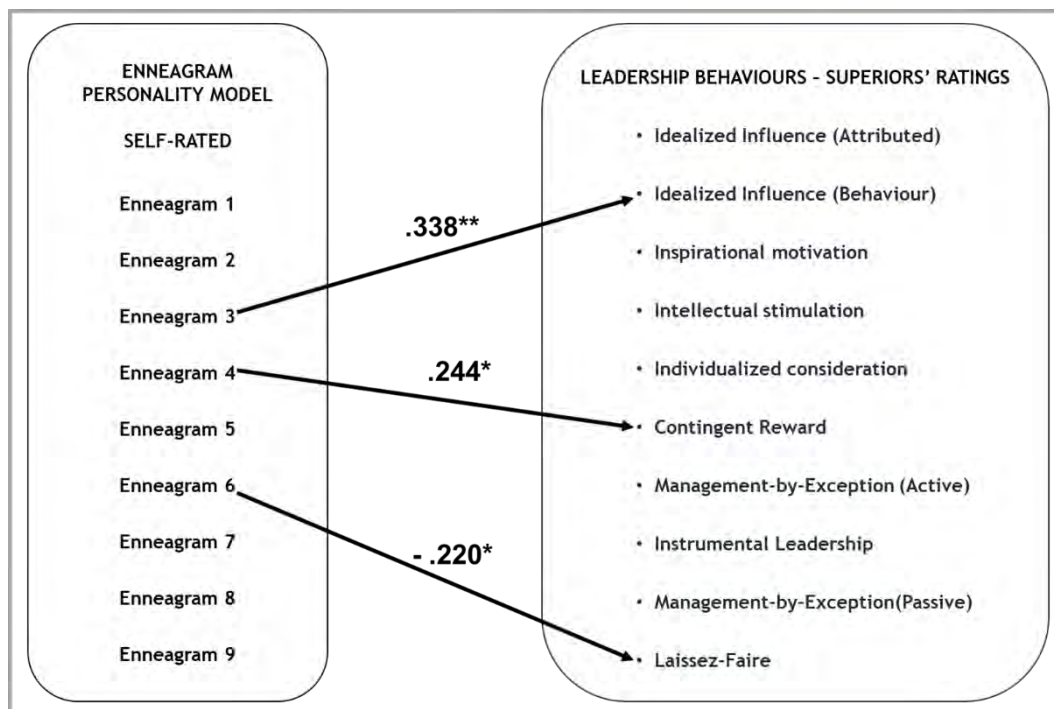
Regarding the individual Enneagram types, only three showed a significant association, and with only one Leadership Behaviour each.

Therefore, RP 3 is not supported.

In other words, the results of this study do not support that Leaders' Enneagram-type scores will be significantly associated with their superiors' ratings of their Leadership Behaviour.

Figure 13 presented below summarises the only significant relationships found between the Enneagram personality type scores and Leadership Behaviours rated by superiors.

Figure 13: Findings on the relationship between the Enneagram type scores and superiors' ratings of Leadership Behaviour.



Regarding the patterns of each individual Enneagram type, the only three significant associations found indicate positive perceptions (socially desirable) from the point of view of superiors: Enneagram 3 (The Achiever), is perceived as high in Idealised Influence_behaviour, that is, leading by creating a sense of mission in the team; Enneagram 4 (The Romantic), is rated high in Contingent Reward, or leading by

rewarding goal achievement; and Enneagram 6 (The Loyalist), is rated as low in Laissez-Faire, meaning that they are perceived as never abdicating their responsibility as leaders. The connections between these findings, lack of findings, and their relationship to the literature, will be discussed in depth in Chapters 10 and 11.

7.4 The Enneagram Model and Peers' Ratings of Leadership Behaviour

7.4.1 Detail of Findings

This section presents the main findings of the multiple linear regressions exploring the relationship between the self-assessed Enneagram personality profiles of a group of leaders, and their Leadership Behaviours rated by their peers. The validity of Research Proposition 4 will be examined in relation to these results, and the key findings will be summarised at the end of this section. The discussion of these results, its connections and possible contradictions with the literature will be addressed in Chapters 10 and 11.

Research Proposition 4 stated that:

Leaders' self-assessed Enneagram type scores will be significantly associated with peers' ratings of their Leadership Behaviour.

Table 56 shows the results of multiple linear regression analyses of Transformational Leadership styles rated by peers, in relation to the Enneagram type scores.

For Idealised Influence_attributed leadership behaviour, the model only explains 0.2% of the variance and has not been significant ($F(9, 122) = 1.023$; $p = .425$); and none of the coefficients of the independent variables has been significant.

For the Individualised Consideration, the model explains a little more variance, 2.7%, but it hasn't been significant. ($F(9, 122) = 1.404$; $p = .193$); in this case, the coefficients of the independent variables have not been significant except for the negative and weak beta values of Enneagram 1, The Reformer ($\beta = -.247$) and the positive effect of Enneagram 8, the challenger ($\beta = .211$).

For Idealised Influence_behaviour and Inspirational motivation, models cannot explain variances and the analyses have been not significant ($F(9, 122) = .719; p = .690$) ($F(9, 122) = .282; p = .978$); moreover, all the coefficients of the independent variables in these two leadership behaviours are also not significant.

As for Intellectual stimulation, the model explains 0.7% of the variance and has not been significant ($F(9, 122) = .898; p = .530$); and the coefficients of the independent variables were also not significant except for the negative contribution Enneagram 1, The Reformer ($\beta = -.237$).

VIF values (< to 1.69) and tolerance statistics (between .59 and .77) suggest that there are no collinearity problems. In all models the Durbin-Watson statistic was close to 2 fulfilling the assumption of independence of residuals.

Table 56: Multiple regression analysis of self-assessed Enneagram type scores and peers' ratings on Leadership Behaviours comprised by the Transformational Leadership Style.

	Variables	B	β	t	p	T	VIF	Model
II(A)	Constant	3.158		5.037	.000**			$R^2 = .070$ $R^2_{\text{adjusted}} = .002$ $F(9, 122) = 1.023;$ $p = .425$ D-W = 1.622
	Enneagram 1	-.193	-.185	-1.638	.104	.595	1.681	
	Enneagram 2	.016	.020	.183	.855	.658	1.520	
	Enneagram 3	-.033	-.033	-.313	.755	.678	1.475	
	Enneagram 4	-.018	-.023	-.218	.828	.681	1.468	
	Enneagram 5	-.026	-.027	-.253	.801	.675	1.481	
	Enneagram 6	.148	.178	1.789	.076	.769	1.301	
	Enneagram 7	.047	.047	.454	.651	.721	1.387	
	Enneagram 8	.130	.153	1.509	.134	.739	1.354	
	Enneagram 9	.144	.141	1.299	.196	.646	1.547	
II(B)	Constant	3.770		6.958	.000**			$R^2 = .050$ $R^2_{\text{adjusted}} = -.020$ $F(9, 122) = .719; p =$.690 D-W = 1.650
	Enneagram 1	-.058	-.065	-.570	.570	.595	1.681	
	Enneagram 2	.091	.135	1.243	.216	.658	1.520	
	Enneagram 3	-.055	-.064	-.600	.550	.678	1.475	
	Enneagram 4	.063	.093	.866	.388	.681	1.468	
	Enneagram 5	.032	.038	.350	.727	.675	1.481	
	Enneagram 6	-.055	-.077	-.764	.446	.769	1.301	
	Enneagram 7	.031	.036	.344	.731	.721	1.387	
	Enneagram 8	-.014	-.020	-.194	.847	.739	1.354	
	Enneagram 9	-.006	-.007	-.062	.950	.646	1.547	
IM	Constant	4.036		7.011	.000**			$R^2 = .020$ $R^2_{\text{adjusted}} = -.052$ $F(9, 122) = .282; p =$.978 D-W = 1.812
	Enneagram 1	-.031	-.033	-.282	.778	.595	1.681	
	Enneagram 2	.055	.078	.709	.480	.658	1.520	
	Enneagram 3	.030	.034	.309	.758	.678	1.475	
	Enneagram 4	.055	.077	.710	.479	.681	1.468	
	Enneagram 5	-.018	-.021	-.191	.849	.675	1.481	
	Enneagram 6	-.016	-.021	-.206	.837	.769	1.301	
	Enneagram 7	.000	.000	.002	.998	.721	1.387	
	Enneagram 8	-.089	-.118	-1.135	.258	.739	1.354	
	Enneagram 9	-.036	-.040	-.358	.721	.646	1.547	
IS	Constant	4.282		7.074	.000**			$R^2 = .062$ $R^2_{\text{adjusted}} = -.007$ $F(9, 122) = .898; p =$.530 D-W = 1.678
	Enneagram 1	-.237	-.237	-2.086	.039*	.595	1.681	
	Enneagram 2	-.050	-.066	-.606	.545	.658	1.520	
	Enneagram 3	.094	.098	.919	.360	.678	1.475	
	Enneagram 4	.109	.143	1.343	.182	.681	1.468	
	Enneagram 5	-.061	-.065	-.609	.544	.675	1.481	
	Enneagram 6	.109	.137	1.366	.174	.769	1.301	
	Enneagram 7	-.101	-.104	-1.009	.315	.721	1.387	
	Enneagram 8	-.016	-.020	-.192	.848	.739	1.354	
	Enneagram 9	.040	.041	.373	.710	.646	1.547	

Note. II(A) = Idealized Influence (Attributes); II(B) = Idealized Influence (Behaviours); IC = Individual Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation; T = Tolerance; VIF = Variance inflation factor; D-W = Durbin-Watson; * $p < .05$, ** $p < .01$.

Regression analyses of Transactional Leadership styles with respect to the Enneagram type scores are shown in Table 57. For Contingent Reward and Management-by-Exception_passive, the models cannot explain variances. and in the analyses they have been not significant ($F(9, 122) = .658; p = .746$) ($F(9, 122) = .291; p = .976$); moreover, all the coefficients of the independent variables in those two leadership behaviours are not significant. For Management by exception (active), the model only explains 0.3% of the variance and has not been significant either ($F(9, 121) = 1.043; p = .410$); and none of the coefficients of the independent variables were significant.

The VIF values (< to 1.69) and the tolerance statistics (between .59 and .77) indicate that there are no collinearity problems, and all models had a Durbin-Watson value close to 2.

Table 57: Multiple regression analysis of self-assessed Enneagram type scores and peers' ratings on Leadership Behaviours comprised by the Transactional Leadership Style.

Variables	B	β	t	p	T	VIF	Model
Constant	3.491		7.084	.000**			
Enneagram 1	-.131	-.162	-1.412	.161	.595	1.681	R ² = .046
Enneagram 2	.032	.052	.480	.632	.658	1.520	
Enneagram 3	.044	.057	.532	.595	.678	1.475	R ² _{adjusted} = -.024
Enneagram 4	.003	.004	.039	.969	.681	1.468	
CR Enneagram 5	-.019	-.025	-.228	.820	.675	1.481	F(9, 122) = .658; p = .746
Enneagram 6	.068	.106	1.048	.297	.769	1.301	
Enneagram 7	-.055	-.070	-.668	.505	.721	1.387	D-W = 1.695
Enneagram 8	.112	.171	1.660	.100	.739	1.354	
Enneagram 9	.077	.096	.877	.382	.646	1.547	
Constant	2.946		4.952	.000**			
Enneagram 1	.075	.076	.665	.507	.592	1.689	R ² = .072
Enneagram 2	-.016	-.021	-.196	.845	.657	1.522	
Enneagram 3	-.181	-.192	-1.806	.073	.682	1.467	R ² _{adjusted} = .003
Enneagram 4	.118	.157	1.477	.142	.681	1.469	
MBEA Enneagram 5	-.064	-.069	-.643	.522	.675	1.482	F(9, 121) = 1.043; p = .410
Enneagram 6	.050	.064	.637	.525	.761	1.314	
Enneagram 7	.119	.123	1.199	.233	.725	1.379	D-W = 1.994
Enneagram 8	.007	.009	.085	.932	.725	1.379	
Enneagram 9	.044	.046	.421	.674	.644	1.552	
Constant	2.370		3.880	.000**			
Enneagram 1	.085	.086	.741	.460	.595	1.681	R ² = .021
Enneagram 2	.003	.004	.036	.971	.658	1.520	
Enneagram 3	-.012	-.012	-.112	.911	.678	1.475	R ² _{adjusted} = -.051
Enneagram 4	-.032	-.042	-.391	.697	.681	1.468	
MBEP Enneagram 5	-.007	-.008	-.073	.942	.675	1.481	F(9, 122) = .291; p = .976
Enneagram 6	-.050	-.064	-.623	.534	.769	1.301	
Enneagram 7	-.040	-.042	-.399	.690	.721	1.387	D-W = 2.026
Enneagram 8	-.029	-.036	-.345	.731	.739	1.354	
Enneagram 9	-.086	-.089	-.795	.428	.646	1.547	

Note. CR = Contingent Reward; MBEA = Mgmt by Exception Active; MBEP = Mgmt by Exception Passive; T = Tolerance, VIF = Variance inflation factor; D-W = Durbin-Watson; *p < .05, **p < .01.

Table 58 shows the analysis of the Passive-Avoidant Leadership style with respect to the Enneagram type scores. The resulting model cannot explain the variance and in the analyses has been not found to be significant (F(9, 122) = .925; p = .506); likewise, all the coefficients of the independent variables regarding that leadership style are not significant. There are no collinearity problems as indicated by the values de VIF (< to 1.70) and tolerance statistics (between .59 and .77), and the assumption of residue independence is met with a Durbin-Watson statistic of 1,968.

Table 58: Multiple regression analysis of self-assessed Enneagram type scores and peers' ratings on Laissez-Faire (or Passive) Leadership Behaviour.

	Variables	B	β	t	p	T	VIF	Model
Passive (LF)	Constant	1.938		4.293	.000**			$R^2 = .064$ $R^2_{adjusted} = -.005$ $F(9, 122) = .925; p = .506$ $D-W = 1.968$
	Enneagram 1	.076	.102	.899	.370	.595	1.681	
	Enneagram 2	-.023	-.041	-.382	.703	.658	1.520	
	Enneagram 3	.011	.016	.149	.881	.678	1.475	
	Enneagram 4	-.043	-.076	-.717	.475	.681	1.468	
	Enneagram 5	.077	.109	1.021	.309	.675	1.481	
	Enneagram 6	-.096	-.161	-1.611	.110	.769	1.301	
	Enneagram 7	.038	.052	.504	.616	.721	1.387	
	Enneagram 8	-.086	-.142	-1.391	.167	.739	1.354	
	Enneagram 9	-.095	-.130	-1.194	.235	.646	1.547	

Note. LF = Laissez-Faire; T = Tolerance; VIF = Variance inflation factor; D-W = Durbin-Watson; * $p < .05$, ** $p < .01$.

Finally, table 59 shows the regression analysis of the Instrumental Leadership style according to the evaluation of peers, with respect to the Enneagram type scores. The model explains 0.8% of the variance and it has not been significant ($F(9, 122) = 1.120; p = .354$); and the coefficients of the independent variables were also not significant, except for that of Enneagram 6, The Loyalist ($\beta = .234$). No collinearity problems are observed according to VIF (< to 1.70) and tolerance values (between .59 and .77), and the independence of residuals is fulfilled with a Durbin-Watson value of 1.624.

Table 59: Multiple regression analysis of self-assessed Enneagram type scores and peers' ratings on Instrumental Leadership Behaviour.

	Variables	B	β	t	p	T	VIF	Model
Instrumental	Constant	3.575		6.885	.000**			$R^2 = .076$ $R^2_{adjusted} = .008$ $F(9, 122) = 1.120; p = .354$ $D-W = 1.624$
	Enneagram 1	-.185	-.214	-1.897	.060	.595	1.681	
	Enneagram 2	-.011	-.016	-.153	.879	.658	1.520	
	Enneagram 3	-.017	-.021	-.200	.842	.678	1.475	
	Enneagram 4	.025	.038	.365	.716	.681	1.468	
	Enneagram 5	-.076	-.093	-.878	.382	.675	1.481	
	Enneagram 6	.161	.234	2.357	.020*	.769	1.301	
	Enneagram 7	-.004	-.005	-.047	.962	.721	1.387	
	Enneagram 8	.075	.106	1.051	.295	.739	1.354	
	Enneagram 9	.098	.115	1.064	.289	.646	1.547	

Note. T = Tolerance; VIF = Variance inflation factor; D-W = Durbin-Watson; * $p < .05$, ** $p < .01$.

7.4.2 The Enneagram Model and Peers' Ratings of Leadership Behaviour: Summary

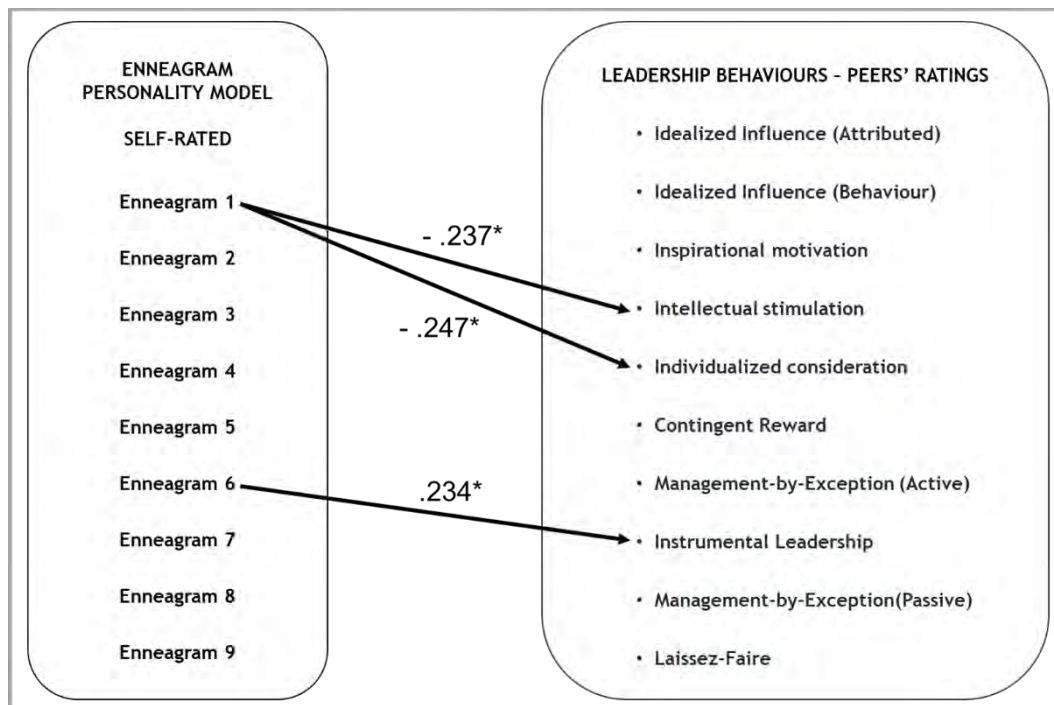
Once again, these results indicate a general lack of association between the independent and the dependent variables. The Enneagram model as a whole is explaining between 0.0 and 2.7% of the total variance in peers ratings of Leadership Behaviours, all of them insignificant. Regarding the individual Enneagram scales, only three significant relationships were found, all of them weak, and these corresponded to only two of the nine types.

Therefore, RP 4 is not supported.

In other words, building from the results of this study, it cannot be claimed that the Leaders' Enneagram-type scores will be significantly associated with their peers' ratings of their Leadership Behaviour.

Figure 14 summarises the significant relationships found between the Enneagram personality type scores and Leadership Behaviours rated by peers.

Figure 14: Findings on the relationship between the Enneagram type scores and peers' ratings of Leadership Behaviours.



Regarding the few association patterns found, results indicate a significantly negative perception of peers regarding Enneagram 1 (The Reformer) in Individualised Consideration and Intellectual Stimulation, meaning that they are perceived as unsupportive and not paying enough attention to individual needs of their people; and also, as not stimulating or suppressing creative thinking within their teams. On the other hand, peers had a positive perception of Enneagram 6 (The Loyalist), regarding Instrumental Leadership, that is, implementing strategy by providing their teams with direction, support, feedback, and resources to achieve their goals (Antonakis and House, 2014; McKee et al., 2018). These overall findings, and their relationship to the literature will be further discussed in Chapters 10 and 11.

7.5 The Enneagram Model and Followers' Ratings of Leadership Behaviour

7.5.1 Detail of Findings

This section presents the main findings of the multiple linear regressions exploring the relationship between a group of leaders' self-assessed Enneagram personality profiles, and their Leadership Behaviours rated by their peers.

Research Proposition 5 stated that:

Leaders' self-assessed Enneagram-type scores will be significantly associated with followers' ratings of their Leadership Behaviour.

The validity of Research Proposition 5 will be examined in relation to these results at the end of this section, followed by a general summary of these findings.

Table 60 shows the regression analyses of the Transformational Leadership behaviours evaluated by the followers with respect to the Enneagram personality type scores. Regarding the leadership behaviours of Idealised Influence_attributed and Inspirational motivation, models cannot explain variances and have been non-significant ($F(9, 123) = .431$; $p = .916$) ($F(9, 123) = .573$; $p = .817$). All the coefficients of the independent variables in these two leadership behaviours have been non-significant.

Regarding Intellectual stimulation, the model explains 1.4% of the variance and was also not significant ($F(9, 123) = 1.210; p = .295$), and the coefficients of the independent variables were also not significant, except for the weak and negative value of Enneagram 8, The Challenger ($\beta = -.206$).

In the case of Idealised Influence_behaviour, the model explains 1.3% of variance but has not been significant ($F(9, 123) = 1.196; p = .304$). With regards to Individualised Consideration, the model explains 0.2% of variance and has been non-significant ($F(9, 123) = 1.031; p = .420$). In both leadership behaviours, none of the coefficients of the independent variables were significant.

VIF values (< to 1.68) and tolerance (between .59 and .77) indicate that there are no collinearity problems. In all models the assumption of independence of the residuals is met since the Durbin-Watson statistic was close to 2.

Table 60: Multiple regression analysis of self-assessed Enneagram type scores and followers' ratings on Leadership Behaviours comprised by the Transformational Leadership Style.

	Variables	B	β	t	p	T	VIF	Model
II(A)	Constant	4.301		7.070	.000**			$R^2 = .031$ $R^2_{\text{adjusted}} = -.040$ $F(9, 123) = .431; p = .916$ D-W = 1.819
	Enneagram 1	-.085	-.086	-.746	.457	.598	1.673	
	Enneagram 2	.097	.128	1.174	.243	.659	1.517	
	Enneagram 3	-.033	-.034	-.320	.749	.682	1.467	
	Enneagram 4	-.077	-.102	-.950	.344	.678	1.475	
	Enneagram 5	-.012	-.013	-.124	.902	.676	1.479	
	Enneagram 6	.029	.037	.362	.718	.768	1.301	
	Enneagram 7	.070	.072	.693	.489	.721	1.386	
	Enneagram 8	-.019	-.023	-.224	.823	.738	1.354	
	Enneagram 9	-.001	-.001	-.005	.996	.649	1.541	
II(B)	Constant	3.979		6.818	.000**			$R^2 = .080$ $R^2_{\text{adjusted}} = .013$ $F(9, 123) = 1.196; p = .304$ D-W = 1.931
	Enneagram 1	-.071	-.072	-.647	.519	.598	1.673	
	Enneagram 2	.110	.149	1.395	.165	.659	1.517	
	Enneagram 3	-.074	-.079	-.756	.451	.682	1.467	
	Enneagram 4	-.044	-.059	-.557	.578	.678	1.475	
	Enneagram 5	.184	.200	1.904	.059	.676	1.479	
	Enneagram 6	-.050	-.064	-.648	.518	.768	1.301	
	Enneagram 7	.098	.103	1.012	.313	.721	1.386	
	Enneagram 8	-.059	-.074	-.736	.463	.738	1.354	
	Enneagram 9	-.053	-.055	-.510	.611	.649	1.541	
IC	Constant	4.041		6.177	.000**			$R^2 = .070$ $R^2_{\text{adjusted}} = .002$ $F(9, 123) = 1.031; p = .420$ D-W = 1.777
	Enneagram 1	-.069	-.063	-.559	.577	.598	1.673	
	Enneagram 2	.160	.194	1.808	.073	.659	1.517	
	Enneagram 3	-.056	-.054	-.514	.608	.682	1.467	
	Enneagram 4	-.066	-.079	-.751	.454	.678	1.475	
	Enneagram 5	.056	.055	.517	.606	.676	1.479	
	Enneagram 6	-.018	-.021	-.207	.837	.768	1.301	
	Enneagram 7	-.022	-.021	-.201	.841	.721	1.386	
	Enneagram 8	-.058	-.065	-.647	.519	.738	1.354	
	Enneagram 9	.049	.046	.422	.673	.649	1.541	
IM	Constant	4.500		6.874	.000**			$R^2 = .040$ $R^2_{\text{adjusted}} = -.030$ $F(9, 123) = .573; p = .817$ D-W = 1.733
	Enneagram 1	-.042	-.039	-.345	.731	.598	1.673	
	Enneagram 2	.123	.151	1.391	.167	.659	1.517	
	Enneagram 3	-.027	-.026	-.245	.807	.682	1.467	
	Enneagram 4	-.036	-.044	-.407	.685	.678	1.475	
	Enneagram 5	.052	.051	.477	.635	.676	1.479	
	Enneagram 6	-.090	-.105	-1.046	.298	.768	1.301	
	Enneagram 7	.065	.062	.597	.552	.721	1.386	
	Enneagram 8	-.079	-.091	-.885	.378	.738	1.354	
	Enneagram 9	-.041	-.039	-.353	.724	.649	1.541	
IS	Constant	4.712		7.957	.000**			$R^2 = .081$ $R^2_{\text{adjusted}} = .014$ $F(9, 123) = 1.210; p = .295$ D-W = 2.126
	Enneagram 1	-.044	-.045	-.399	.691	.598	1.673	
	Enneagram 2	.063	.084	.789	.432	.659	1.517	
	Enneagram 3	-.089	-.094	-.897	.371	.682	1.467	
	Enneagram 4	-.059	-.079	-.748	.456	.678	1.475	
	Enneagram 5	.044	.047	.446	.657	.676	1.479	
	Enneagram 6	.042	.053	.540	.590	.768	1.301	
	Enneagram 7	.076	.079	.774	.441	.721	1.386	
	Enneagram 8	-.166	-.206	-2.044	.043*	.738	1.354	
	Enneagram 9	-.036	-.037	-.347	.729	.649	1.541	

Note. II(A) = Idealized Influence (Attributes); II(B) = Idealized Influence (Behaviours); IC = Individual Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation; T = Tolerance; VIF = Variance Inflation Factor; D-W = Durbin-Watson; * $p < .05$, ** $p < .01$.

Table 61 shows the regression analyses of Transactional Leadership styles with respect to the Enneagram personality subscales. For the behaviours of Contingent Reward, Management-by-Exception_active, and Management-by-Exception_passive, the models cannot explain the variances and have been not significant ($F(9, 123) = .403; p = .932$) ($F(9, 123) = .987; p = .454$) ($F(9, 123) = .592; p = .802$). All the coefficients of the independent variables in these three leadership behaviours have been not significant. VIF values (< to 1.68) and tolerance statistics (between .59 and .77) indicate that there are no complications of collinearity; and in all models the Durbin-Watson statistic was close to 2.

Table 61: Multiple regression analysis of self-assessed Enneagram type scores and followers' ratings on Leadership Behaviours comprised by the Transactional Leadership Style.

	Variables	B	β	t	p	T	VIF	Model
CR	Constant	4.251		7.153	.000**			$R^2 = .029$ $R^2_{\text{adjusted}} = -.042$ $F(9, 123) = .403; p = .932$ D-W = 1.995
	Enneagram 1	-.064	-.066	-.571	.569	.598	1.673	
	Enneagram 2	.071	.097	.890	.375	.659	1.517	
	Enneagram 3	-.009	-.010	-.094	.925	.682	1.467	
	Enneagram 4	-.040	-.055	-.507	.613	.678	1.475	
	Enneagram 5	.040	.044	.407	.685	.676	1.479	
	Enneagram 6	.035	.045	.445	.657	.768	1.301	
	Enneagram 7	-.026	-.027	-.262	.794	.721	1.386	
	Enneagram 8	-.042	-.054	-.521	.604	.738	1.354	
	Enneagram 9	.012	.013	.118	.906	.649	1.541	
MBEA	Constant	4.094		6.631	.000**			$R^2 = .067$ $R^2_{\text{adjusted}} = -.001$ $F(9, 123) = .987; p = .454$ D-W = 2.122
	Enneagram 1	-.104	-.101	-.895	.373	.598	1.673	
	Enneagram 2	.069	.089	.827	.410	.659	1.517	
	Enneagram 3	-.073	-.074	-.704	.483	.682	1.467	
	Enneagram 4	.049	.063	.593	.554	.678	1.475	
	Enneagram 5	.063	.065	.610	.543	.676	1.479	
	Enneagram 6	.106	.130	1.307	.194	.768	1.301	
	Enneagram 7	-.118	-.119	-1.156	.250	.721	1.386	
	Enneagram 8	.019	.023	.230	.819	.738	1.354	
	Enneagram 9	-.162	-.160	-1.480	.141	.649	1.541	
MBEP	Constant	2.134		4.088	.000**			$R^2 = .042$ $R^2_{\text{adjusted}} = -.029$ $F(9, 123) = .592; p = .802$ D-W = 1.975
	Enneagram 1	-.016	-.019	-.168	.867	.598	1.673	
	Enneagram 2	-.080	-.123	-1.129	.261	.659	1.517	
	Enneagram 3	.029	.035	.326	.745	.682	1.467	
	Enneagram 4	.032	.049	.454	.651	.678	1.475	
	Enneagram 5	-.069	-.085	-.791	.431	.676	1.479	
	Enneagram 6	.078	.114	1.132	.260	.768	1.301	
	Enneagram 7	-.113	-.136	-1.307	.194	.721	1.386	
	Enneagram 8	.015	.022	.211	.833	.738	1.354	
	Enneagram 9	-.002	-.002	-.018	.986	.649	1.541	

Note. CR = Contingent Reward; MBEA = Mgmt by Exception Active; MBEP = Mgmt by Exception Passive; T = Tolerance; VIF = Variance inflation factor; D-W = Durbin-Watson; * $p < .05$, ** $p < .01$.

Table 62 reflects the regression analysis of the Passive-Avoidant Leadership style with respect to the personality subscales. In this case, the model cannot explain the variance in Passive-Avoidant Leadership, and has not been significant ($F(9, 123) = .414; p = .926$); and all coefficients of independent variables have been not significant.

There is no collinearity as indicated by the VIF values (< to 1.68) and the tolerance statistics (between .59 and .77), and the independence of the residuals is met with a Durbin-Watson statistic value of 1,876.

Table 62: Multiple regression analysis of self-assessed Enneagram type scores and followers' ratings on Laissez-Faire (or Passive) Leadership Behaviour.

Variables	B	β	t	p	T	VIF	Model
Constant	1.446		3.341	.001*			$R^2 = .029$ $R^2_{\text{adjusted}} = -.042$ $F(9, 123) = .414; p = .926$ D-W = 1.876
Enneagram 1	.023	.033	.286	.775	.598	1.673	
Enneagram 2	-.053	-.100	-.914	.363	.659	1.517	
Enneagram 3	-.027	-.040	-.376	.708	.682	1.467	
Enneagram 4	.035	.065	.606	.546	.678	1.475	
Passive (LF) Enneagram 5	.089	.134	1.236	.219	.676	1.479	
Enneagram 6	-.017	-.031	-.304	.762	.768	1.301	
Enneagram 7	.017	.025	.236	.814	.721	1.386	
Enneagram 8	-.011	-.019	-.184	.855	.738	1.354	
Enneagram 9	-.054	-.078	-.709	.480	.649	1.541	

Note. LF = Laissez-Faire; T = Tolerance; VIF = Variance inflation factor; D-W = Durbin-Watson; * $p < .05$, ** $p < .01$.

Finally, Table 63 shows the regression analysis of the Instrumental Leadership style according to the assessment of followers with respect to the Enneagram subscales. The model obtained cannot explain the variance of this leadership style and has been not significant ($F(9, 123) = .652; p = .751$); all coefficients of personality-independent variables have been non-significant.

VIF (< to 1.68) and tolerance (between .59 and .77) values do not create collinearity problems, and residuals are independent according to the Durbin-Watson value of 1.882.

Table 63: Multiple regression analysis of self-assessed Enneagram type scores and followers' ratings on Instrumental Leadership Behaviour.

Variables	B	β	<i>t</i>	<i>p</i>	T	VIF	Model
Constant	4.633		8.114	.000**			
Enneagram 1	-.066	-.071	-.621	.536	.598	1.673	R ² = .046
Enneagram 2	.059	.083	.764	.446	.659	1.517	
Enneagram 3	-.041	-.046	-.429	.669	.682	1.467	R ² _{adjusted} = -.024
Enneagram 4	-.067	-.093	-.869	.386	.678	1.475	
Instrumental Enneagram 5	.024	.027	.253	.800	.676	1.479	F(9, 123) = .652; <i>p</i> = .751
Enneagram 6	.038	.051	.511	.610	.768	1.301	
Enneagram 7	-.026	-.028	-.275	.784	.721	1.386	D-W = 1.882
Enneagram 8	-.071	-.093	-.908	.366	.738	1.354	
Enneagram 9	.001	.001	.007	.995	.649	1.541	

Note. T = Tolerance; VIF = Variance inflation factor; D-W = Durbin-Watson; **p* < .05, ***p* < .01.

7.5.2 The Enneagram Model and Followers' Ratings of Leadership Behaviour: Summary

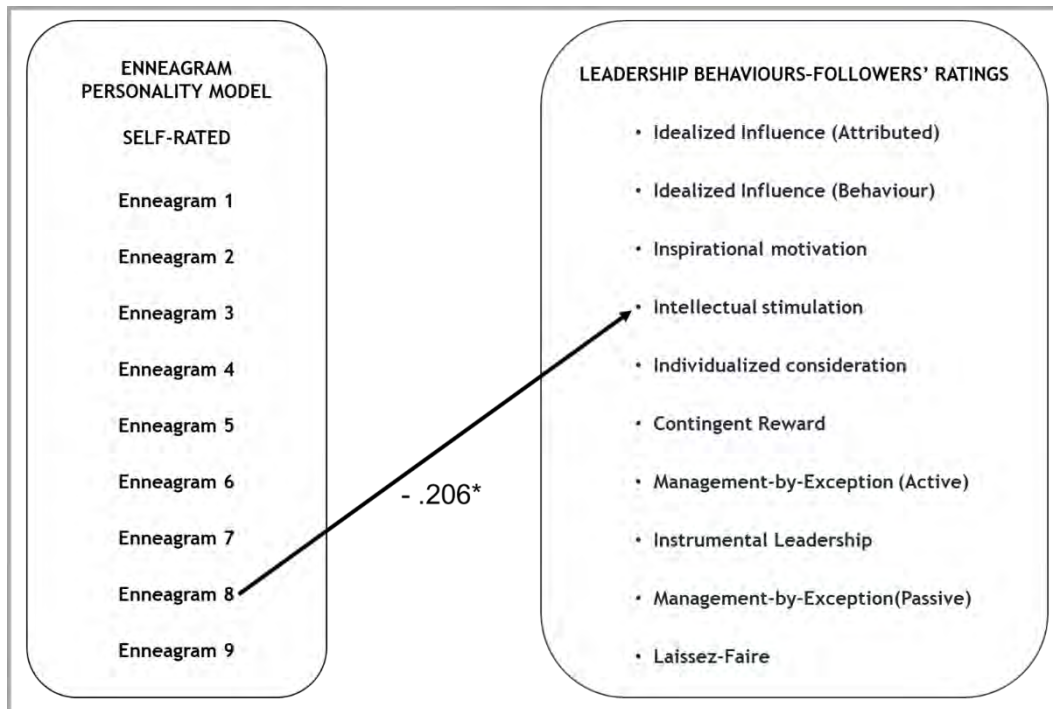
Once again the results show a negligible relationship between the Enneagram Scales and followers' perceptions of Leadership Behaviours. The Enneagram model as a whole is explaining between 0.0 and 1.4% of the total variance of these ratings, all of which are insignificant, and only one significant and weak relationship was found between a single Enneagram type and a single Leadership Behaviour perceived by followers.

Taking all the evidence together, RP 5 is not supported.

In other words, the evidence gathered by this study does not support that Leaders' Enneagram-type scores will be significantly associated with their followers' ratings of their Leadership Behaviour.

Figure 15 summarises the only significant relationship found between the Enneagram personality type scores and Leadership Behaviours rated by followers.

Figure 15: Findings on the relationship between the Enneagram type scores and followers' ratings of Leadership Behaviours.



This low number of significant associations is surprising, given the impact that a leader's behaviour is expected to have on the work life of a follower (Derue *et al.*, 2011), and is difficult to explain based on the literature. The possible reasons for this result will be discussed more fully in chapters 10 and 11. Regarding the only significant association found, it suggests that followers have a negative perception of leaders scoring high in Enneagram 8 (The Challenger), regarding the behaviour of Intellectual Stimulation, or the ability to foster creative thinking and problem-solving within the team. On the other hand, it is necessary to consider this finding from the perspective of the low reliability of the scale that measures Enneagram 8, with a Cronbach's alpha value of .55 (see Chapter 6). This will also be discussed in more detail in the final Chapters.

7.6 The Enneagram Model and Leadership Behaviour: Summary and Conclusion

The current chapter has presented and discussed the findings of this study in connection to the first Research Objective:

To examine the relationship between the Enneagram Types and Leadership Behaviours, from the perspective of superiors, peers, followers, and leaders themselves.

The previous sections have presented the main findings regarding this Research Objective and the five Research Propositions connected to it. This section provides a visual summary of these findings, and highlights the main trends that can be extracted from them.

Table 64 consolidates the main findings laid out throughout this chapter, regarding the relationship between the Enneagram personality type scores and the ratings of Leadership Behaviours by Self, superiors, peers, and followers. Only the significant Beta values are included in the table.

Table 64: Summary of Multiple regression analysis of self-assessed Enneagram type scores and Leadership Behaviours rated by self, superiors, peers, and followers.

Summary of Findings	MULTIPLE REGRESSIONS OF SELF-ASSESSED ENNEAGRAM SCALES AND LEADERSHIP BEHAVIOURS ACCORDING TO DIFFERENT RATER GROUPS			
	Self	Superiors	Peers	Followers
Enneagram 1	IM = ($\beta = .212$)* LF = ($\beta = -.228$)*	—	IC = ($\beta = -.247$)* IS = ($\beta = -.237$)*	—
Enneagram 2	IS = ($\beta = -.238$)* IL = ($\beta = -.247$)*	—	—	—
Enneagram 3	—	II(B) = ($\beta = .338$)**	—	—
Enneagram 4	—	CR = ($\beta = .244$)*	—	—
Enneagram 5	MBEP = ($\beta = .290$)**	—	—	—
Enneagram 6	MBEA = ($\beta = .368$)**	LF = ($\beta = -.220$)*	IL = ($\beta = .234$)*	—
Enneagram 7	II(B) = ($\beta = .379$)** IS = ($\beta = .320$)** IL = ($\beta = .203$)*	—	—	—
Enneagram 8	II(B) = ($\beta = .187$)* MBEA = ($\beta = .198$)*	—	—	IS = ($\beta = -.206$)*
Enneagram 9	II(A) = ($\beta = .245$)* II(B) = ($\beta = .201$)* IC = ($\beta = .334$)** IM = ($\beta = .344$)** IS = ($\beta = .224$)* IL = ($\beta = .358$)**	—	—	—

Note. β = Beta value; II(A) = Idealised Influence (Attributes); II(B) = Idealised Influence_behaviour; IC = Individualised Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation; CR = Contingent Reward; MBEA = Mgmt.

by Exception Active; MBEP = Mgmt. by Exception Passive; LF = Laissez-Faire; IL: Instrumental Leadership. * p < .05; ** p < .01.

Table 65 reproduces a summary of the percentage of variance explained by the Enneagram model, in the ratings of Leadership Behaviours by self, superiors, peers, and followers:

Table 65: Percentage (%) of the variance in Leadership Behaviours explained by the self-assessed Enneagram model as a whole, according to the different rater groups.

Summary of Findings	% OF THE VARIANCE IN LEADERSHIP BEHAVIOURS EXPLAINED BY THE ENNEAGRAM MODEL			
	Self	Superiors	Peers	Followers
IIA	7.4%	—	0.2%	—
IIB	13.7%	2.1%	—	1.3%
IC	7.1%	—	2.7%	0.2%
IM	17.6%	—	—	—
IS	14.8%	—	0.7%	1.4%
CR	5.6%	1.8%	—	—
MBEA	14.6%	1.5%	0.3%	—
MBEP	5.4%	0.8%	—	—
LF	5.3%	6.3%	—	—
IL	16.8%	0.2%	0.8%	—

Note. II(A) = Idealised Influence (Attributes); II(B) = Idealised Influence_behaviour; IC = Individualised Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation; CR = Contingent Reward; MBEA = Mgmt. by Exception Active; MBEP = Mgmt. by Exception Passive; LF = Laissez-Faire; IL: Instrumental Leadership.

Table 66 reproduces a summary of the Research Propositions proposed to explore the first objective of the research, and a note summarizing whether or not they were supported by the findings of this study..

Table 66: Summary of Research Propositions and confirmation status, regarding the associations between the Enneagram personality model and Leadership Behaviours.

Research Propositions	Supported/ Not supported
RP1: The Leadership Behaviour of a group of leaders will be perceived differently depending on who evaluates it: the leaders themselves, their superiors, peers, or followers.	Supported.
RP2: Leaders' self-assessed Enneagram-type scores will be significantly associated with their self-ratings of their Leadership Behaviour.	Partially Supported.
RP3: Leaders' self-assessed Enneagram-type scores will be significantly associated with their superiors' ratings of their Leadership Behaviour.	Not supported.
RP4: Leaders' self-assessed Enneagram-type scores will be significantly associated with their peers' ratings of their Leadership Behaviour.	Not supported.
RP5: Leaders' self-assessed Enneagram-type scores will be significantly associated with their followers' ratings of their Leadership Behaviour.	Not supported.

Overall, based on the results of this study, the relationship between the Enneagram model and Leadership Behaviours appeared weak or non-existent. Only in the case of self-reported Leadership Behaviours, the model as a whole was able to explain a significant percentage of the variance in most of the dependent variables. Also only in this case, a relatively larger number of significant associations between individual types and Leadership Behaviours was observed (17 of a possible total of 90 in the case of self-ratings). Still, only six of them were moderate and the rest of them were weak.

In the case of Leadership Behaviours rated by others, the number of significant relationships is even lower: only seven associations were found out of a possible total of 270 (9 Enneagram types * 10 behaviours * 3 rater-groups). These seven associations were distributed among five of the nine types described by the model. Regarding their strength, only one of these associations was moderate and the others were weak.

Despite this general lack of associations, it can also be observed that all the Enneagram types (subscales) showed at least one association with specific Leadership Behaviours, either self-perceived or perceived by at least one of the groups of raters. The implications of these findings and their connections to the literature will be discussed in more detail in Chapters 10 and 11.

Concluding, the current chapter has presented the results obtained from multiple regressions examining the relationship between the Enneagram personality model and

Leadership Behaviours, distinguishing between the perspectives of four rater groups: self, superiors, peers, and followers. The following chapter will examine the relationship between the Enneagram personality model and Perceived Leadership Outcomes, also separately for each rater group.

Chapter 8. Results: The Enneagram Model and Perceived Leadership Outcomes

The last chapter presented the results regarding the first Research Objective of this study, examining the relationship between the Enneagram type and Leadership Behaviour, from the perspective of superiors, peers, followers, or leaders themselves. The main findings regarding this objective and the Research Propositions derived from it were described.

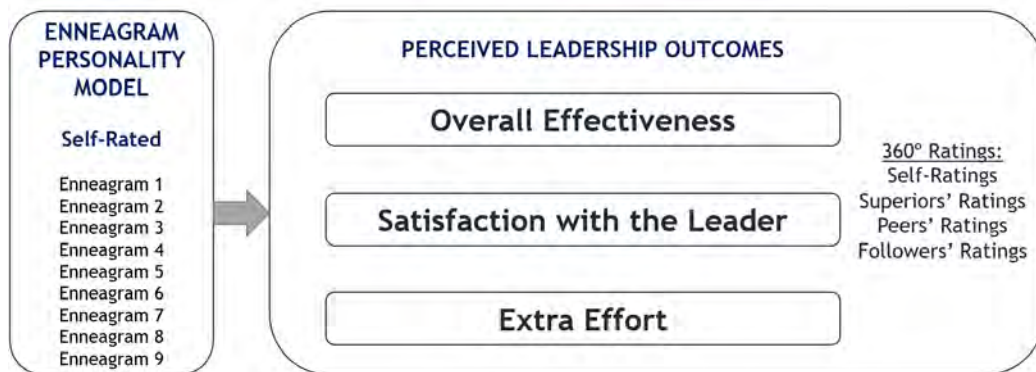
The current chapter presents the results with regard to the second Research Objective: To examine the relationship between the Enneagram Types and Perceived Leadership Outcomes, from the perspective of superiors, peers, followers, and leaders themselves.

And its related Research Propositions:

- RP6: The Perceived Leadership Outcomes of a group of leaders will differ depending on who rates them: the leaders themselves, superiors, peers, or followers.
- RP7: Leaders' self-assessed Enneagram-type scores will be significantly associated with self-ratings of their Leadership Outcomes.
- RP8: Leaders' self-assessed Enneagram-type scores will be significantly associated with superiors' ratings of their Leadership Outcomes.
- RP9: Leaders' self-assessed Enneagram-type scores will be significantly associated with peers' ratings of their Leadership Outcomes.
- RP10: Leaders' self-assessed Enneagram-type scores will be significantly associated with followers' ratings of their Leadership Outcomes.

These are represented in Figure 16.

Figure 16: Conceptual Framework of the relationship between the Enneagram and Perceived Leadership Outcomes.



Results relevant to this Research Objective will be presented in the following order: First, this chapter will review the results of the ANOVA of repeated measures to examine the independence between Rater Groups, assessing the validity of Research Proposition 6 based on the results. Then, it will examine the results of the Multiple Linear Regressions performed to explore the association between the Enneagram Model and Perceived Leadership Outcomes, separately for each of the rater groups, establishing in each case whether or not the findings support the validity of the Research Propositions involved. The chapter will end with a summary of the results, highlighting the key findings about the relationship between the Enneagram Model and Perceived Leadership Outcomes. Chapter 9 will replicate this structure, in relation to Leadership Performance Indicators. The implications of these findings in connection with the literature will be discussed in Chapter 10 and 11.

8.1 Perceived Leadership Outcomes: Analysing Independence between Rater Groups

This section presents the key findings of the ANOVA of repeated measures to establish the independence between rater groups (self, superiors, peers, followers) in the case of the measurement of Perceived Leadership Outcomes through the MLQ 360 and discusses the implications of these findings regarding Research Proposition 6.

Research Proposition 6 stated that:

The Leadership Outcomes of a group of leaders will be perceived differently depending on who evaluates them: the leaders themselves, their superiors, peers, or followers.

Accordingly, it has been verified if the scores that the participants achieve in each area of Perceived Leadership Outcomes differ depending on the rater group who is evaluating this dimension (Table 67). The results show that scores vary significantly in Overall Effectiveness ($F(2,787, 309,320) = 26,970, p < .001, \eta^2 = .195$); in Extra Effort ($F(3, 309) = 33,532, p < .001, \eta^2 = .246$); and in Satisfaction with the Leader ($F(3, 336) = 20,436, p < .001, \eta^2 = .154$). In the three cases, the difference between rater groups was observed to be large.

Table 67: Means, standard deviations and one-way ANOVAs for the MLQ scales measuring Perceived Leadership Outcomes (MLQ) per rater group.

	Self			Superiors			Peers			Followers			<i>p</i>
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	
EFF	112	4.25	0.44	112	4.11	0.55	112	3.87	0.47	112	4.36	0.43	<.001*
EE	104	4.17	0.60	104	3.85	0.72	104	3.43	0.64	104	4.10	0.57	<.001*
SAT	113	4.27	0.44	113	4.06	0.69	113	3.79	0.58	113	4.19	0.55	<.001*

Note. *M* = Mean; *SD* = Standard deviation; *EFF* = Overall Effectiveness; *EE* = Extra Effort; *SAT* = Satisfaction.

* $p < .05$

Analysing comparisons between pairs of rater groups in each of the dimensions of Perceived Leadership Outcomes, it follows that:

- In terms of Overall Effectiveness, the rating of followers (4.36) is higher than that of peers (3.87) ($p < .001$) and superiors (4.11) ($p < .001$); the leader's self-assessment (4.25) is higher than that of peers (3.87) ($p < .001$); and the rating of superiors (4.11) is higher than that of peers (3.87) ($p < .001$).
- In terms of Extra Effort, the leaders' self-assessment (4.17) is higher than the evaluation by superiors (3.85) ($p = .002$) and peers (3.43) ($p < .001$); the assessment of followers (4.10) is higher than that of superiors (3.85) ($p = .026$) and peers (3.43) ($p < .001$); and the assessment of superiors (3.85) is higher than that of peers (3.43) ($p < .001$).

- In Satisfaction with Leadership, the leader's self-assessment (4.27) is higher than the rating made by superiors (4.06) ($p = .018$) and peers (3.79) ($p < .001$); the rating of followers (4.19) is higher than that of peers (3.79) ($p < .001$); and the rating of superiors (4.06) is higher than that of peers (3.79) ($p < .001$).

In summary, the results of the successive one-way ANOVA analyses, showed that the different rater groups present significantly different rating patterns of the three dimensions of Perceived Leadership Outcomes identified by the model.

RP 6 is, therefore, supported.

The implications of these differences in the perception between rater groups and their connection to literature are further discussed in Chapters 10 and 11. More generally, these results confirm the convenience of separating per rater group when analysing the relationship between the Leaders' self-assessed Enneagram type scores and the ratings of Perceived Leadership Outcomes. The results of these analyses are presented in the sections that follow.

8.2 The Enneagram Model and Self-Ratings of Perceived Leadership Outcomes

This section presents the main findings of the multiple linear regressions examining the relationship between the Enneagram personality model, self-assessed by a group of leaders, and their Perceived Leadership Outcomes, as rated by the leaders themselves. The validity of Research Proposition 7 in relation to these results is examined, and the key findings are highlighted.

Research Proposition 7 stated that:

RP7: Leaders' self-assessed Enneagram-type scores will be significantly associated with self-ratings of their Leadership Outcomes.

Table 68 shows the results of the multiple linear regression analyses of the three dimensions of self-rated Leadership Outcomes in relation to the Enneagram type scores.

In the case of Overall Effectiveness, two Enneagram types obtain significant and moderate Beta values: Enneagram 9, The Peacemaker ($\beta = .336$), and Enneagram 3, The

Achiever ($\beta = .313$). The rest of the types do not yield statistically significant coefficients; and the model explains a significant 14.6% of the variance of self-perceived Overall Effectiveness.

In the case of perceived Extra Effort, none of the personality coefficients is statistically significant, but the overall model explains 9.3% of the variance in perceived Extra Effort and it is found to be significant ($F(9, 120) = 2.476; p = .013$).

In the case of Satisfaction with the Leader, the only significant, yet weak association is that of Enneagram 9, The Peacemaker ($\beta = .235$), while the other Enneagram subscales do not show statistical significance. The overall model explains 7.7% of the variance in self-rated Satisfaction, still significant.

VIF values (< to 1.63) and tolerance statistics (between .61 and .76) suggest that there are no collinearity problems. In all models the Durbin-Watson statistic had a value of around 2, meeting the assumption of independence of residuals.

Table 68: Multiple regression analysis of self-assessed Enneagram type scores and self-assessed Perceived Leadership Outcomes.

	Variables	B	β	t	p	T	VIF	Model
EFF	Constant	2.390		4.668	.000**			$R^2 = .205$ $R^2_{\text{adjusted}} = .146$ $F(9, 120) = 3.447;$ $p = .001^{**}$ D-W = 2.154
	Enneagram 1	-.070	-.078	-.752	.453	.614	1.629	
	Enneagram 2	-.128	-.183	-1.903	.059	.718	1.393	
	Enneagram 3	.266	.313	3.144	.002**	.667	1.499	
	Enneagram 4	-.063	-.093	-.940	.349	.681	1.468	
	Enneagram 5	.007	.008	.087	.931	.736	1.358	
	Enneagram 6	.025	.034	.380	.704	.823	1.215	
	Enneagram 7	.122	.139	1.444	.151	.716	1.397	
	Enneagram 8	.027	.037	.391	.696	.756	1.322	
	Enneagram 9	.310	.336	3.495	.001**	.717	1.394	
EE	Constant	1.483		2.174	.032*			$R^2 = .157$ $R^2_{\text{adjusted}} = .093$ $F(9, 120) = 2.476;$ $p = .013^*$ D-W = 2.302
	Enneagram 1	.114	.099	.921	.359	.614	1.629	
	Enneagram 2	-.130	-.144	-1.451	.149	.718	1.393	
	Enneagram 3	.216	.197	1.923	.057	.667	1.499	
	Enneagram 4	-.049	-.056	-.548	.585	.681	1.468	
	Enneagram 5	.090	.080	.816	.416	.736	1.358	
	Enneagram 6	.008	.008	.090	.929	.823	1.215	
	Enneagram 7	.197	.174	1.751	.082	.716	1.397	
	Enneagram 8	.082	.087	.902	.369	.756	1.322	
	Enneagram 9	.194	.163	1.643	.103	.717	1.394	
SAT	Constant	2.587		4.623	.000**			$R^2 = .142$ $R^2_{\text{adjusted}} = .077$ $F(9, 120) = 2.198;$ $p = .027^*$ D-W = 2.040
	Enneagram 1	.099	.105	.972	.333	.614	1.629	
	Enneagram 2	-.025	-.034	-.340	.734	.718	1.393	
	Enneagram 3	.110	.123	1.191	.236	.667	1.499	
	Enneagram 4	-.112	-.157	-1.531	.128	.681	1.468	
	Enneagram 5	.011	.013	.127	.899	.736	1.358	
	Enneagram 6	.012	.016	.168	.867	.823	1.215	
	Enneagram 7	.144	.157	1.566	.120	.716	1.397	
	Enneagram 8	-.049	-.064	-.663	.509	.756	1.322	
	Enneagram 9	.228	.235	2.352	.020*	.717	1.394	

Note. EFF = Overall Effectiveness; EE = Extra Effort; SAT = Satisfaction; T = Tolerance; VIF = Variance inflation factor; D-W = Durbin-Watson; * $p < .05$, ** $p < .01$

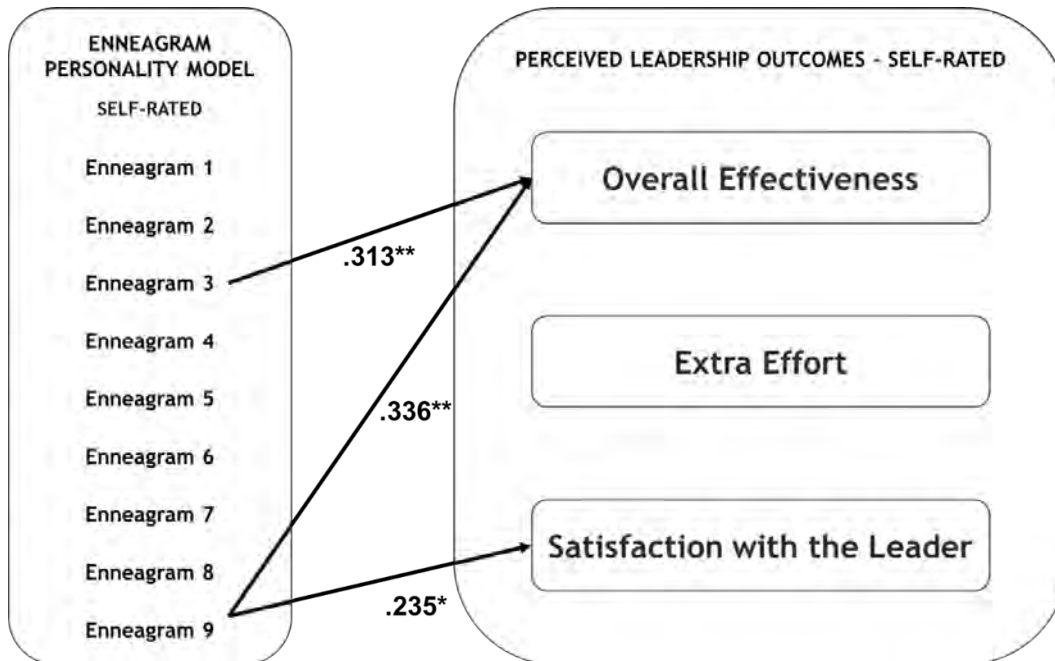
Overall, these findings show a weak yet significant association between the Enneagram types Scores and Self-rated Leadership Outcomes. As seen above, the Enneagram Model as a whole explained between 7.7% and 14.6% of the total variance in the dimensions of Perceived Leadership Outcomes, all significant, albeit small. Regarding the individual Enneagram subscales, only three significant relationships were found between only two of the types and the self-ratings of Perceived Leadership Outcomes; two of them moderate, and one small.

RP 7, then, is partially supported.

In other words, despite the very small number of individual associations found, it is still possible to say that the Enneagram model as a whole was significantly, albeit weakly, associated with Leaders' self-perceived Leadership Outcomes.

Figure 17 summarises the significant relationships found between the Enneagram personality model and self-rated Leadership Outcomes.

Figure 17: Findings on the relationship between the Enneagram type scores and self-rated Perceived Leadership Outcomes.



As for the few significant associations that were found, these indicate that leaders scoring high in Enneagram 3 (The Achiever) tended to perceive themselves as overall effective leaders, while those scoring high in Enneagram 9 (The Peacemaker), viewed themselves in a positive light not only regarding their Overall Effectiveness, but also regarding the level of Satisfaction that their teams have over their Leadership. Although the relationships found were expected from literature, the very low number of associations found is unexpected, more so considering the high level of association found between the Enneagram types and the self-ratings of Leadership Behaviour. The possible explanations of these findings and absence of findings and their connections with the literature are discussed in Chapters 10 and 11.

8.3 The Enneagram Model and Superiors' Ratings of Perceived Leadership Outcomes

This section presents the main findings of the multiple linear regressions performed to examine the relationship between the Enneagram personality Model, self-assessed by a group of leaders, and their Perceived Leadership Outcomes, as rated by their superiors. The validity of Research Proposition 8 in relation to these results is examined, and the main findings are highlighted and summarised.

Research Proposition 8 stated that:

Leaders' self-assessed Enneagram-type scores will be significantly associated with superiors' ratings of their Leadership Outcomes.

Table 69 shows the regression analyses of the three dimensions of Perceived Leadership Outcomes evaluated by superiors with respect to the Enneagram personality type scores.

In the case of Overall Effectiveness perceived by superiors, the model explains 2.4% of the variance but has not been significant ($F(9, 104) = 1.308; p = .242$); the coefficients of the independent variables have not been significant except for a small and negative beta value of Enneagram 5, The Investigator ($\beta = -.277$).

In the case of perceived Extra Effort, the model cannot explain the variance and has been non-significant ($F(9, 96) = .724; p = .685$); the coefficients of the independent variables were not significant except for, once again, a small and negative beta value of Enneagram 5, The Investigator ($\beta = -.250$).

In the case of Satisfaction with the Leader as perceived by superiors, the model also cannot explain the variance and is not significant ($F(9, 105) = .947; p = .488$); while the only coefficient of personality found to be significant was, yet again, a small and negative Beta value of Enneagram 5 ($\beta = -.252$).

VIF (< to 1.67) and tolerance (between .59 and .81) values indicate that there are no collinearity problems. The Durbin-Watson statistic in the models is close to 2, respecting the independence of residuals.

Table 69: Multiple regression analysis of self-assessed Enneagram type scores and superiors' ratings of Perceived Leadership Outcomes.

	Variables	B	β	t	p	T	VIF	Model
EFF	Constant	4.869		6.710	.000**			$R^2 = .102$ $R^2_{\text{adjusted}} = .024$ $F(9, 104) = 1.308;$ $p = .242$ $D-W = 2.145$
	Enneagram 1	-.031	-.027	-.229	.820	.599	1.669	
	Enneagram 2	-.129	-.148	-1.338	.184	.708	1.412	
	Enneagram 3	.016	.016	.138	.890	.685	1.461	
	Enneagram 4	.175	.208	1.777	.079	.629	1.590	
	Enneagram 5	-.294	-.277	-2.463	.015*	.682	1.466	
	Enneagram 6	.126	.140	1.347	.181	.797	1.254	
	Enneagram 7	.044	.041	.371	.712	.707	1.415	
	Enneagram 8	-.104	-.119	-1.052	.295	.677	1.477	
	Enneagram 9	.002	.001	.012	.990	.715	1.399	
EE	Constant	4.900		4.832	.000**			$R^2 = .064$ $R^2_{\text{adjusted}} = -.024$ $F(9, 96) = .724;$ $p = .685$ $D-W = 2.232$
	Enneagram 1	-.137	-.090	-.724	.471	.630	1.588	
	Enneagram 2	.022	.019	.159	.874	.709	1.411	
	Enneagram 3	.078	.057	.481	.632	.696	1.436	
	Enneagram 4	.140	.130	1.038	.302	.623	1.604	
	Enneagram 5	-.350	-.250	-2.129	.036*	.706	1.417	
	Enneagram 6	.054	.045	.406	.686	.805	1.242	
	Enneagram 7	-.010	-.007	-.059	.953	.677	1.476	
	Enneagram 8	-.080	-.069	-.584	.560	.691	1.448	
	Enneagram 9	.002	.001	.010	.992	.731	1.368	
SAT	Constant	4.658		5.045	.000**			$R^2 = .075$ $R^2_{\text{adjusted}} = -.004$ $F(9, 105) = .947;$ $p = .488$ $D-W = 2.033$
	Enneagram 1	-.116	-.080	-.663	.509	.601	1.665	
	Enneagram 2	.077	.070	.627	.532	.706	1.416	
	Enneagram 3	.105	.079	.701	.485	.686	1.458	
	Enneagram 4	.125	.118	.998	.321	.628	1.592	
	Enneagram 5	-.337	-.252	-2.218	.029*	.683	1.465	
	Enneagram 6	.135	.119	1.134	.259	.801	1.248	
	Enneagram 7	-.031	-.023	-.207	.836	.706	1.417	
	Enneagram 8	-.165	-.149	-1.307	.194	.677	1.477	
	Enneagram 9	.050	.035	.316	.753	.714	1.401	

Note. EFF = Overall Effectiveness; EE = Extra Effort; SAT = Satisfaction; T = Tolerance; VIF = Variance inflation factor; D-W = Durbin-Watson; * $p < .05$, ** $p < .01$

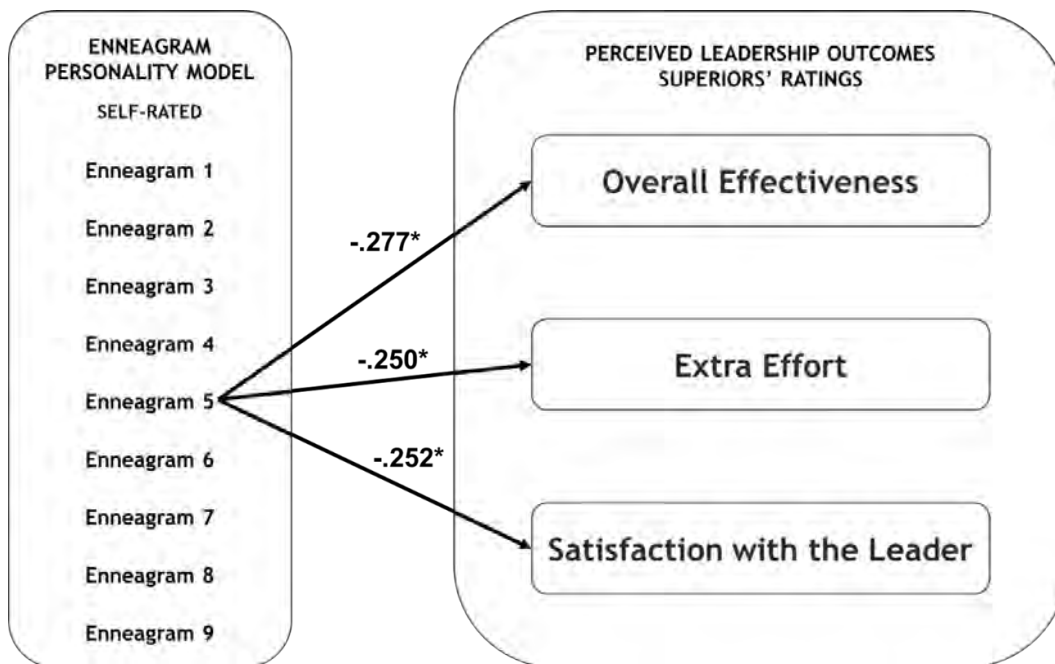
Overall, results show that only one Enneagram subscale was significantly associated with the perception of superiors regarding the dimensions of Perceived Leadership Outcomes, while the model as a whole was not able to explain the variance in any of the three dimensions measured.

Therefore, RP 8 is not supported.

In other words, building from these overall results, it is not possible to claim that the self-assessed Enneagram personality profile of a group of leaders is associated with their superiors' perception of their Leadership Outcomes.

Having said that, it is interesting to note that Enneagram 5, The Investigator, is consistently, albeit weakly, associated with negative perceptions of their superiors regarding their Leadership Outcomes, as represented in figure 18.

Figure 18: Findings on the relationship between the Enneagram type scores and superiors' ratings of Perceived Leadership Outcomes.



In other words, superiors tended to perceive Enneagram 5 leaders as creating dissatisfaction in others, unable to elicit additional effort and commitment from their teams, and generally ineffective in their leadership. However, the absence of any other pattern of association are difficult to explain from the literature, and could be indicating a measurement problem, or a deficiency in the model. The implications of these findings will be further discussed in Chapters 10 and 11.

8.4 The Enneagram Model and Peers' Ratings of Perceived Leadership Outcomes

This section presents the main findings of the multiple linear regressions exploring the relationship between the self-assessed Enneagram personality type scores of a group of leaders, and their Perceived Leadership Outcomes, as rated by their peers. The validity of Research Proposition 9 is examined in relation to these results, and the key findings are highlighted and summarised.

Research Proposition 9 stated that:

Leaders' self-assessed Enneagram-type scores will be significantly associated with peers' ratings of their Leadership Outcomes.

Table 70 shows the regression analyses of the three dimensions of Perceived Leadership Outcomes evaluated by peers with respect to the Enneagram personality subscales.

In the case of Overall Effectiveness and Extra Effort, the models do not explain the variance and are not significant ($F(9, 121) = .919; p = .511$) ($F(9, 121) = .911; p = .518$); likewise, the coefficients of the independent variables have not been significant in either model.

In the case of Satisfaction with the Leader perceived by peers, the overall model explains 2.9% of the variance but is not significant ($F(9, 121) = 1.439; p = .179$); although two Enneagram subscales obtained significant but small beta values, one of which indicates a negative relationship: Enneagram 1, The Reformer ($\beta = -.247$); and the other positive: Enneagram 6, The Loyalist ($\beta = .223$).

There are no collinearity problems according to VIF values (< to 1.66) and tolerance (between .60 and .76) nor of residue independence (Durbin-Watson statistic close to 2).

Table 70: Multiple regression analysis of self-assessed Enneagram type scores and peers' ratings of Perceived Leadership Outcomes.

	Variables	B	β	t	p	T	VIF	Model
EFF	Constant	3.552		5.843	.000**			$R^2 = .064$ $R^2_{\text{adjusted}} = -.006$ $F(9, 121) = .919;$ $p = .511$ $D-W = 1.991$
	Enneagram 1	-.196	-.198	-1.752	.082	.605	1.654	
	Enneagram 2	.018	.024	.227	.821	.710	1.408	
	Enneagram 3	-.021	-.022	-.209	.835	.678	1.476	
	Enneagram 4	.011	.014	.136	.892	.683	1.463	
	Enneagram 5	-.056	-.058	-.566	.572	.739	1.352	
	Enneagram 6	.153	.186	1.901	.060	.811	1.233	
	Enneagram 7	.014	.014	.135	.892	.706	1.417	
	Enneagram 8	.103	.128	1.262	.209	.750	1.333	
	Enneagram 9	.092	.089	.858	.393	.713	1.402	
EE	Constant	3.128		3.712	.000**			$R^2 = .063$ $R^2_{\text{adjusted}} = -.006$ $F(9, 121) = .911;$ $p = .518$ $D-W = 1.919$
	Enneagram 1	-.255	-.187	-1.649	.102	.605	1.654	
	Enneagram 2	.052	.049	.465	.643	.710	1.408	
	Enneagram 3	-.074	-.057	-.532	.595	.678	1.476	
	Enneagram 4	.002	.002	.016	.987	.683	1.463	
	Enneagram 5	-.048	-.036	-.351	.726	.739	1.352	
	Enneagram 6	.183	.161	1.643	.103	.811	1.233	
	Enneagram 7	-.018	-.013	-.127	.899	.706	1.417	
	Enneagram 8	.157	.141	1.388	.168	.750	1.333	
	Enneagram 9	.127	.089	.854	.395	.713	1.402	
SAT	Constant	2.990		4.167	.000**			$R^2 = .097$ $R^2_{\text{adjusted}} = .029$ $F(9, 121) = 1.439;$ $p = .179$ $D-W = 1.903$
	Enneagram 1	-.293	-.247	-2.219	.028*	.605	1.654	
	Enneagram 2	.102	.109	1.067	.288	.710	1.408	
	Enneagram 3	.055	.049	.468	.641	.678	1.476	
	Enneagram 4	.001	.001	.009	.993	.683	1.463	
	Enneagram 5	-.019	-.016	-.161	.872	.739	1.352	
	Enneagram 6	.220	.223	2.324	.022*	.811	1.233	
	Enneagram 7	-.014	-.013	-.122	.903	.706	1.417	
	Enneagram 8	.064	.066	.663	.509	.750	1.333	
	Enneagram 9	.149	.121	1.179	.241	.713	1.402	

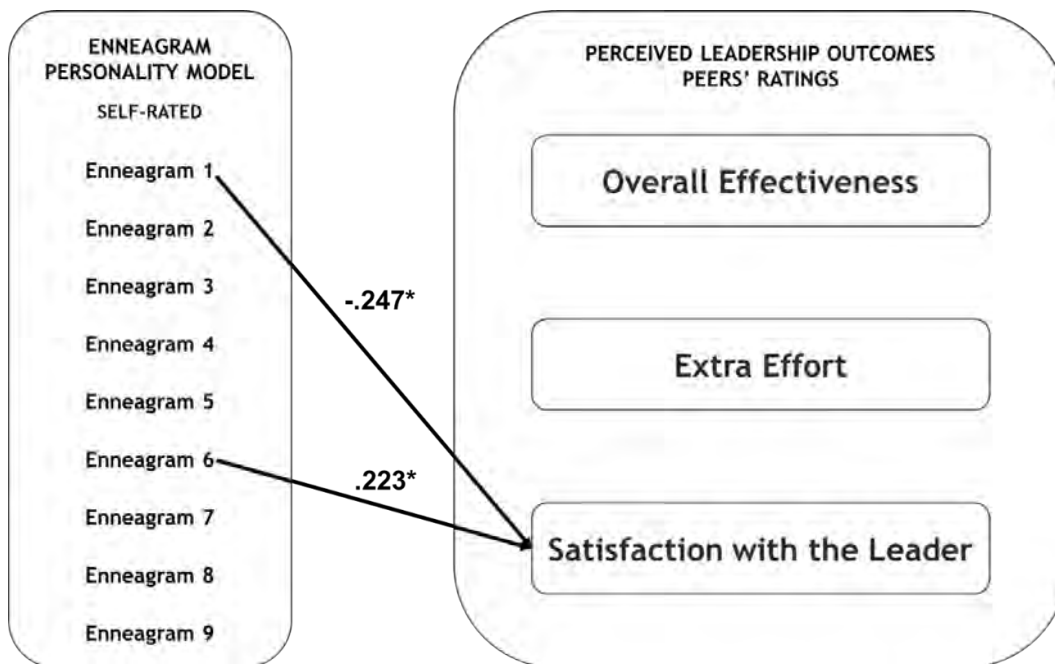
Note. EFF = Overall Effectiveness; EE = Extra Effort; SAT = Satisfaction; T = Tolerance; VIF = Variance inflation factor; D-W = Durbin-Watson; * $p < .05$, ** $p < .01$

Overall, the Enneagram Model as a whole was unable to explain a significant portion of the variance in any of the outcome variables. Furthermore, only two of the Enneagram Subscales were found to be significantly but weakly related to only one of the Leadership Outcomes perceived by peers.

Thus, taking the evidence together, RP 9 is not supported.

In other words, judging by the results of this study, it is not possible to affirm that Leaders' self-assessed Enneagram-type scores will be significantly associated with their peers' ratings of their Leadership Outcomes. Figure 19 represents these findings.

Figure 19: Findings on the relationship between the Enneagram type scores and peers' ratings of Perceived Leadership Outcomes.



It is interesting that the only two associations found refer to the same Perceived Outcome, Satisfaction with the Leader, which is the most more connected to the relational aspects of a leader's performance. This suggests that peers' judgement of their colleagues' leadership is driven primarily by relational aspects, and not those related to task or goal achievement.

More specifically, it is noted that peers were significantly, although weakly, dissatisfied with leaders scoring high on Enneagram 1, The Reformer; while they were significantly, if weakly, satisfied with the leadership of those who scored high on Enneagram 6, The Loyalist. Finally, it is striking that there is no other noteworthy perception on the part of peers. Again, the possible explanations to these findings and their connections with the literature will be discussed in Chapters 10 and 11.

8.5 The Enneagram Model and Followers' Ratings of Perceived Leadership Outcomes

This section presents the main findings of the multiple linear regressions exploring the relationship between the self-assessed Enneagram personality type scores of a group of

leaders, and their Perceived Leadership Outcomes, as rated by their followers. The validity of Research Proposition 10 is examined in relation to these results, and the main findings are summarised and highlighted.

Research Proposition 10 proposed that:

Leaders' self-assessed Enneagram type scores will be significantly associated with followers' ratings of their Leadership Outcomes.

Table 71 shows the regression analyses of the three dimensions of Perceived Leadership Outcomes as rated by followers, in relation to the Enneagram type scores.

In the case of Overall Effectiveness and Extra Effort, the models do not explain the variance and are not significant ($F(9, 121) = .326; p = .965$) ($F(9, 121) = .425; p = .919$); and the coefficients of the independent variables were not significant in either model. In the case of followers' perception of Satisfaction with the Leader, the model explains 1% of the variance but is not significant ($F(9, 121) = 1.152; p = .332$); and none of the coefficients of the independent variables are significant in relation to this outcome.

VIF (< to 1.62) and tolerance (between .62 and .76) values show the absence of collinearity problems and the value of Durbin-Watson close to 2 indicates the independence of residuals.

Table 71: Multiple regression analysis of self-assessed Enneagram type scores and followers' ratings of Perceived Leadership Outcomes.

	Variables	B	β	t	p	T	VIF	Model
EFF	Constant	4.881		8.847	.000**			$R^2 = .024$ $R^2_{\text{adjusted}} = -.049$ $F(9, 121) = .326;$ $p = .965$ $D-W = 1.892$
	Enneagram 1	-.081	-.094	-.824	.412	.620	1.612	
	Enneagram 2	.040	.059	.565	.573	.741	1.349	
	Enneagram 3	.053	.066	.610	.543	.694	1.442	
	Enneagram 4	-.028	-.043	-.395	.693	.687	1.455	
	Enneagram 5	.008	.010	.091	.928	.730	1.370	
	Enneagram 6	-.032	-.045	-.452	.652	.808	1.237	
	Enneagram 7	.027	.032	.307	.759	.729	1.372	
	Enneagram 8	-.055	-.079	-.762	.448	.757	1.322	
	Enneagram 9	-.079	-.087	-.823	.412	.720	1.389	
EE	Constant	4.165		5.615	.000**			$R^2 = .031$ $R^2_{\text{adjusted}} = -.041$ $F(9, 121) = .425;$ $p = .919$ $D-W = 2.091$
	Enneagram 1	.088	.076	.665	.507	.620	1.612	
	Enneagram 2	.083	.091	.873	.385	.741	1.349	
	Enneagram 3	-.093	-.085	-.790	.431	.694	1.442	
	Enneagram 4	-.098	-.112	-1.036	.302	.687	1.455	
	Enneagram 5	.064	.057	.548	.585	.730	1.370	
	Enneagram 6	-.088	-.093	-.934	.352	.808	1.237	
	Enneagram 7	.071	.063	.601	.549	.729	1.372	
	Enneagram 8	-.052	-.056	-.542	.588	.757	1.322	
	Enneagram 9	-.023	-.019	-.180	.857	.720	1.389	
SAT	Constant	5.003		7.018	.000**			$R^2 = .079$ $R^2_{\text{adjusted}} = .010$ $F(9, 121) = 1.152;$ $p = .332$ $D-W = 1.976$
	Enneagram 1	-.215	-.187	-1.691	.093	.620	1.612	
	Enneagram 2	.155	.171	1.685	.095	.741	1.349	
	Enneagram 3	-.004	-.004	-.035	.972	.694	1.442	
	Enneagram 4	-.085	-.099	-.944	.347	.687	1.455	
	Enneagram 5	.032	.029	.283	.777	.730	1.370	
	Enneagram 6	.010	.010	.107	.915	.808	1.237	
	Enneagram 7	.035	.032	.308	.758	.729	1.372	
	Enneagram 8	-.106	-.114	-1.136	.258	.757	1.322	
	Enneagram 9	-.053	-.044	-.429	.668	.720	1.389	

Note. EFF = Overall Effectiveness; EE = Extra Effort; SAT = Satisfaction; T = Tolerance; VIF = Variance inflation factor; D-W = Durbin-Watson; * $p < .05$, ** $p < .01$

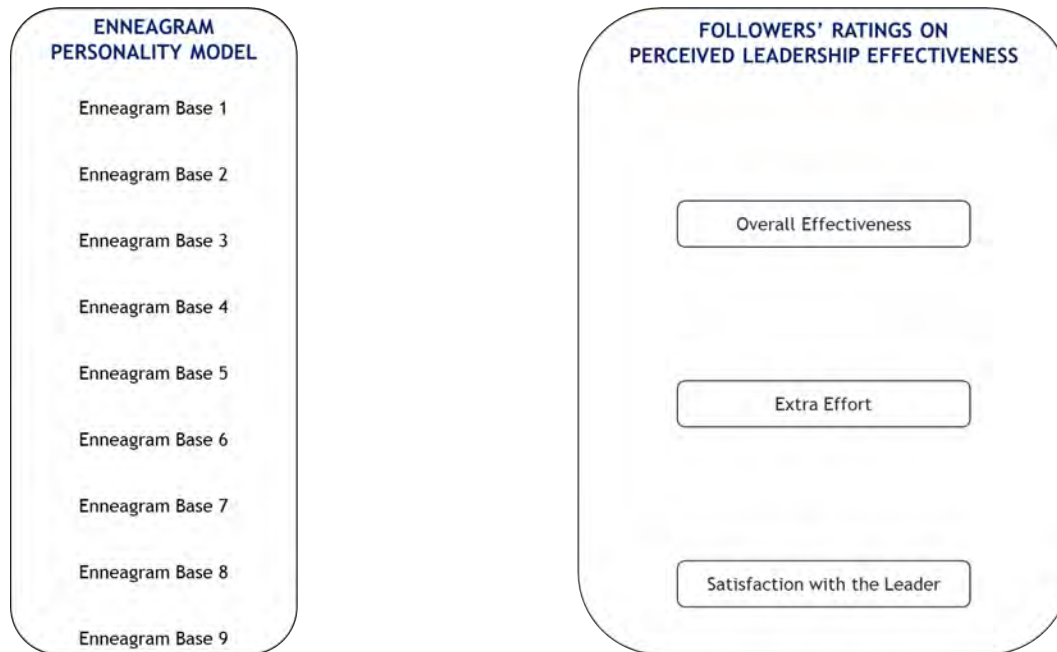
Overall, these results indicate that there is no association between leaders' self-assessed Enneagram type scores, and their followers' perception of their Leadership Outcomes, while the model as a whole is unable to explain a significant portion of the total variance in any of these Perceived Outcomes.

Therefore, 10 is not supported.

In other words, judging by the results of this study, it is not possible to claim that Leaders' self-assessed Enneagram-type scores will be significantly associated with their

followers' ratings of their Leadership Outcomes. Figure 20 represents this absence of significant relationships.

Figure 20: Absence of relationships between the Enneagram type scores and followers' ratings of Perceived Leadership Outcomes.



As noted before in relation to followers' ratings of Leadership Behaviours, this total lack of associations is unexpected from the literature, given the impact that the personality of leaders is expected to have on their followers' organisational lives as well as on the results of their teams (Antonakis, Ashkanasy and Dasborough, 2009; Schyns and Schilling, 2013) This absence of findings will be further discussed in chapters 10 and 11.

8.6 The Enneagram Model and Perceived Leadership Outcomes: Summary and Conclusion

This study's second Research Objective was:

To examine the relationship between the Enneagram Types and Perceived Leadership Outcomes, from the perspective of superiors, peers, followers, and leaders themselves.

This chapter went through the main findings regarding this Research Objective and the five Research Propositions used to guide its exploration. This section provides a visual summary of these findings, and highlights the main trends that were observed.

Table 72 consolidates these findings organised by Enneagram type and by rater group. Only the significant Beta values are included.

Table 72: Summary of multiple regression analyses of self-assessed Enneagram type scores and Perceived Leadership Outcomes rated by self, superiors, peers and followers.

Summary of Findings	MULTIPLE REGRESSIONS OF SELF-ASSESSED ENNEAGRAM SCALES AND PERCEIVED LEADERSHIP OUTCOMES ACCORDING TO DIFFERENT RATER GROUPS			
	Self	Superiors	Peers	Followers
Enneagram 1	—	—	SAT = ($\beta = -.247$)*	—
Enneagram 2	—	—	—	—
Enneagram 3	EFF = ($\beta = .313$)**	—	—	—
Enneagram 4	—	—	—	—
Enneagram 5	—	EFF = ($\beta = -.277$)* EE = ($\beta = -.250$)* SAT = ($\beta = -.252$)*	—	—
Enneagram 6	—	—	SAT = ($\beta = .223$)*	—
Enneagram 7	—	—	—	—
Enneagram 8	—	—	—	—
Enneagram 9	EFF = ($\beta = .336$)** SAT = ($\beta = .235$)*	—	—	—

Note. β = Beta value; EFF = Overall Effectiveness; EE = Extra Effort; SAT = Satisfaction with the Leader.

* $p < .05$; ** $p < .01$.

Table 73 reproduces a summary of the percentage of the variance in each dimension of Perceived Leadership Outcomes, explained by the Enneagram model:

Table 73: Percentage (%) of the variance in Perceived Leadership Outcomes explained by the self-assessed Enneagram model as a whole, according to the different rater groups.

Summary of Findings	% OF THE VARIANCE IN PERCEIVED LEADERSHIP OUTCOMES EXPLAINED BY THE ENNEAGRAM MODEL			
	Self	Superiors	Peers	Followers
EFF	14.6%	2.4%	—	—
EE	9.3%	—	—	—
SAT	7.7%	—	2.9%	1%

Note. EFF = Overall Effectiveness; EE = Extra Effort; SAT = Satisfaction.

* $p < .05$; ** $p < .01$.

Table 74 provides an overview of the confirmation status of the Research Propositions reviewed in this chapter:

Table 74: Summary of Research Propositions and confirmation status, regarding the associations between the Enneagram personality model and Perceived Leadership Outcomes.

Research Propositions	Supported/ Not supported
RP6: The Perceived Leadership Outcomes of a group of leaders will differ depending on who rates them: the leaders themselves, their superiors, peers, or followers.	Supported.
RP7: Leaders' self-assessed Enneagram-type scores will be significantly associated with their self-ratings of their Leadership Outcomes.	Partially supported.
RP8: Leaders' self-assessed Enneagram-type scores will be significantly associated with their superiors' ratings of their Leadership Outcomes.	Not supported.
RP9: Leaders' self-assessed Enneagram-type scores will be significantly associated with their peers' ratings of their Leadership Outcomes.	Not supported.
RP10: Leaders' self-assessed Enneagram-type scores will be significantly associated with their followers' ratings of their Leadership Outcomes.	Not supported.

In sum, the results of this study suggest that the relationship between the Enneagram model and Perceived Leadership Outcomes is from weak to non-existent. Only in the case of self-perceived Leadership Outcomes, the model as a whole was able to explain a significant, but small percentage of the variance in the three dependent variables.

Regarding the individual Enneagram subscales, five of the nine types were significantly associated with Perceived Leadership Outcomes; two of them with Self-ratings, and three with others' ratings. Overall, only eight significant associations were found out of a possible total of 108 (9*3*4), two of them being moderate and the rest weak.

That said, the few significant associations found suggest that Enneagram 3, the Achiever, and Enneagram 9, the Peacemaker, have a positive regard for their own Leadership Effectiveness, while no other raters seem to share this perception. superiors seem critical of the Leadership Outcomes of Enneagram 5, the Investigator; while peers are dissatisfied with the leadership of Enneagram 1, the Reformer, and satisfied with that of Enneagram 6, the Loyalist. The implications of these findings and their connections to the literature will be discussed in more detail in Chapters 10 and 11.

Concluding, this chapter presented the results from the multiple regressions exploring the relationship between the Enneagram personality model and Perceived Leadership Outcomes, distinguishing among the perspectives of four rater groups: self, superiors, peers, and followers. The next chapter will examine the relationship between this personality model and a series of Leadership Performance Indicators obtained from company data.

Chapter 9. Results: The Enneagram Model and Leadership Performance Indicators

Chapter 8 presented the results regarding the second Research Objective of this study, examining the relationship between Enneagram type and Perceived Leadership Outcomes, from the perspective of superiors, peers, followers, and leaders themselves. The current chapter will present the results regarding the third Research Objective:

To examine the relationship between the Enneagram Types and Leadership Performance Indicators obtained from company data.

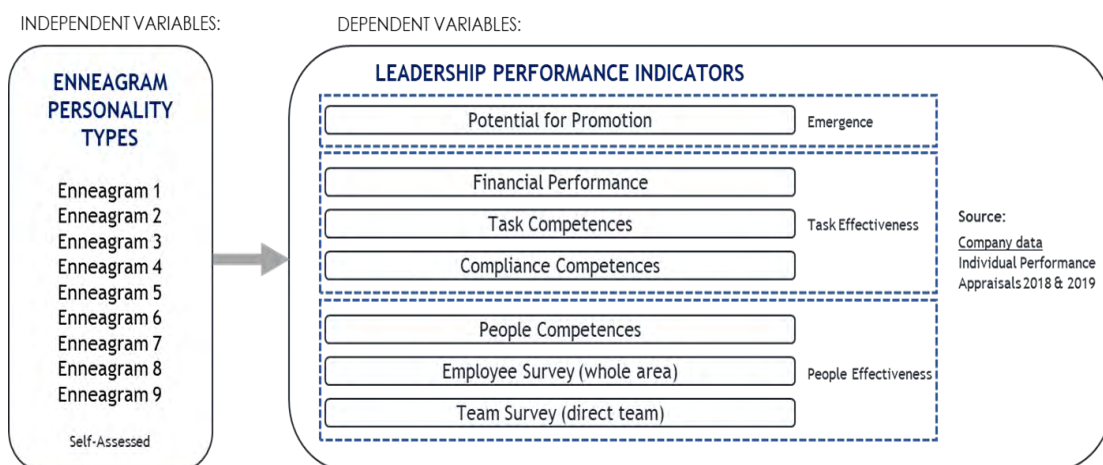
Specifically, the section discusses the main findings of multiple linear regressions regarding the relationship between self-assessed Enneagram type scores and several Leadership Performance Indicators obtained from company data. The validity of Research Proposition 11 is examined in relation to these results, and the main findings are summarised and highlighted.

Research Proposition 11 proposed that:

Leaders’ self-assessed Enneagram-type scores will be significantly associated with the Performance Indicators they obtain in the exercise of their role.

This is represented in the Figure 21.

Figure 21: Conceptual Framework of the relationship between the Enneagram and Leadership Performance Indicators.



The findings will be presented in three groups of performance indicators: Leadership Emergence, Task Leadership Effectiveness, and People Leadership Effectiveness. The chapter will end with a summary of the results, highlighting the key findings and establishing whether or not they support the validity of the Research Proposition involved. The implications of these findings in connection with the literature will be discussed in Chapter 10 and 11.

9.1 The Enneagram Model and a Performance Indicator of Leadership Emergence

Table 75 shows the linear regression analyses for the first Leadership Performance Indicator provided by the company, Potential for Promotion, in relation to the Enneagram type scores. Potential for Promotion is considered an indicator of Leadership Emergence, as it refers to the score given by a committee of senior executives of the organisation that estimates the probability that a leader will occupy positions of greater responsibility in the future.

In the case of Potential for Promotion, the model was unable to explain the variance and the analysis has been non-significant ($F(9, 107) = .547$; $p = .837$); likewise, all coefficients of independent variables were non-significant.

Table 75: Multiple regression analysis of self-assessed Enneagram type scores and a Performance Indicator of Leadership Emergence.

Variables	B	β	t	p	T	VIF	Model
Constant	3.867		2.256	.026*			$R^2 = .044$ $R^2_{\text{adjusted}} = -.036$ $F(9, 107) = .547$; $p = .837$ D-W = 2.342
Enneagram 1	-.158	-.061	-.505	.615	.614	1.628	
Enneagram 2	-.372	-.188	-1.560	.122	.614	1.630	
Enneagram 3	.048	.020	.167	.867	.654	1.528	
Enneagram 4	.019	.009	.080	.937	.641	1.559	
PfP Enneagram 5	-.240	-.095	-.786	.434	.611	1.637	
Enneagram 6	.207	.088	.781	.436	.712	1.405	
Enneagram 7	-.065	-.026	-.231	.817	.703	1.422	
Enneagram 8	.277	.113	.976	.331	.661	1.513	
Enneagram 9	.333	.134	1.120	.265	.624	1.603	

Note. PfP = Potential for Promotion; T = Tolerance; VIF = Variance inflation factor; D-W = Durbin-Watson;
* $p < .05$, ** $p < .01$.

9.2 The Enneagram Model and Performance Indicators of Task Effectiveness

Table 76 shows the linear regression analyses for the Leadership Performance Indicators related to Task Leadership Effectiveness, in relation to the Enneagram personality subscales.

In the case of Financial Performance, the model explains 6.4% of the variance but is still not significant ($F(9, 102) = 1.847; p = .069$); however, two of the coefficients of the independent variables were significant yet weak: those of Enneagram 1, The Reformer ($\beta = -.265$), and Enneagram 2, the Giver ($\beta = -.260$).

In relation to Task Competencies, the model explains 1.4% of the variance and has not been significant ($F(9, 102) = 1.174; p = .320$); in addition, the beta values of the independent variables have not been significant except for the negative but weak coefficient of Enneagram 2, the Giver ($\beta = -.287$).

In the case of Compliance Competencies, the model cannot explain the variance and has been non-significant ($F(9, 102) = .674; p = .731$); likewise, none of the coefficients of the independent variables were significant.

Table 76: Multiple regression analysis of self-assessed Enneagram type scores and Leadership Performance Indicators of Task Effectiveness.

	Variables	B	β	t	p	T	VIF	Model
TOFP	Constant	3.675		9.158	.000**			$R^2 = .140$ $R^2_{\text{adjusted}} = .064$ $F(9, 102) = 1.847;$ $p = .069$ D-W = 1.958
	Enneagram 1	-.163	-.265	-2.305	.023*	.637	1.569	
	Enneagram 2	-.130	-.260	-2.348	.021*	.688	1.454	
	Enneagram 3	.114	.199	1.706	.091	.619	1.616	
	Enneagram 4	-.075	-.155	-1.348	.181	.636	1.572	
	Enneagram 5	.084	.132	1.184	.239	.674	1.484	
	Enneagram 6	.038	.062	.592	.555	.762	1.313	
	Enneagram 7	.048	.080	.724	.471	.699	1.431	
	Enneagram 8	.011	.018	.161	.872	.689	1.451	
	Enneagram 9	.009	.013	.122	.903	.716	1.397	
TCA	Constant	3.692		7.355	.000**			$R^2 = .094$ $R^2_{\text{adjusted}} = .014$ $F(9, 102) = 1.174;$ $p = .320$ D-W = 1.831
	Enneagram 1	-.103	-.137	-1.163	.247	.637	1.569	
	Enneagram 2	-.175	-.287	-2.522	.013*	.688	1.454	
	Enneagram 3	-.011	-.016	-.132	.895	.619	1.616	
	Enneagram 4	-.005	-.009	-.077	.939	.636	1.572	
	Enneagram 5	.103	.133	1.156	.250	.674	1.484	
	Enneagram 6	.057	.077	.711	.479	.762	1.313	
	Enneagram 7	.025	.033	.296	.768	.699	1.431	
	Enneagram 8	.075	.102	.897	.372	.689	1.451	
	Enneagram 9	-.003	-.004	-.032	.975	.716	1.397	
CC	Constant	3.863		7.857	.000**			$R^2 = .056$ $R^2_{\text{adjusted}} = -.027$ $F(9, 102) = .674;$ $p = .731$ D-W = 1.321
	Enneagram 1	-.042	-.058	-.483	.630	.637	1.569	
	Enneagram 2	-.040	-.068	-.588	.558	.688	1.454	
	Enneagram 3	-.119	-.178	-1.453	.149	.619	1.616	
	Enneagram 4	.034	.061	.502	.617	.636	1.572	
	Enneagram 5	-.048	-.064	-.549	.584	.674	1.484	
	Enneagram 6	-.029	-.042	-.377	.707	.762	1.313	
	Enneagram 7	.077	.109	.950	.344	.699	1.431	
	Enneagram 8	.005	.007	.061	.951	.689	1.451	
	Enneagram 9	.049	.066	.578	.564	.716	1.397	

Note. TOFP = Financial Performance; TCA = Task Competencies; CC = Compliance Competencies; T = Tolerance; VIF = Variance inflation factor; D-W = Durbin-Watson; * $p < .05$, ** $p < .01$.

9.3 The Enneagram Model and Performance Indicators of People Effectiveness

The next table shows the linear regression analyses for the Enneagram personality type scores regarding Leadership Performance Indicators of People Effectiveness.

In the case of People (or Relational) Competencies, the model cannot explain the variance and has been non-significant ($F(9, 102) = .702$; $p = .706$). Likewise, none of the coefficients of the independent variables was significant.

In the case of Employees' Opinion (whole area), the model does not explain the variance nor is it significant ($F(9, 93) = .996; p = .449$), although the coefficient of Enneagram 2, the Giver, shows a significant, but weak, negative value of $\beta = -.267$.

Finally, in the case of the Opinion of the Team of Direct Reports, the model explains 2.7% of the variance and is non-significant ($F(9, 88) = 1.303; p = .247$); although again a significant, but weak, negative coefficient is observed for Enneagram 7, the Enthusiast ($\beta = -.264$) and a weak, significant positive coefficient for Enneagram 9, The Peacemaker ($\beta = .259$).

Overall, the VIF values (< to 1.78) and tolerance statistics (ranging from .56 to .77) indicate that there are no collinearity problems. In the models the Durbin-Watson statistic had a n value around 2, fulfilling the assumption of independence of the residuals, with the exception of Compliance Competencies, that shows a value of 1.321 although, being it was greater than 1, is not considered serious.

Table 77: Multiple regression analysis of self-assessed Enneagram type scores and Leadership Performance Indicators of People Effectiveness.

	Variables	B	β	t	p	T	VIF	Model
PC	Constant	2.916		7.703	.000**			$R^2 = .058$ $R^2_{\text{adjusted}} = -.025$ $F(9, 102) = .702;$ $p = .706$ D-W = 1.760
	Enneagram 1	-.021	-.037	-.311	.756	.637	1.569	
	Enneagram 2	-.042	-.092	-.798	.427	.688	1.454	
	Enneagram 3	.102	.197	1.614	.110	.619	1.616	
	Enneagram 4	.037	.084	.696	.488	.636	1.572	
	Enneagram 5	.005	.009	.077	.939	.674	1.484	
	Enneagram 6	-.033	-.061	-.555	.580	.762	1.313	
	Enneagram 7	.033	.060	.522	.603	.699	1.431	
	Enneagram 8	-.002	-.004	-.032	.975	.689	1.451	
	Enneagram 9	.036	.062	.543	.588	.716	1.397	
PO	Constant	61.114		5.416	.000**			$R^2 = .088$ $R^2_{\text{adjusted}} = .000$ $F(9, 93) = .996;$ $p = .449$ D-W = 2.034
	Enneagram 1	2.177	.137	1.063	.290	.595	1.681	
	Enneagram 2	-3.256	-.267	-2.050	.043*	.579	1.728	
	Enneagram 3	.615	.039	.324	.747	.662	1.511	
	Enneagram 4	-.579	-.045	-.360	.720	.641	1.561	
	Enneagram 5	.468	.030	.230	.818	.595	1.680	
	Enneagram 6	1.899	.130	1.089	.279	.686	1.457	
	Enneagram 7	-.664	-.043	-.357	.722	.688	1.453	
	Enneagram 8	-.410	-.028	-.229	.819	.672	1.489	
	Enneagram 9	2.053	.131	1.002	.319	.572	1.749	
POFP	Constant	102.407		7.805	.000**			$R^2 = .118$ $R^2_{\text{adjusted}} = .027$ $F(9, 88) = 1.303;$ $p = .247$ D-W = 1.882
	Enneagram 1	-.790	-.041	-.323	.748	.628	1.594	
	Enneagram 2	-.617	-.042	-.319	.750	.565	1.770	
	Enneagram 3	-.529	-.029	-.238	.812	.681	1.469	
	Enneagram 4	.988	.068	.521	.604	.591	1.691	
	Enneagram 5	-2.215	-.121	-.921	.360	.580	1.724	
	Enneagram 6	-.030	-.002	-.014	.989	.653	1.532	
	Enneagram 7	-4.796	-.264	-2.238	.028*	.720	1.389	
	Enneagram 8	-.834	-.046	-.378	.706	.669	1.494	
	Enneagram 9	4.753	.259	1.996	.049*	.597	1.674	

Note. PC = People Competencies; PO = Opinion of Employees (Area); POFP = Opinion of Direct Team; T = Tolerance; VIF = Variance inflation factor; D-W = Durbin-Watson; * $p < .05$, ** $p < .01$.

9.4 The Enneagram Model and Leadership Performance Indicators: Summary and Conclusion

The current chapter presented this study's findings regarding its third Research Objective:

To examine the relationship between the Enneagram Types and Leadership Performance Indicators obtained from company data.

And Research Proposition 11:

Leaders' self-assessed Enneagram-type scores will be significantly associated with the Performance Indicators they obtain in the exercise of their role.

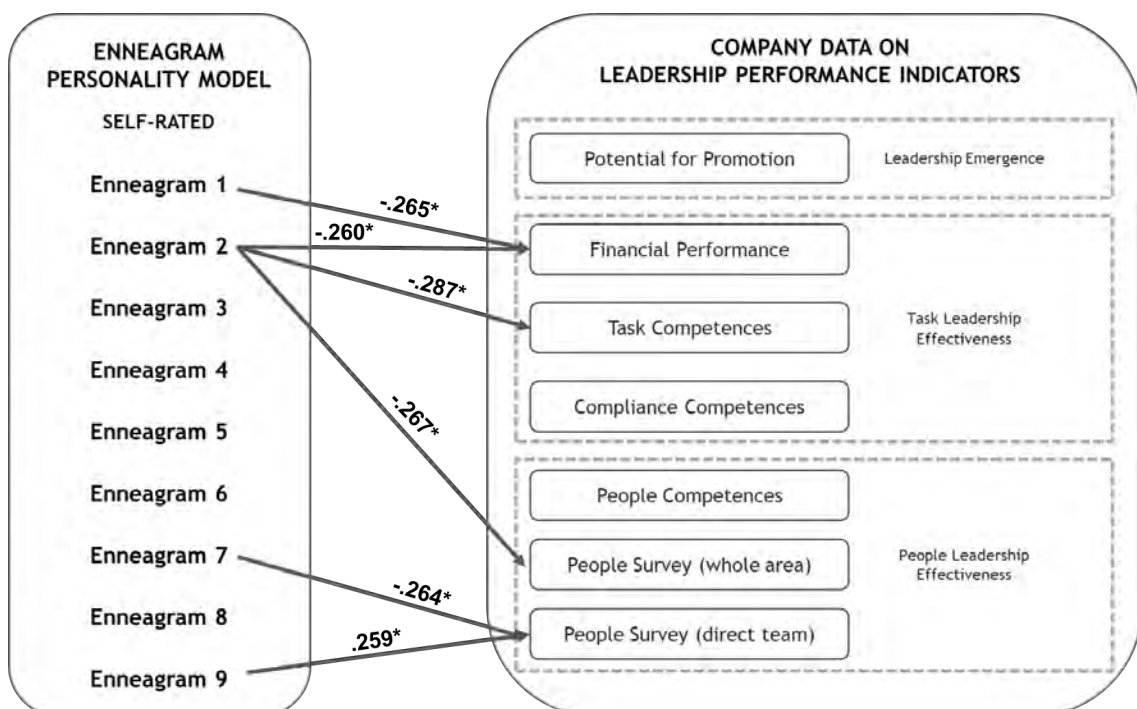
Overall, these findings show that the Enneagram model as a whole was unable to explain a significant percentage of the variance of any of the Leadership Performance Indicators measured by this study.

Therefore, 11 is not supported.

In other words, based on these results, it is not possible to suggest that Leaders' self-assessed Enneagram-type scores will be significantly associated with the Performance Indicators they obtain in the exercise of their role.

That said, four individual Enneagram types demonstrated a significant, albeit weak, relationship with specific Performance Indicators: Enneagram 1, the Reformer, presented a negative association with an indicator of Task Effectiveness; Enneagram 7, the Enthusiast, a negative association with an indicator of People Effectiveness, and type 2, the Giver, a negative relationship with both, people, and task. On the other hand, Enneagram 9 (The Peacemaker), was the only type presenting a significant positive association with an indicator of People effectiveness. These relationships are represented in Figure 22.

Figure 22: Findings on the relationship between the Enneagram type scores and Leadership Performance Indicators.



The next table consolidates these findings on a different format, highlighting the three groups of Leadership Performance Indicators examined by this study. Again, only the significant Beta values are included.

Table 78: Summary of multiple regression analysis of self-assessed Enneagram type scores and Leadership Performance Indicators provided by the company.

Summary of Findings	MULTIPLE REGRESSIONS OF SELF-ASSESSED ENNEAGRAM SCALES AND LEADERSHIP PERFORMANCE INDICATORS		
	Leadership Emergence	Task Effectiveness	People Effectiveness
Enneagram 1	—	TOFP = ($\beta = -.265$)*	—
Enneagram 2	—	TOFP = ($\beta = -.260$)* TCA = ($\beta = -.287$)*	PO = ($\beta = -.267$)*
Enneagram 3	—	—	—
Enneagram 4	—	—	—
Enneagram 5	—	—	—
Enneagram 6	—	—	—
Enneagram 7	—	—	POFP = ($\beta = -.264$)*
Enneagram 8	—	—	—
Enneagram 9	—	—	POFP = ($\beta = .259$)*

Note. β = Beta value; PFP = Potential for Promotion; TOFP = Financial Performance; TCA = Task Competencies (Efficiency, Analysis, Dealing with Pressure); CC = Compliance Competencies (Safety, Alignment); PC = People Competencies (Communication, Teamwork, People Development, Customer Care); PO = Opinion of employees in area' (people survey on whole area); POFP = Opinion of direct team (semi-annual pulse on leadership practices).

* $p < .05$; ** $p < .01$.

The next table reproduces a summary of the percentage of the variance in each Dimension of Perceived Leadership Outcomes, explained by the Enneagram model:

Table 79: Percentage of the variance in Leadership Performance Indicators explained by the Enneagram model.

Category	Leadership Performance Indicators	% of variance explained by Enneagram Model
Leadership Emergence	Potential for Promotion (PfP)	—
Task Leadership Effectiveness	Financial Performance (TOFP)	6.4%
	Task Competencies (TCA)	1.4%
	Compliance Competencies (CC)	—
People Leadership Effectiveness	People Competences (PC)	—
	Opinion of employees in area (PO)	—
	Opinion of direct team (POFP)	2.7%

Note. PfP = Potential for Promotion; TOFP = Financial Performance; TCA = Task Competencies (Efficiency, Analysis, Dealing with Pressure); CC = Compliance Competencies (Safety, Alignment); PC = People Competences (Communication, Teamwork, People Development, Customer Care); PO = Opinion of employees in area' (people survey on whole area); POFP = Opinion of direct team (semi-annual pulse on leadership practices). * $p < .05$; ** $p < .01$.

The following table highlights the status of Research Proposition 11:

Table 80: Research Proposition 11, on the relationship between the Enneagram personality model and Leadership Performance Indicators, and its confirmation status.

Research Proposition	Supported/ Not supported
RP11: Leaders' self-assessed Enneagram-type scores will be significantly associated with the Performance Indicators they obtain in the exercise of their role	Not supported.

In sum, the results of this study suggest that the relationship between the Enneagram model and Leadership Performance Indicators is from weak to non-existent. The model as a whole was unable to explain a significant percentage of the variance in any of the seven dependent variables.

On the other hand, as observed for the previous dependent variables, the findings show only a few significant and weak associations between individual Enneagram type scores and some Indicators of Task and People Effectiveness.

More specifically, regarding Task Leadership Indicators, leaders with high scores on Enneagram 1, the Reformer, tended to receive low scores on Financial Performance, suggesting that something in their leadership style affected their teams' achievement of business results. Leaders with high scores on Enneagram 2, the Giver, received low scores on Financial Performance and Task-Related Competencies, also suggesting that they did not lead their teams to successful performance and are not considered to have the competencies to do it.

In relation to People Leadership Indicators, leaders scoring high in Enneagram 2, the Giver, received negative scores in *Opinion of Employees in Area (PO)*, an indicator based on an employee survey, the OHI, answered by everyone in their unit, not just their direct reports. Although this survey collects people's opinion, most of the dimensions it measures are related to the task¹⁸. This suggests that something in type 2's leadership might be creating discontent among the people that compose their area. Leaders with a high score on Enneagram 7, the Enthusiast, tended to have negative scores in the *Opinion of Direct Team (POFP)*, suggesting that their leadership style negatively affects interactions with their people. The opposite is observed in relation to Enneagram 9, the Peacemaker, associated with positive scores on the same indicator, suggesting that their teams feel comfortable with their leadership.

Notably, no association is observed between the Enneagram Model and Potential for Promotion, unlike what would be predicted from the literature connecting personality and Leadership Emergence (Judge, Piccolo and Kosalka, 2009). All these findings and their implications in connection to literature are discussed in Chapters 10 and 11.

¹⁸ The Organisational Health Index or OHI measures the dimensions of Leadership, Direction, Accountability, Coordination & Control, External Orientation, Innovation & Learning, Capabilities, Motivation, Culture & Climate (McKinsey & Company, 2023).

Concluding, this chapter presented the results obtained from the multiple regressions examining the relationship between the self-assessed Enneagram subscales and the Leadership Performance Indicators obtained from company data. Chapter 10 will discuss the findings presented in Chapters 7, 8, and 9 in relation to the literature regarding each of the individual Enneagram types. Chapter 11 will once again discuss these findings and their implications in connection with the literature, this time in relation to the Enneagram model as a whole.

Chapter 10. The Enneagram Types and Leadership: Results and Discussion

Chapters 7, 8, and 9 presented the findings on the associations between the Enneagram personality model and three sets of outcome variables: Leadership Behaviours, Perceived Leadership Outcomes, and Leadership Performance Indicators. As mentioned before, the Enneagram model as a whole demonstrated a weak to insignificant relationship with Leadership, and the nine scales that comprise it also presented few significant relationships with the variables under study, and most of these relationships were weak.

However, it is also possible to say that all individual Enneagram types were associated with specific patterns of Leadership Behaviours and Outcomes beyond those self-perceived. Specifically, each of the Enneagram scales presented at least one, and up to nine, significant associations with different Leadership variables, averaging a total of 4.1 significant associations per type (out of a total of 59 possible that could have been obtained by combining the number of variables and evaluators).

It has been mentioned that the instrument used to measure the Enneagram model suffered from low internal consistency, with only three of its nine scales presenting acceptable Cronbach's alpha coefficients. These low reliability indices are problematic for the interpretation of this study's results, since with the existing data it is not possible to determine whether the problem is due to a deficiency in the instrument, or a conceptual deficiency in the Enneagram model. In particular, the low reliability obtained for the Enneagram 8 subscale (Cronbach's alpha = .55) implies that the findings related to this type should be interpreted with caution. This issue will be discussed further in chapters 11 and 12.

This chapter assumes that the specific findings associated with the nine Enneagram types are reasonably valid. If this were so, these findings, although weak, could still constitute preliminary evidence of real relationships between personality types and leadership, and could be examined in future research using more robust Enneagram measures. For this reason, although the nature of the tool does not allow us to fully trust

these results, it is still considered a valuable exercise to ponder how these findings connect to the literature, and their possible implications for Enneagram theory.

The chapter will be structured according to Enneagram types, beginning with findings associated with Enneagram 1, The Reformer, to those associated with Enneagram 9, The Peacemaker. Chapter 11 will reexamine these findings and their implications at a more general level, this time for the Enneagram model as a whole. This look by type, across-outcomes, is important because it brings the perspective of the "whole person", offering an idea of how a typological model could complement a trait model such as the FFM, for a better understanding of personality. It is also necessary to compare this study's findings with the existing literature on the Enneagram Model, which usually uses Type as the relevant unit of analysis. Chapter 4 reviewed the literature connecting the Enneagram Types to the Five-factor model, as well as with values, attitudes, and workplace outcomes (Newgent et al., 2004a; Brown and Bartram, 2005; Sutton, 2007; Giordano, 2008; Stevens, 2011; Delobbe, Halin and Prémont, 2012; Yilmaz et al., 2016b). It also reviewed the empirical connections between FFM and leadership (Bono and Judge, 2004; Derue *et al.*, 2011; Deinert *et al.*, 2015; Gottlieb and Gøtzsche-Astrup, 2020), using the FFM as a "conceptual bridge" to connect the Enneagram and leadership. This chapter will discuss to what extent the findings of this study are consistent, contradictory, or present possible new lines of inquiry with respect to this previous literature. For example, whether the findings regarding Enneagram Type 1 and Leadership are aligned or not with what would have been expected given Type 1's documented combination of FFM traits (Newgent et al., 2004a; Brown and Bartram, 2005; Sutton, 2007; Giordano, 2008; Stevens, 2011; Delobbe, Halin and Prémont, 2012; Yilmaz et al., 2016b).

Once again, it is worth remembering that the Enneagram model describes a set of nine personality types as discrete categories with fuzzy-boundary, each made up of a distinctive set of traits and motives. It should also be remembered that each leader in the sample received a score for each of the Enneagram types. Therefore, the type-leadership relationships analysed here actually reflect the leadership associations of the Enneagram scales representing that type, and not those of a group of individuals who self-identified with that type. This way of measuring types is common in the Enneagram

research (Wagner, 1999; Newgent et al., 2004a; Giordano, 2008; Stevens, 2011; Delobbe, Halin and Prémont, 2012; Yilmaz et al., 2016b). It is considered safe to assume that the HPEI subscales represent types, since they have been significantly associated with their self-identification by trained subjects (Delobbe, Halin and Prémont, 2012). On the other hand, this way of measuring suffers from some limitations that will be analysed in the last chapter. For simplicity and alignment with the literature, this chapter and the next will return to the use of the term 'Type' to discuss the findings and their implications.

10.1 Leadership & Enneagram Type 1, The Reformer

Enneagram theory has described Type 1 leaders as highly focused on the task, on setting high standards and exerting control to ensure their accomplishment. They would tend to be perceived as fair and principled, but difficult to please, stubborn, and critical (Goldberg, 1999; Chestnut, 2017).

Academic literature has been unanimous in associating Enneagram 1 with high Conscientiousness, with no particular pattern regarding other FFM traits (Newgent et al., 2004; Brown and Bartram, 2005; Sutton, 2007; Giordano, 2008; Stevens, 2011; Delobbe, Halin and Prémont, 2012; Yilmaz, Unal, et al., 2016). The Reformer has also been associated with high levels of Internal Work Motivation and Job Involvement (Sutton, Allinson and Williams, 2013); and an occupational competency profile related to Organising and Executing (Brown and Bartram, 2005).

The main findings of this study are partly consistent with the literature, as presented in the tables below:

Table 81: Relationship of Enneagram 1 to Leadership Behaviours and Perceived Leadership Outcomes: Summary of findings (table contains only significant β values).

	MULTIPLE REGRESSIONS OF SELF-ASSESSED ENNEAGRAM 1 AND LEADERSHIP BEHAVIOURS / PERCEIVED LEADERSHIP OUTCOMES, ACCORDING TO DIFFERENT RATER GROUPS			
	Self	Superiors	Peers	Followers
Leadership Behaviours	IM = ($\beta = .212$)* LF = ($\beta = -.228$)*	—	IC = ($\beta = -.247$)* IS = ($\beta = -.237$)*	—
Perceived Leadership Outcomes	—	—	SAT = ($\beta = -.247$)*	—

Note. β = Beta value; II(A) = Idealised Influence (Attributes); II(B) = Idealised Influence_behaviour; IC = Individualised Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation; CR = Contingent Reward; MBEA = Mgmt.

by Exception Active; MBEP = Mgmt. by Exception Passive; LF = Laissez-Faire; IL = Instrumental Leadership. // EFF = Effectiveness; EE = Extra Effort; SAT = Satisfaction. * $p < .05$; ** $p < .01$.

Table 82: Relationship of Enneagram 1 to Leadership Performance Indicators: Summary of findings (table contains only significant β values).

MULTIPLE REGRESSIONS OF ENNEAGRAM 1 AND LEADERSHIP PERFORMANCE INDICATORS	
Emergence Indicators	—
Task Effectiveness Indicators	TOFP = ($\beta = - .265$)*
People Effectiveness Indicators	—

Note. β = Beta value; PfP = Potential for Promotion; TOFP = Financial Performance; TCA = Task Competencies (Efficiency, Analysis, Dealing with Pressure); CC = Compliance Competencies (Safety, Alignment); PC = People Competencies (Communication, Teamwork, People Development, Customer Care); PO = Opinion of employees in area' (people survey on whole area); POFP = Opinion of direct team (semi-annual pulse on leadership practices). * $p < .05$; ** $p < .01$.

The findings for leaders scoring high in Enneagram 1 can be summarised as follows: On the one hand, they showed a positive self-perception, focused on seeing themselves as motivating and inspiring (Inspirational Motivation; $\beta = .212^*$), and at the same time active and diligent (Laissez-Faire; $\beta = - .228^*$). On the other hand, there was a notably negative perception by their peers, who judged them as not very considerate to people (Individualised Consideration; $\beta = - .247^*$), not stimulating creative thinking in their teams (Intellectual Stimulation; $\beta = - .237^*$); and, in general terms, generating dissatisfaction with their leadership (Satisfaction with Leadership; $\beta = - .247^*$). More surprisingly, their leadership showed a negative association with the Financial Results of their area (TOFP, $\beta = - .265^*$).

In general terms, it can be said that Type 1's positive self-ratings are aligned with the Enneagram theory, which describes them as upright, principled, diligent, self-disciplined, and "well-behaved" (Chestnut, 2017);. Academic literature, on the other hand, has connected Type 1 to high Conscientiousness, which in turn has been correlated to positive self-ratings of leadership behaviour in general (McKee et al.; 2018), and negatively associated with the leadership behaviour of Laissez-Faire (Bono and Judge, 2004).

The negative perception of their peers is also aligned with the Enneagram theory, since Type 1 is described as having a difficulty listening and accepting ideas different from their own, and although fair, is often perceived as harsh and exacting in their interactions with others. Thus, despite their good intentions, it is often difficult for others to relate to them. This would be aligned with the findings of Camps, Stouten and Euwema (2016), regarding highly conscientious leaders being sometimes perceived as abusive supervisors.

It is striking that followers do not have the same complaint, since they would be expected to suffer from their behaviours to the same extent. Perhaps this can be explained by Enneagram theory, that characterises type 1's leadership style as paternalistic and protective toward their teams, attitudes that could potentially soften or neutralize the negative impact of other, less favourable behaviours (Lapid-Bogda, 2004; Wagner, 2010).

On the other hand, it was also surprising to find no positive association between Enneagram 1 and Perceived Leadership Outcomes, especially from their own point of view and that of superiors. This fact, together with the negative association found with Leadership Indicators of Financial Performance, seems to contradict what would have been expected from Enneagram Theory, that describes Type 1 as conscientious, and deeply involved in task performance. One possible explanation is that since the study subjects are top executives, their financial performance is tied more to so-called "soft" leadership skills than to their individual focus on the task.

Regarding the literature on FFM and Leadership, as reviewed in Chapter 3, evidence has linked Conscientiousness to individual performance and Task Effectiveness (Judge *et al.*, 2013), but its relationship with Leadership has received mixed support (Bono and Judge, 2004; Derue *et al.*, 2011; Deinert *et al.*, 2015).

Finally, also surprising was to find no association to Potential for Promotion, an Indicator of Leadership Emergence, despite earlier findings of a high association between Conscientiousness and the latter (Bono and Judge, 2004). Interestingly, the subscale measuring Enneagram 1 (The Reformer) showed the highest average within the sample population (3.92; see details in Chapter 6). This fact could be interpreted as an indication

of the connection between Conscientiousness and Emergence, considering that the sample is composed of individuals who have already "emerged" as leaders. However, this measure could also be driven by a greater social desirability of the prototypical "Type 1" behaviours in the context of this results-oriented organisational culture.

10.2 Leadership & Enneagram Type 2, The Giver

The Enneagram theory has described Type 2 leaders as sociable, affectionate, sensitive to people's needs, and exercising a participative, "open-door" management style: but with some difficulty organizing and planning tasks and making unpopular decisions. (Riso and Hudson, 1996; M. J. Goldberg, 1999; Chestnut, 2017; Daniels et al., 2018).

Empirical studies have found that Type Two tends to score high in the FFM traits of Extraversion and Agreeableness (Newgent et al., 2004; Sutton, 2007; Giordano, 2008; Stevens, 2011; Delobbe, Halin and Prémont, 2012; Yilmaz, Unal, et al., 2016); and in the implicit motives of Affiliation and Fear of Rejection (Sutton, 2007); as well as an occupational competency profile oriented towards Working with People (Brown and Bartram, 2005).

The tables below summarise the main findings of this study regarding Enneagram 2 and leadership:

Table 83: Relationship of Enneagram 2 to Leadership Behaviours and Perceived Leadership Outcomes: Summary of findings (table contains only significant β values).

	MULTIPLE REGRESSIONS OF SELF-ASSESSED ENNEAGRAM 2 AND LEADERSHIP BEHAVIOURS / PERCEIVED LEADERSHIP OUTCOMES, ACCORDING TO DIFFERENT RATER GROUPS			
	Self	Superiors	Peers	Followers
Leadership Behaviours	IS = (β = - .238)* IL = (β = - .247)*	—	—	—
Perceived Leadership Outcomes	—	—	—	—

*Note. β = Beta value; II(A) = Idealised Influence (Attributes); II(B) = Idealised Influence_behaviour; IC = Individualised Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation; CR = Contingent Reward; MBEA = Mgmt. by Exception Active; MBEP = Mgmt. by Exception Passive; LF = Laissez-Faire; IL = Instrumental Leadership. // EFF = Effectiveness; EE = Extra Effort; SAT = Satisfaction. * $p < .05$; ** $p < .01$.*

Table 84: Relationship of Enneagram 2 to Leadership Performance Indicators: Summary of findings (table contains only significant β values).

MULTIPLE REGRESSIONS OF ENNEAGRAM 2 AND LEADERSHIP PERFORMANCE INDICATORS	
Emergence Indicators	—
Task Effectiveness Indicators	TOFP = (β = - .260)* TCA = (β = - .287)*
People Effectiveness Indicators	PO = (β = - .267)*

Note. β = Beta value; PfP = Potential for Promotion; TOFP = Financial Performance; TCA = Task Competencies (Efficiency, Analysis, Dealing with Pressure); CC = Compliance Competencies (Safety, Alignment); PC = People Competencies (Communication, Teamwork, People Development, Customer Care); PO = Opinion of employees in area' (people survey on whole area); POFP = Opinion of direct team (semi-annual pulse on leadership practices). * $p < .05$; ** $p < .01$.

The most obvious finding regarding Enneagram 2 is that it is the only type presenting only negative associations to leadership. To begin with, they presented a negative self-perception of their own leadership behaviour, viewing themselves as not stimulating creative thinking in their teams (Intellectual Stimulation; β = - .238*), and not being instrumental in helping their team achieve their goals (Instrumental Leadership; β = - .247*). On the other hand, interestingly, their leadership showed a negative association with company data, translated into poor Financial Performance (β = - .260*), a low formal appraisal of their Task Competencies (β = - .287*), and a low opinion of the people of their area as a whole (Opinion of Employees; β = - .267*).

It is observed that the negative self-perception of Enneagram 2 is concentrated in two behaviours that are mostly related to cognitive abilities and task leadership. This is expected from Enneagram theory, which characterises The Giver as prioritizing relationships over task, possibly leading to neglecting important dimensions of leadership, such as demanding results, monitoring performance or providing honest improvement feedback (Lapid-Bogda, 2004).

Surprisingly, Enneagram 2 (The Giver) is the only one in the entire model that receives negative scores in both Task Effectiveness (financial performance and task competencies) and People Effectiveness (Employee Opinion). To interpret this result, it is necessary to consider that the latter is based on the score of an opinion survey answered by all the employees in the area, not only by the leaders' direct reports. Although this indicator is mainly related to people management, which is expected to

be a strength for Enneagram 2, the truth is that it is also affected by task performance. Consequently, it could be reasoned that this poor result in People Effectiveness may be affected by performance problems in the area rather than relationship problems. Either way, these results arguably suggest that something about Enneagram 2 leadership is causing poor performance and discontent among people in their broad area of supervision.

These findings are also aligned with Do and Minbashian (2014), who decomposed Extraversion into two groups of facets, that could be denominated Sociability and Assertiveness. They found that Assertiveness had a stronger positive impact on leadership effectiveness than higher-order Extraversion. They also found that Sociability, when examined alone and controlling for Assertiveness, actually had a negative correlation with leadership effectiveness. An earlier study by Barrick and Mount (1991) had also found a similar association.

On the other hand, these findings seem in contradiction with McKee et al. (2018), who discovered that both Extraversion and Agreeableness, the two FFM traits characterising this type, were associated with positive self-ratings and others' ratings of Transformational Leadership Behaviours (the former slightly stronger than the latter).

Likewise, some relationships that would have been expected from the literature are notably missing. For example, Enneagram 2's reported mix of Extraversion and Agreeableness would have led to expect an association with relational Leadership Behaviours, particularly Individualised Consideration (IC), both from their own perspective and from that of peers and followers; as well as a high scores in Relational Effectiveness measures of Leadership Performance (Derue et al., 2011; Parr, Lanza and Bernthal, 2016), such as Satisfaction with the Leader.

The absence of any clear pattern of association in the ratings of others is striking. One possible explanation would be that the perception of superiors, peers and followers is mixed, balancing a positive assessment of Type 2's relationships, with a poor perception of their difficulties in the task. The Enneagram theory points to Type 2 as particularly sensitive to the signals of affection and recognition that it receives from its environment (Riso and Hudson, 1996). Perhaps the lack of success in achieving organisational

objectives and the subsequent absence of external recognition could explain the self-critical perception regarding their own leadership behaviour.

On the other hand, it is also possible that this absence of patterns is due, once again, to a deficiency of the Enneagram model, or the low reliability observed in the instrument used to measure it, as will be further discussed in chapter 11.

10.3 Leadership & Enneagram Type 3, The Achiever

Type 3 leaders are expected to be success-oriented, persistent, industrious, fast-paced, adaptable, self-affirmative and good communicators, but, at the same time, they could be insensitive, utilitarian, and sometimes ruthless in their interpersonal relationships (Naranjo, 1994; Riso and Hudson, 1996; Chestnut, 2017; Daniels et al., 2018).

There is empirical evidence associating Enneagram Type 3 to an FFM profile of high Extraversion and Conscientiousness, and low Agreeableness. This type has also been found to be high in the attitude of Job self-efficacy; the value of Power and the motive of Achievement (Sutton, Allinson and Williams, 2013); as well as associated with the occupational competency profiles of *Entrepreneurial and Commercial Thinking; Leading and Deciding; and Interacting and Presenting* (Brown and Bartram, 2005).

The tables below summarise the main findings of this study regarding Enneagram 3 and leadership:

Table 85: Relationship of Enneagram 3 to Leadership Behaviours and Perceived Leadership Outcomes: Summary of findings (table contains only significant β values).

	MULTIPLE REGRESSIONS OF SELF-ASSESSED ENNEAGRAM 3 AND LEADERSHIP BEHAVIOURS / PERCEIVED LEADERSHIP OUTCOMES, ACCORDING TO DIFFERENT RATER GROUPS			
	Self	Superiors	Peers	Followers
Leadership Behaviours	—	II(B) = ($\beta = .338$)**	—	—
Perceived Leadership Outcomes	EFF = ($\beta = .313$)**	—	—	—

Note. β = Beta value; II(A) = Idealised Influence (Attributes); II(B) = Idealised Influence_behaviour; IC = Individualised Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation; CR = Contingent Reward; MBEA = Mgmt. by Exception Active; MBEP = Mgmt. by Exception Passive; LF = Laissez-Faire; IL = Instrumental Leadership. // EFF = Effectiveness; EE = Extra Effort; SAT = Satisfaction. * $p < .05$; ** $p < .01$.

Table 86: Relationship of Enneagram 3 to Leadership Performance Indicators: Summary of findings (table contains only significant β values).

MULTIPLE REGRESSIONS OF ENNEAGRAM 3 AND LEADERSHIP PERFORMANCE INDICATORS	
Emergence Indicators	—
Task Effectiveness Indicators	—
People Effectiveness Indicators	—

Note. β = Beta value; PfP = Potential for Promotion; TOFP = Financial Performance; TCA = Task Competencies (Efficiency, Analysis, Dealing with Pressure); CC = Compliance Competencies (Safety, Alignment); PC = People Competencies (Communication, Teamwork, People Development, Customer Care); PO = Opinion of employees in area' (people survey on whole area); POFP = Opinion of direct team (semi-annual pulse on leadership practices). * $p < .05$; ** $p < .01$.

The findings for leaders scoring high in Enneagram 3 can be summarised as follows: In their own view of themselves, they did not highlight any particular Leadership behaviour, and yet they did have a very positive opinion of their own effectiveness as leaders (Overall Leadership Effectiveness; $\beta = .313^{**}$). On the other hand, their superiors showed a high regard for these leaders' ability to inspire their teams from a sense of mission and purpose (Idealised Influence_behaviour; $\beta = .338^{**}$). No association was found to peers' or followers' perceptions of their Leadership Behaviour. Nor was there any association between this type and others' perceptions of Leadership Outcomes, or to any "objective" Performance Indicator.

The first thing that stands out in these results is the low number of associations found between Enneagram 3 and Leadership Outcomes. Together with Enneagram 4, these two types are the least associated with the Leadership variables explored, with two and one significant relationships, respectively.

This is particularly surprising given that Type 3, The Achiever, both from the perspective of the Enneagram theory and the academic evidence supporting it, has all the elements that would qualify as "leader-like" (Hogan, Curphy and Hogan, 1994). The combination of high Extraversion and high Conscientiousness, unique to Enneagram 3, is one of the most consistently associated with Leadership Emergence and Effectiveness (Judge *et al.*, 2002; Derue *et al.*, 2011; Gottlieb and Gøtzsche-Astrup, 2020) in the FFM and Leadership literature (Bono and Judge, 2004; Reichard *et al.*, 2011b)

This would lead to expect a high association with leadership outcomes: particularly with Leadership Emergence, with Transformational behaviours and with Perceived Outcomes, from the point of view of superiors and that of leaders themselves (Hogan and Holland, 2003; Oh and Berry, 2009).

The lack of patterns in the perceptions of their Leadership Behaviour could be explained by the high behavioural adaptability and flexibility that, according to the literature, would characterize this type. Some texts describe Enneagram 3 as chameleonic, able to adjust their actions and communication according to the changes in their environment (Naranjo, 1994; M. J. Goldberg, 1999). However, if this were true, it would logically lead to expect higher levels of effectiveness, either in the perception of others, or in the “objective” indicators, which was not the case.

The absence of associations with Leadership Emergence and Effectiveness, both perceived and “objective,” are in conflict with the literature regarding the relationship between high Extroversion and Conscientiousness and effective leadership (Bono and Judge, 2004; Judge, Piccolo and Kosalka, 2009). These results could be connected to the findings of O’Neil (2007), regarding the negative correlation presented by leaders who combined high Extraversion (the Assertiveness/Dominance facet), high Conscientiousness (the Perfectionism facet), and low Agreeableness; or those of Witt, Andrews and Carlson, (2004) regarding leaders who scored high on Conscientiousness and low on Agreeableness, and who were perceived as harsh and impersonal in their leadership interactions. They could also be connected to Derue et al. (2011) finding no relationship between Extraversion and “objective” leadership performance (Group Performance, Job Satisfaction of followers), as well as no association with the perceived outcome of Satisfaction with the Leader.

In sum, the significant associations found provide support for the theoretical and empirical descriptions in the literature. However, their low overall number suggests that more research is needed to understand the relationship of this Enneagram type, as well as those of the FFM traits of Extraversion and Conscientiousness, with Leadership.

10.4 Leadership & Enneagram Type 4, The Romantic

Enneagram Type 4 leaders are described as creative and intuitive, sensitive to people’s emotions, “authentic,” able to inspire the team around a sense of meaning and open to change; however, with little interest in routine tasks, low tolerance to frustration and little focus on productivity or efficiency (Riso and Hudson, 1996; Goldberg, 1999; Chestnut, 2017; Daniels et al., 2018).

Academic literature has associated Enneagram 4 (The Romantic) to a distinct combination of high Neuroticism and low Conscientiousness, as well as some indications of high Openness and low Extraversion (Newgent et al., 2004; Brown and Bartram, 2005; Sutton, 2007; Giordano, 2008; Stevens, 2011; Delobbe, Halin and Prémont, 2012; Yilmaz, Unal, et al., 2016). This type has also been associated with high scores in the values of self-Direction and Stimulation, high Fear of Rejection, high Perceived Stress, and low motives of Power and Achievement (Sutton, Allinson and Williams (2013). In addition, The Romantic has been associated with the occupational competency of Creating and Innovating (Brown and Bartram, 2005).

There is only one significant association found by this study regarding Enneagram 4 and Leadership. This has been represented in the tables below:

Table 87: Relationship of Enneagram 4 to Leadership Behaviours and Perceived Leadership Outcomes: Summary of findings (table contains only significant β values).

	MULTIPLE REGRESSIONS OF SELF-ASSESSED ENNEAGRAM 4 AND LEADERSHIP BEHAVIOURS / PERCEIVED LEADERSHIP OUTCOMES, ACCORDING TO DIFFERENT RATER GROUPS			
	Self	Superiors	Peers	Followers
Leadership Behaviours	—	CR = (β = .244)*	—	—
Perceived Leadership Outcomes	—	—	—	—

*Note. β = Beta value; II(A) = Idealised Influence (Attributes); II(B) = Idealised Influence_behaviour; IC = Individualised Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation; CR = Contingent Reward; MBEA = Mgmt. by Exception Active; MBEP = Mgmt. by Exception Passive; LF = Laissez-Faire; IL = Instrumental Leadership. // EFF = Effectiveness; EE = Extra Effort; SAT = Satisfaction. * $p < .05$; ** $p < .01$.*

Table 88: Relationship of Enneagram 4 to Leadership Performance Indicators: Summary of findings (table contains only significant β values).

MULTIPLE REGRESSIONS OF ENNEAGRAM 4 AND LEADERSHIP PERFORMANCE INDICATORS	
Emergence Indicators	—
Task Effectiveness Indicators	—
People Effectiveness Indicators	—

Note. β = Beta value; Pfp = Potential for Promotion; TOFP = Financial Performance; TCA = Task Competencies (Efficiency, Analysis, Dealing with Pressure); CC = Compliance Competencies (Safety, Alignment); PC = People Competencies (Communication, Teamwork, People Development, Customer Care); PO = Opinion of employees in area' (people survey on whole area); POFP = Opinion of direct team (semi-annual pulse on leadership practices). * $p < .05$; ** $p < .01$.

The most obvious finding regarding Enneagram 4 (The Romantic), is that it was the type with the least number of significant associations with leadership: only one. This refers to a positive evaluation in Contingent Reward by superiors ($\beta = .244^*$). In other words, these highly sensitive leaders would vary in the opinion they have of their own leadership, and others would as well. As mentioned, the only pattern was that leaders scoring high on Enneagram 4 were perceived positively by their superiors in terms of their focus on “clarifying role and task requirements and providing followers with material or psychological rewards contingent on the fulfilment of contractual obligations” (Antonakis et al., 2003, p.,265). No other particular trend stood out, either in Enneagram 4’s perception of their own Leadership, or in any measure of perceived or “objective” effectiveness.

There are two things that stand out in these findings. First, the absence of self-assessment patterns. In fact, Type 4 (Romantic) is the only one of the nine that was not associated with any pattern of self-reported leadership variables. However, this absence was to be expected from Enneagram theory and academic literature. As aforementioned, Enneagram 4 is described as sensitive and introspective, unlikely to seek positions of power (Naranjo, 1994; Riso and Hudson, 1999). This is supported by academic literature, which has associated The Romantic with low levels of Power and Achievement motives (Sutton et al., 2013), and an FFM profile combining high Neuroticism and Openness, and low Conscientiousness and Extraversion. Except for the high Openness, all other indicators have been individually associated with low levels of

Leadership Emergence and Effectiveness (Bono and Judge, 2004; Derue et al., 2011; Deinert et al., 2015).

That said, recent literature has highlighted that the relationship of these traits with leadership is not necessarily linear, and that it can be contradictory depending on a series of contextual variables (Judge, Piccolo and Kosalka, 2009; Alissa Denzin Parr, Lanza and Bernthal, 2016).

Perhaps this could help explain the second surprising finding: The paradox of being the only one of the nine types that was evaluated positively by superiors, and this happening on a dimension like Contingent Reward behaviour. This clearly task-centred behaviour seems to clash with The Romantic's portrayal as a sensitive, creative, and introverted leader, quite different from the prototypical conception of a task-focused leader (Hogan and Hogan, 2001; Judge, Piccolo and Kosalka, 2009).

In interpreting this finding, it is important to remember that this discussion is not about leaders whose main personality type is 4, but about the scores that a group of leaders obtained on the Enneagram 4 subscale, measured as if it were a personality dimension within many others. Also, it must be kept in mind that the sample is composed of a set of already successful leaders, whose Enneagram 4 scores were accompanied by other personality variables. So a possible interpretation could be that, other things being equal, a high level of sensitivity, self-awareness, and authenticity are desirable qualities in a leader, at least from the point of view of superiors.

In support of this rationale, it should be considered that the subscale that measures Enneagram 4 (The Romantic) presented the lowest average scores within the sample population¹⁹ (2.41, compared to 3.92 obtained by the highest, Enneagram 1, The Reformer). Given that the sample is made up of high-ranking leaders, this could be an indication that Enneagram 4 has a negative association with Leadership Emergence. This would again be consistent with Enneagram theory and academic literature regarding Type 4's FFM profile, as mentioned before. An alternative explanation for this low

¹⁹ See detail in Appendix A.

average score for Enneagram 4 in the sample would be that it is artificially deflated by a respondents' attempt to hide traits such as sensitivity, considered socially undesirable in their company's organisational culture (Podsakoff and Organ, 1986; Ones, Viswesvaran and Reiss, 1996; Pedregon et al., 2012; Ryan et al., 2021).

Taken together, these findings seem to suggest that it is difficult for Enneagram 4 (The Romantic) to emerge as leaders, but that if they do, they will tend to be effective, at least from the point of view of their superiors. This could call into question the FFM literature regarding the relationship between Neuroticism and Leadership Effectiveness. Either way, these findings need to be further explored in future research to understand their validity and implications.

10.5 Leadership & Enneagram Type 5, The Investigator

Enneagram theory describes Type 5 leaders as analytical, likely subject-matter experts, adept at understanding or solving complex technical problems, but also slow to take action, prone to micromanagement, with difficulty reading other people's emotions, communicating, and navigating interactions with their teams (Riso and Hudson, 1996; M. J. Goldberg, 1999; Chestnut, 2008; Daniels et al., 2018).

Academic research has associated Enneagram Type 5 (The Investigator) with an FFM profile of low Extraversion and low Agreeableness (Newgent et al., 2004; Brown and Bartram, 2005; Sutton, 2007; Giordano, 2008; Delobbe, Halin, Premont, et al., 2009; Yilmaz et al., 2016); as well as low scores in the value of Stimulation, the implicit motive of Power, and the Job Attitudes of Job Involvement and Self-Efficacy (Sutton, Allinson and Williams, 2013). Brown and Bartram (2005) found Enneagram 5 to be high in the occupational competencies of *Applying Expertise and Technology* and *Creating and Innovating*.

The tables below summarise the main findings of this study regarding Enneagram 5:

Table 89: Relationship of Enneagram 5 to Leadership Behaviours and Perceived Leadership Outcomes: Summary of findings (table contains only significant β values).

MULTIPLE REGRESSIONS OF SELF-ASSESSED ENNEAGRAM 5 AND LEADERSHIP BEHAVIOURS / PERCEIVED LEADERSHIP OUTCOMES, ACCORDING TO DIFFERENT RATER GROUPS				
	Self	Superiors	Peers	Followers
Leadership Behaviours	MBEP = ($\beta = .290$)**	—	—	—
Perceived Leadership Outcomes	—	EFF = ($\beta = -.277$)* EE = ($\beta = -.250$)* SAT = ($\beta = -.252$)*	—	—

Note. β = Beta value; II(A) = Idealised Influence (Attributes); II(B) = Idealised Influence_behaviour; IC = Individualised Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation; CR = Contingent Reward; MBEA = Mgmt. by Exception Active; MBEP = Mgmt. by Exception Passive; LF = Laissez-Faire; IL = Instrumental Leadership. // EFF = Effectiveness; EE = Extra Effort; SAT = Satisfaction. * $p < .05$; ** $p < .01$.

Table 90: Relationship of Enneagram 5 to Leadership Performance Indicators: Summary of findings (table contains only significant β values).

MULTIPLE REGRESSIONS OF ENNEAGRAM 5 AND LEADERSHIP PERFORMANCE INDICATORS	
Emergence Indicators	—
Task Effectiveness Indicators	—
People Effectiveness Indicators	—

Note. β = Beta value; PjP = Potential for Promotion; TOFP = Financial Performance; TCA = Task Competencies (Efficiency, Analysis, Dealing with Pressure); CC = Compliance Competencies (Safety, Alignment); PC = People Competencies (Communication, Teamwork, People Development, Customer Care); PO = Opinion of employees in area' (people survey on whole area); POF = Opinion of direct team (semi-annual pulse on leadership practices). * $p < .05$; ** $p < .01$.

In general terms, leaders scoring high in Enneagram 5 were significantly critical of their own leadership behaviour, perceiving themselves as excessively passive and reactive, allowing problems and poor performance to occur before they manage to intervene (Management-by-Exception_passive²⁰; $\beta = .290$ **). Their superiors, while not being particularly critical of any of their Leadership Behaviours, were frankly negative in their

²⁰ This Leadership behaviour, although initially classified by its authors as a dimension of Transactional Leadership, has been grouped in their subsequent manuals as 'passive-avoidant leadership', noting that both types of behaviour have negative impacts on followers (Bass and Avolio, 1990, p.105. This duality in its classification persists in the literature, and depending on the source, MBE_passive appears classified in one or another cluster of behaviours (see Chapter 2).

perception of Enneagram 5's Leadership Effectiveness, viewing them as likely to generate dissatisfaction with their leadership (Satisfaction with the Leader; $\beta = -.252^*$), unlikely to elicit extra effort from their teams (Extra Effort; $\beta = -.250^*$), and generally ineffective as leaders (Overall Effectiveness; $\beta = -.277^*$).

Notably, Enneagram 5 (The Investigator), was the only one in the entire model to be exclusively associated with negative leadership outcomes, the only one to receive negative ratings on all three dimensions of Perceived Leadership Outcomes, and the only to receive negative ratings by superiors regarding these outcomes. This finding implies that The Investigator's leadership style is the only one that superiors clearly dislike. This could be associated with Type 5's characteristic reluctance to take action, supporting the literature claiming that superiors focus their performance appraisal on task achievement and capacity of execution (Oh and Berry, 2009).

Enneagram 5's self-criticism, as well as their superiors' negative perceptions, seem consistent with the theoretical description of this type as basically introverted, uninterested in leading, and most likely aware of their own lack of social skills (Chestnut, 2017). These results support the literature claiming high Extraversion as one of the main FFM correlates of leadership (Bono and Judge, 2004).

Peers and followers' perceptions, on the other hand, were not associated with any particular pattern regarding Enneagram 5's Leadership. Antonakis, Avolio and Sivasubramaniam (2003) found that Management-by-Exception_passive behaviour (high in Enneagram 5 by their own account), is sometimes perceived positively as "low interventionism" in some work-place contexts. This could explain more nuanced perceptions, and therefore, no significant patterns in the ratings.

It is interesting to compare the leadership results obtained by Enneagram 5 (The Investigator) and those of Enneagram 4 (The Romantic); since both types have elements in common and elements that separate them. According to Enneagram theory, neither of them would be particularly interested nor likely to emerge as leaders (M. J. Goldberg, 1999; Riso and Hudson, 1999). In addition, types 4 and 5 have FFM profiles that, according to the literature, are negative correlates of leadership Emergence and Effectiveness (Hogan, Curphy and Hogan, 1994; Judge, Piccolo and Kosalka, 2009). In the

case of Enneagram 5 (The Investigator), it is the combination of low Extraversion and low Agreeableness, and in the case of Enneagram 4 (The Romantic), it is high Neuroticism, coupled with low Conscientiousness and Extraversion. It is striking, then, that superiors have highlighted positive behaviours in Enneagram 4, and that they have been so critical of Enneagram 5.

These results lead us to reflect, once again, on the complexity of these relationships. For example, the associations of low Extraversion or high Neuroticism over leadership cannot be considered in the vacuum, but rather by virtue of how they combine with other traits (O'Neil, 2007; Parr, Lanza and Bernthal, 2016). In any case, these findings need to be regarded with caution, due to the low reliability of the instrument used to measure the Enneagram model in this study.

10.6 Leadership & Enneagram Type 6, The Loyalist

Enneagram 6 leaders are described as cautious, responsible, hard-working, and friendly, trying to balance focus on task and focus on people; yet unassertive, insecure, and vulnerable to stress (Riso and Hudson, 1996; M. J. Goldberg, 1999; Chestnut, 2008; Daniels et al., 2018).

Chapter 3 reviewed academic findings regarding this type, showing an FFM pattern of high Neuroticism and low Extraversion, with conflicting findings regarding Agreeableness, and some indications of low Openness (Newgent et al., 2004; Sutton, 2007; Giordano, 2008; Stevens, 2011; Delobbe, Halin and Prémont, 2012; Yilmaz et al., 2016). Research also found that Type 6 (The Loyalist) scored high in the value of Security, and the implicit motive of Affiliation (Sutton, Allinson and Williams, 2013). On the other hand, it failed to associate to any particular competency profile, showing, instead, significant diversity in their highest scoring competencies: Working with People; Applying Expertise and Technology, and Organising and Executing, while their lowest scores were: Adapting and Coping, and Creating and Innovating (Brown and Bartram, 2005).

Some Enneagram authors have argued that Type 6 (The Loyalist) often tries to adapt to expectations of people around them, particularly their early authority figures, and that

it would be easier to understand them from their motives than from their overt behaviour, which could vary significantly (Riso and Hudson, 1996).

The tables below summarise the main findings of this study regarding Enneagram 6:

Table 91: Relationship of Enneagram 6 to Leadership Behaviours and Perceived Leadership Outcomes: Summary of findings (table contains only significant β values).

	MULTIPLE REGRESSIONS OF SELF-ASSESSED ENNEAGRAM 6 AND LEADERSHIP BEHAVIOURS / PERCEIVED LEADERSHIP OUTCOMES, ACCORDING TO DIFFERENT RATER GROUPS			
	Self	Superiors	Peers	Followers
Leadership Behaviours	MBEA = ($\beta = .368$)**	LF = ($\beta = -.220$)*	IL = ($\beta = .234$)*	—
Perceived Leadership Outcomes	—	—	SAT = ($\beta = .223$)*	—

Note. β = Beta value; *II(A)* = Idealised Influence (Attributes); *II(B)* = Idealised Influence behaviour; *IC* = Individualised Consideration; *IM* = Inspirational Motivation; *IS* = Intellectual Stimulation; *CR* = Contingent Reward; *MBEA* = Mgmt. by Exception Active; *MBEP* = Mgmt. by Exception Passive; *LF* = Laissez-Faire; *IL* = Instrumental Leadership. // *EFF* = Effectiveness; *EE* = Extra Effort; *SAT* = Satisfaction. * $p < .05$; ** $p < .01$.

Table 92: Relationship of Enneagram 6 to Leadership Performance Indicators: Summary of findings (table contains only significant β values).

MULTIPLE REGRESSIONS OF ENNEAGRAM 6 AND LEADERSHIP PERFORMANCE INDICATORS	
Emergence Indicators	—
Task Effectiveness Indicators	—
People Effectiveness Indicators	—

Note. β = Beta value; *PfP* = Potential for Promotion; *TOFP* = Financial Performance; *TCA* = Task Competencies (Efficiency, Analysis, Dealing with Pressure); *CC* = Compliance Competencies (Safety, Alignment); *PC* = People Competencies (Communication, Teamwork, People Development, Customer Care); *PO* = Opinion of employees in area' (people survey on whole area); *POFP* = Opinion of direct team (semi-annual pulse on leadership practices). * $p < .05$; ** $p < .01$.

In short, these results show that leaders scoring high in Enneagram 6 tended to perceive themselves as always alert to ensure that work standards are met (Management-by-Exception_active; $\beta = .368$ **). Similarly, their superiors viewed them as committed and unlikely to abdicate their responsibility (Laissez-Faire, $\beta = -.220$ *). Even more notably, they were highly regarded by their peers, who saw them as focused in helping their followers succeed and able at implementing strategies and tactical solutions (Antonakis and House, 2014, p. 749) (Instrumental Leadership, $\beta = .234$ *); which in their eyes

resulted in the people around them being satisfied with their leadership style (Satisfaction with Leader, $\beta = .223^*$).

Several interesting patterns can be observed in these results. First of all, Enneagram 6 (The Loyalist) only associates to positive leadership outcomes. Second, it is the only Enneagram type that appears associated with positive perceptions from peers (all other significant perceptions from peers are negative). And not only do they receive one positive score from peers, but two, one regarding their behaviour, and another regarding their outcomes.

Overall, these findings are consistent with Enneagram theory, which describes The Loyalists as dutiful, hard-working, and friendly team-players. These traits could explain the positive ratings of superiors and particularly, of peers. According to Oh and Berry (2009), peers would tend to appreciate leadership behaviour oriented towards collaboration. These results also seem aligned to the association of Type 6 (The Loyalist) to high Affiliation motive (Sutton, Allinson and Williams, 2013), and a preference for Working with People, and for Organizing and Executing (Brown and Bartram, 2005).

On the other hand, these findings are not in line with Type 6's FFM profile of high Neuroticism and low Extraversion, a combination of FFM traditionally considered a negative correlate of Leadership (Bono and Judge, 2004; Judge, Piccolo and Kosalka, 2009). Interestingly, none of Type 6's positive scores are associated with Transformational behaviours. The latter are traditionally considered the strongest correlates of leadership outcomes, particularly of "people" outcomes (Antonakis and House, 2014), which in turn, would have been expected to correlate with peer's perceptions (Oh and Berry, 2009).

Several questions could arise from here: What are the true drivers of others' appraisals of leadership? Do the Transformational behaviours of a leader weigh as much as it is believed, or task orientation, pure and simple, could also be a great booster of a good relationship with others at work? And more importantly, what does it mean that a personality type associated with high Neuroticism was only associated with positive leadership outcomes? More research needs to happen, and in different organisational settings, in order to clear up these unknowns.

More aligned with the FFM literature is the humble self-perception of Type 6 regarding their own leadership, since Neuroticism has been found to be negatively associated with self-assessments of leadership behaviour (McKee et al., 2018). The only behaviour in which these leaders perceived themselves as remarkable was Management-by-Exception_active. This could be explained by the Enneagram literature describing Enneagram 6 (The Loyalist) as highly sensitive to risk, alert to detect it and driven to mitigate it (Naranjo, 1994; Riso and Hudson, 1996). In fact, there is empirical evidence that this behaviour tends to be particularly appreciated when it occurs within high-risk organisational contexts (Antonakis, Avolio and Sivasubramaniam, 2003).

In short, more research is needed to fully understand the findings in relation to Type 6, The Loyalist. However, generally speaking, these seem to be more in line with the Enneagram literature than with what could be inferred from this type's FFM pattern.

10.7 Leadership & Enneagram Type 7, The Enthusiast

Enneagram theory describes Type 7 leaders as outgoing, fun, energetic, quick decision-makers, visionary, and open to change, although sometimes criticised for a lack of follow-up or involvement in day-to-day issues and a lack of real concern for other people's needs (Naranjo, 1994; Riso and Hudson, 1996; Chestnut, 2017).

Academic research has associated Type 7 to high Extraversion and Openness, and low Conscientiousness (Newgent et al., 2004; Sutton, 2007; Giordano, 2008; Stevens, 2011; Delobbe, Halin and Prémont, 2012; Yilmaz, Unal, et al., 2016). The Enthusiast has also been found to be high in the values of Hedonism, Stimulation and Self-Direction, and low in Conformity; to score high in the intrinsic motives of Affiliation and Power (Sutton, Allinson and Williams, 2013) and to have an occupational competency profile oriented towards '*Interacting and Presenting*' (Brown and Bartram, 2005).

The tables below summarise the main findings of this study regarding Enneagram 7:

Table 93: Relationship of Enneagram 7 to Leadership Behaviours and Perceived Leadership: Summary of findings (table contains only significant β values).

	MULTIPLE REGRESSIONS OF SELF-ASSESSED ENNEAGRAM 7 AND LEADERSHIP BEHAVIOURS / PERCEIVED LEADERSHIP EFFECTIVENESS, ACCORDING TO DIFFERENT RATER GROUPS			
	Self	Superiors	Peers	Followers
Leadership Behaviours	II(B) = ($\beta = .379$)** IS = ($\beta = .320$)** IL = ($\beta = .203$)*	—	—	—
Perceived Leadership Outcomes	—	—	—	—

Note. β = Beta value; II(A) = Idealised Influence (Attributes); II(B) = Idealised Influence behaviour; IC = Individualised Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation; CR = Contingent Reward; MBEA = Mgmt. by Exception Active; MBEP = Mgmt. by Exception Passive; LF = Laissez-Faire; IL = Instrumental Leadership. // EFF = Effectiveness; EE = Extra Effort; SAT = Satisfaction. * $p < .05$; ** $p < .01$.

Table 94: Relationship of Enneagram 7 to Leadership Performance Indicators: Summary of findings (table contains only significant β values).

MULTIPLE REGRESSIONS OF ENNEAGRAM 7 AND LEADERSHIP PERFORMANCE INDICATORS	
Emergence Indicators	—
Task Effectiveness Indicators	—
People Effectiveness Indicators	POFP = ($\beta = -.264$)*

Note. β = Beta value; PFP = Potential for Promotion; TOFP = Financial Performance; TCA = Task Competencies (Efficiency, Analysis, Dealing with Pressure); CC = Compliance Competencies (Safety, Alignment); PC = People Competencies (Communication, Teamwork, People Development, Customer Care); PO = Opinion of employees in area' (people survey on whole area); POFP = Opinion of direct team (semi-annual pulse on leadership practices). * $p < .05$; ** $p < .01$.

In general, the results indicate that leaders scoring high on Enneagram 7 (The Enthusiast) were very positive in appreciating their own leadership style, coming second only after Enneagram 9, The Peacemaker. The Enthusiasts tended to see themselves as charismatic leaders who create vision and lead by creating a sense of purpose in their teams (Idealised Influence behaviour, $\beta = .379$ **); as active promoters of creative thinking and problem-solving (Intellectual Stimulation; $\beta = .320$ **); and as focused in helping their followers succeed by implementing strategies and tactical solutions (Instrumental Leadership, $\beta = .203$ *). By contrast, Enneagram 7 (The Enthusiast) was not associated with any other positive leadership outcome, neither from the point of view of others, nor from their "objective" results. Furthermore, regarding their performance indicators as leaders, they obtained a significantly low evaluation in a

survey answered by their direct teams, focused on measuring their leadership practices (Opinion of direct team; $\beta = -.264^*$).

At first glance, these results are largely unexpected, considering that the high Extraversion and Openness that characterise the FFM profile of Enneagram 7, have been consistently associated with Leadership Emergence and Effectiveness (Bono and Judge, 2004; Deinert et al., 2015). On a closer look, Enneagram theory describes type 7s as fun to work with, but at the same time, self-centred, uncommitted to the well-being of others, uncommitted to following through on projects, and promising more than they tend to deliver. This could help explain the negative perception of their direct team. For example, it is possible that after a positive first impression due to their engaging personality, their team might have felt a bit abandoned or disillusioned. These descriptions are also consistent with the literature about the "dark side" of Openness and Extraversion, potentially associated with difficulty in following through on projects (Judge, Piccolo and Kosalka, 2009). It could be speculated that these negative consequences could be aggravated by the third FFM trait characteristic of their profile according to literature: their low Conscientiousness (Judge, Piccolo and Kosalka, 2009).

These results could also be partly explained by the findings of McKee et al. (2018), regarding the correlation of FFM traits with self and other's ratings of Transformational and Instrumental Leadership. According to these authors, both Openness and Extraversion would be associated with a positive self-perception of leadership style (McKee et al., 2018a), and no particular pattern in the perceptions of others.

In conclusion, some of these findings are aligned with the literature, both on the Enneagram and the FFM, and others seem to contradict it, suggesting that more research is needed to understand these nuances.

10.8 Leadership & Enneagram Type 8, The Challenger

Enneagram theory describes Type 8 leaders as bold, self-assured, charismatic communicators, strong negotiators, and comfortable in positions of power (Riso and Hudson, 1996), but likely to be arrogant, authoritarian, and intimidating when exercising

authority (Naranjo, 1994; Riso and Hudson, 1996; Goldberg, 1999; Chestnut, 2008; Daniels et al., 2018).

The most consistent academic findings regarding Enneagram 8 connect it to a combination of high Extraversion and low Agreeableness (Newgent et al., 2004; Sutton, 2007; Giordano, 2008; Stevens, 2011; Delobbe, Halin and Prémont, 2012; Yilmaz, Unal, et al., 2016). This pattern is reminiscent of Enneagram 3, The Achiever, with one major difference, Type 8 does not have the latter’s high level of Conscientiousness. Research has also found that Type 8 tends to score high in the values of Power and Stimulation, low in Conformity; and high in Job Involvement (Sutton, Allinson and Williams, 2013). This type has also been found to associate with occupational competency profiles of *Leading and Deciding, Interacting and Presenting, Adapting and Coping, Creating and Innovating, and Entrepreneurial and Commercial Thinking* (Brown and Bartram, 2005)

Table 95: Relationship of Enneagram 8 to Leadership Behaviours and Perceived Leadership Outcomes: Summary of findings (table contains only significant β values).

	MULTIPLE REGRESSIONS OF SELF-ASSESSED ENNEAGRAM 8 AND LEADERSHIP BEHAVIOURS / PERCEIVED LEADERSHIP OUTCOMES, ACCORDING TO DIFFERENT RATER GROUPS			
	Self	Superiors	Peers	Followers
Leadership Behaviours	II(B) = ($\beta = .187$)* MBEA = ($\beta = .198$)*	—	—	IS = ($\beta = -.206$)*
Perceived Leadership Outcomes	—	—	—	—

Note. β = Beta value; II(A) = Idealised Influence (Attributes); II(B) = Idealised Influence_behaviour; IC = Individualised Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation; CR = Contingent Reward; MBEA = Mgmt. by Exception Active; MBEP = Mgmt. by Exception Passive; LF = Laissez-Faire; IL = Instrumental Leadership. // EFF = Effectiveness; EE = Extra Effort; SAT = Satisfaction. * $p < .05$; ** $p < .01$.

Table 96: Relationship of Enneagram 8 to Leadership Performance Indicators: Summary of findings (table contains only significant β values).

MULTIPLE REGRESSIONS OF ENNEAGRAM 8 AND LEADERSHIP PERFORMANCE INDICATORS	
Emergence Indicators	—
Task Effectiveness Indicators	—
People Effectiveness Indicators	—

Note. β = Beta value; PFP = Potential for Promotion; TOFP = Financial Performance; TCA = Task Competencies (Efficiency, Analysis, Dealing with Pressure); CC = Compliance Competencies (Safety, Alignment); PC = People Competencies (Communication, Teamwork, People Development, Customer Care); PO = Opinion of employees in area’ (people survey on whole area); POFP = Opinion of direct team (semi-annual pulse on leadership practices). * $p < .05$; ** $p < .01$.

Before interpreting the results of this study regarding Enneagram 8, it should be remembered that the instrument used to measure the Enneagram model presented a low level of internal consistency, particularly in the subscale for this type (Cronbach's alpha = .55) (See chapter 6). This implies that findings related to this type should be interpreted with extreme caution. In any case, this section will assume the results as valid and discuss them in relation to the literature, to assess the degree to which they are connected with the Enneagram theory, and to facilitate their re-examination by future research using more robust measures.

According to this study, subjects scoring high on Enneagram 8 (The Challenger) saw themselves as charismatic and visionary leaders who lead by creating a sense of purpose in their teams (Idealised Influence_behaviour, $\beta = .187^*$); and by actively surveying work standards to ensure that they are met (Management-by-Exception_active; $\beta = .198^*$). In contrast, followers saw them as stifling creative thinking and problem-solving in their teams (Intellectual Stimulation, $\beta = -.206^*$).

Overall, the patterns observed for Enneagram 8 (The Challenger) sound similar to those observed for Type 7 (The Enthusiast): positive self-perceptions combined with neutral or negative perceptions of others, with no particular association with "objective" leadership performance.

What is most interesting about these findings is their contrast with the associations that could have been anticipated about this type, both from the point of view of the Enneagram and from the academic literature. Many Enneagram authors label Type 8 as "The Leader" or "The Boss" (M. J. Goldberg, 1999; Lapid-Bogda, 2004; Chestnut, 2017) because their personality traits closely resemble the prototypical image of a "strong leader": fearless, charismatic, and naturally influential (Hogan, Curphy and Hogan, 1994). Their high level of Extraversion and their tendency towards low Neuroticism, are also considered correlates of Leadership Emergence and Effectiveness (Bono and Judge, 2004; Judge, Piccolo and Kosalka, 2009).

The complete absence of positive associations with leadership variables beyond their own perception certainly calls into question the paradigms associated with "strong"

leaders. In fact, Enneagram 8, The Challenger, is the only type whose Leadership Behaviour is rated negatively by followers.

Perhaps the key to explaining these results lies in another FFM trait, also characteristic of The Challenger: their low Agreeableness. Several studies have found that low Agreeableness does not affect Leadership Emergence (Bono and Judge, 2004), but it does affect other Leadership Outcome measures, showing negative effects on Overall Leadership Effectiveness (Bono and Judge, 2004); Group Performance; Satisfaction with the Leader (Derue *et al.*, 2011); and to some extent, followers' ratings of a leader's Relational performance (Oh and Berry, 2009).

Low Agreeableness has also been associated with arrogant or aggressive leadership behaviour (Judge, Piccolo and Kosalka, 2009), which would be very consistent with the literature's description of Enneagram 8 (Naranjo, 1994; Riso and Hudson, 1999). Given this evidence, it is interesting to reflect on why so many human groups consistently choose to be led by leaders with low Agreeableness. Hogan, Curphy and Hogan (1994) believe the reasons are somehow rooted in our evolutionary history.

The followers' complaint that Enneagram 8 leaders stifle creative thinking is consistent with the theory that describes The Challenger as prone to impose their own way of thinking by intimidating, instilling fear of dissent, and silencing the expression of ideas different from theirs (Chestnut, 2017).

The absence of any other significant association to leadership variables seems counterintuitive, given that Enneagram 8's leadership has been described as "impactful" (M. J. Goldberg, 1999; Lapid-Bogda, 2004) both in a positive sense (e.g., pushing to achieve near-impossible goals) and negative (fear and discontent). If the Enneagram theory proves valid, this lack of statistical correlation could be explained rather by a dispersion of both positive and negative responses. A more detailed analysis of the variability of the responses within each type would be necessary to clarify this point, a deep dive that would be outside the scope of this thesis.

Finally, the absence of association between the Enneagram 8, The Challenger, and the indicator of Leadership Emergence (Potential for Promotion) is also unexpected. There are several possible explanations for this finding: One is that the associations between

FFM traits and leadership may not extrapolate so clearly to the Enneagram model. It is also possible that at this level of leadership (high-ranking executives), personality is less associated with emergence to even higher positions. And, as mentioned above, it is also possible that this absence is due to problems in the measurement instrument which particularly affected Enneagram 8, as will be further discussed in chapters 11 and 12.

10.9 Leadership & Enneagram Type 9, The Peacemaker

Type 9 leaders are expected to be optimistic, patient, low-key and affable, sensitive to the needs of their team, flexible and at the same time, resistant to change; conflict-avoidant, with a tendency to be politically naive, and sometimes too condescending to exercise authority (Goldberg, 1999; Chestnut, 2017).

The clearest pattern of association between this type and FFM is a high level of Agreeableness (Newgent et al., 2004; Sutton, 2007; Giordano, 2008; Stevens, 2011; Delobbe, Halin and Prémont, 2012; Yilmaz, Unal, et al., 2016). Academic literature has also associated Type 9 with high scores in the values of Tradition and Universalism, and low in those of Achievement and Self-Direction, a low Job Self-Efficacy (Sutton, Allinson and Williams, 2013); and an occupational competency related to Adapting and Coping (Brown and Bartram, 2005).

The following tables summarise the findings of this study regarding Enneagram 9:

Table 97: Relationship of Enneagram 9 to Leadership Behaviours and Perceived Leadership Outcomes: Summary of findings (table contains only significant β values).

	MULTIPLE REGRESSIONS OF SELF-ASSESSED ENNEAGRAM 9 AND LEADERSHIP BEHAVIOURS / PERCEIVED LEADERSHIP OUTCOMES, ACCORDING TO DIFFERENT RATER GROUPS			
	Self	Superiors	Peers	Followers
Leadership Behaviours	II(A) = ($\beta = .245$)* II(B) = ($\beta = .201$)* IC = ($\beta = .334$)** IM = ($\beta = .344$)** IS = ($\beta = .224$)* IL = ($\beta = .358$)**	—	—	—
Perceived Leadership Outcomes	EFF = ($\beta = .336$)** SAT = ($\beta = .235$)*	—	—	—

Note. β = Beta value; II(A) = Idealised Influence (Attributes); II(B) = Idealised Influence_behaviour; IC = Individualised Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation; CR = Contingent Reward; MBEA = Mgmt. by Exception Active; MBEP = Mgmt. by Exception Passive; LF = Laissez-Faire; IL = Instrumental Leadership. // EFF = Effectiveness; EE = Extra Effort; SAT = Satisfaction. * $p < .05$; ** $p < .01$.

Table 98: Relationship of Enneagram 9 to Leadership Performance Indicators: Summary of findings (table contains only significant β values).

MULTIPLE REGRESSIONS OF ENNEAGRAM 9 AND LEADERSHIP PERFORMANCE INDICATORS	
Emergence Indicators	—
Task Effectiveness Indicators	—
People Effectiveness Indicators	POFP = ($\beta = .259$)*

Note. β = Beta value; PFP = Potential for Promotion; TOFP = Financial Performance; TCA = Task Competencies (Efficiency, Analysis, Dealing with Pressure); CC = Compliance Competencies (Safety, Alignment); PC = People Competencies (Communication, Teamwork, People Development, Customer Care); PO = Opinion of employees in area' (people survey on whole area); POFP = Opinion of direct team (semi-annual pulse on leadership practices). * $p < .05$; ** $p < .01$.

The results indicate that leaders with high scores on Enneagram 9 (The Peacemaker) were overwhelmingly positive in assessing their own leadership style, being by far the most optimistic within the sample. These leaders saw themselves as transformational in every way: motivating and inspiring their teams through a promising vision of the future (Inspirational Motivation $\beta = .344^{**}$); supportive, close and concerned about their people's welfare (Individualised Consideration; $\beta = .334^{**}$); charismatic and driven by strong Ideals and values (Idealised Influence_attributed; $\beta = .245^*$); active promoters of creative thinking and problem solving (Intellectual Stimulation; $\beta = .224^*$), as well as visionary and leading from a sense of purpose (Idealised Influence_behaviour; $\beta = .201^*$). Additionally, they viewed themselves as focused on helping their followers succeed by implementing strategies and tactical solutions (Instrumental Leadership, $\beta = .203^*$). Consistent with this positivity, they considered themselves to be very effective leaders (Overall Leadership Effectiveness; $\beta = .336^{**}$); and were convinced that those around them were happy with their leadership style (Satisfaction with the Leader; $\beta = .235^*$).

This overwhelmingly positive view of their own leadership does not appear to be entirely "inside their heads," since these leaders scored significantly positively in a People Performance Indicator: a survey completed by their direct team, aimed at measuring

their leadership practices (Opinion of the Direct Team or POF; $\beta = .259^*$). To put this finding in perspective, it is worth mentioning that Enneagram 9, The Peacemaker, was the only type associated with a positive evaluation of an "objective" Leadership Performance Indicator (all the other significant relationships between Enneagram type scores and Leadership Performance Indicators were negative).

At first glance these results seem surprising, since the Enneagram theory describes this type as humble, conflict-avoidant, and accommodating, in short, "un-leaderlike" (Judge, Piccolo and Kosalka, 2009). However, these results do connect with some evidence indicating a positive association between Agreeableness and overall Leadership Effectiveness (Bono and Judge, 2004); team collaboration; organisational citizenship behaviour (Gottlieb and Gøtzsche-Astrup, 2020); satisfaction with the leader; team performance (Derue *et al.*, 2011); and followers' perceptions of leaders' relational effectiveness (Oh and Berry, 2009).

That said, it is also important to acknowledge that the results of this study do not reveal any other significant opinions from followers, or any other rater group, regarding their Leadership Behaviours or their Perceived Outcomes.

Either way, as mentioned before, to interpret this study's findings it is necessary to remember that this section is not discussing Leaders whose main type is 9, but leaders who scored high on Enneagram 9 subscale, and perhaps on other Enneagram types as well. It is also important to consider that this sample is already made up of highly successful leaders, who have already emerged as such. It is not possible to know the extent to which these results are generalisable to middle-managers, for example.

What these results do allow to claim is that, all other things being equal, already successful leaders scoring high in Enneagram 9 (The Peacemaker) seem to more likely to be perceived positively by their direct teams. This finding is consistent with the Enneagram Theory, which describes them as affable, calm, and "nice" to be around (Wagner, 2010).

Overall, this thesis' findings seem aligned both with FFM literature on the relationship between Agreeableness and leadership, and with the Enneagram theory regarding the

Enneagram Type 9. The findings regarding each of the Enneagram Types are further discussed in section 10.11, that provides the conclusions to this chapter.

10.10 The Enneagram Types and Leadership: Conclusion

This chapter integrated the results of this study according to the nine types of the Enneagram, presenting together all the associations between the Enneagram scales and leadership outcomes. The consistency of these results was discussed, both with the Enneagram theory and with the academic literature connecting the Enneagram to the FFM and the latter to Leadership.

As mentioned above, the first thing that stands out when analysing these associations is that, in proportion, they are few and mostly weak. Nevertheless, it can also be claimed that all the Enneagram scales (types) showed significant associations with leadership variables beyond those self-perceived, and that most of these associations were consistent with Enneagram theory. For example, Type 5 (The Investigator), characterised as analytic but slow to take action, was associated with negative perceptions from their superiors regarding their Leadership Behaviours; Type 6 (The Loyalist), described as committed and Team-oriented, was rated positively by superiors and peers; and Type 1 (The Reformer), characterised as principled and perfectionistic but often stubborn and judgemental, received more negative ratings from colleagues.

On the other hand, many associations that would have been expected from theory were not found. For example, no type was associated with the indicator of Leadership Emergence, which according to literature, is often associated with personality variables (Bono and Judge, 2004). Or Type 2 (The Giver), described as highly focused on relationships, and reportedly high in Extraversion and Agreeableness, would have been expected to consider themselves as creating high Satisfaction with their Leadership. Instead, Type 2 only had negative perceptions of their own leadership, focused on their inability to stimulate problem-solving (IS) or to facilitate the achievement of their teams' goals (IL). Once again, the extent to which these findings have been affected by the low

reliability of the Enneagram measure will only be known when a future research examines these relationships using a better measurement.

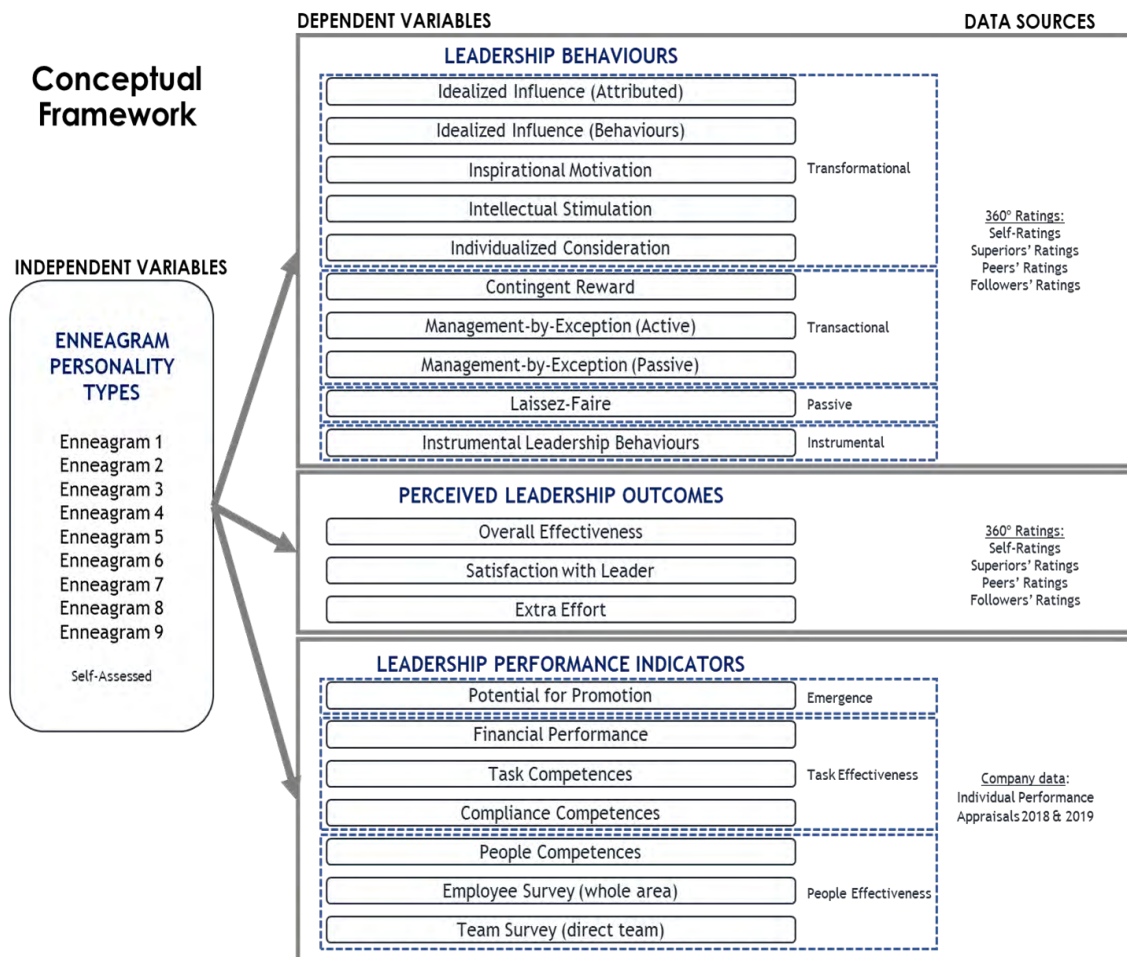
In conclusion, this study's results, viewed from the perspective of individual Enneagram types, do not offer conclusive evidence regarding the concurrent, criterion validity of the Enneagram model in relation to leadership. However, they appear to be significant enough and consistent with theory to warrant further investigation.

The next and final chapter of this thesis will discuss the broader implications of these findings, this time from the perspective of the research questions that guided this project. The final chapter will also draw some final conclusions about the relationship between the Enneagram model and leadership, and review the main limitations of this study, its implications for theory and practice, and some suggestions for future research.

Chapter 11. Overview and Final Discussion

The purpose of this thesis was to examine the relationship between the Enneagram personality model and Leadership. This was done by examining the association of the self-rated Enneagram type scores of a group of senior executives of a multinational business organisation, and three sets of outcome variables: Leadership Behaviours, Perceived Leadership Outcomes, and Leadership Performance Indicators, obtained from Company data. Three research objectives were established regarding the examination of these relationships, and 11 overarching research propositions were stated. The conceptual framework of this study is represented in figure 23.

Figure 23: Summary of this study's Conceptual Framework.



The detail of the variables included, how they were measured, and the methodology used for data-collection and analysis was presented in chapter 5, and will be briefly reviewed in the following sections. Chapter 6 of this thesis reported the preliminary

analyses, while chapters 7 to 9 reported the findings separately for each set of leadership variables. Chapter 10 presented these results from the perspective of the individual Enneagram types, and analysed the findings in relation to the literature.

This chapter will integrate the main findings in relation to the research objectives, and will discuss these findings in connection to the literature. This will provide an overall picture of the relationship between the Enneagram personality model and Leadership, according to the research findings.

The chapter is divided in two main sections. The first is not related to its research objectives, but to the preliminary question about whether significant differences would be found between the evaluations of the different rater groups, which would justify the separate analysis of each one. The second and main section addresses this study's research objectives, and is again divided into two parts: the first summarizes the main findings related to the three sets of leadership variables, respectively. The second section discusses these findings in connection with the literature. It was decided to discuss all the findings at once, to prioritize the integration and comparison between the different patterns found.

11.1 Preliminary Findings: the Difference between Rater Groups

Although not the main focus of this thesis, this thesis examined the extent to which the Enneagram model was related to different patterns of Leadership Behaviour and Leadership Outcomes, when these were assessed from the perspective of different rater groups: the leaders themselves, their superiors, peers, and followers. This analysis was necessary, in order to justify the separate analysis per rater group for both sets of dependent variables that were measured through a 360-degree questionnaire: Leadership Behaviours, and Perceived Leadership Outcomes.

1655 measures were obtained from the multiple raters using the Multifactor Leadership Questionnaire or MLQ-360 (Avolio and Bass, 1991): 130 self-ratings, 129 from superiors, 730 from peers and 666 from followers. The responses of the different rater groups regarding these two sets of variables were analysed using repeated measures ANOVA,

to determine whether their differences were significant. These analyses were performed using SPSS 26.

The analyses revealed that the rating patterns of the leaders themselves, their superiors, peers, and followers, were significantly different from each other. It was also noted that self-ratings and followers' ratings were consistently higher than those of superiors and peers, while the latter were the most critical of their colleagues' leadership, for most leadership variables.

The literature on managerial performance and 360-degree performance ratings has documented that different rater groups see different things, depending on their position in relation to the manager who is being assessed (Beehr *et al.*, 2001; Lance, Baxter and Mahan, 2014); and that this relationship varies depending on the leaders' personality (Brutus, Fleenor and McCauley, 1999; Conway, Lombardo and Sanders, 2001; Oh and Berry, 2009). These different rating patterns of the different organisational stakeholders evaluating leadership have been attributed mainly to two factors: the differential access that various stakeholders have to observe specific aspects of a leader's behaviour or outcomes, and the different motives affecting the perception of these stakeholders, depending on the nature of their position with respect to the leader (Hogan and Shelton, 1998; Oh and Berry, 2009; Vazire, 2010; Funder, 2012).

Regarding the motivational aspect, literature has suggested that superiors could evaluate based on their interest in achieving business objectives, peers could be motivated by their desire to collaborate or compete, and followers could be conditioned by their position of greater vulnerability with respect to the leader (Hogan and Shelton, 1998; Oh and Berry, 2009; Gottlieb and Gøtzsche-Astrup, 2020). Specifically, superiors' ratings could be based on their perception of how much the ratee helps them achieve their goals (Hogan and Shelton, 1998; Oh and Berry, 2009), peers' valuation could be primarily motivated by the possibility of forging collaborative relationships and "getting along" (Hogan and Shelton, 1998; Oh and Berry, 2009; Gottlieb and Gøtzsche-Astrup, 2020), and followers may tend to perceive that managers who are kinder, more considerate, and pay more attention to them are generally more effective (Brutus, Fleenor and McCauley, 1999; Oh and Berry, 2009).

In relation to access, literature has proposed that the leaders themselves are the only ones who can observe their internal processes, such as the intentions or reasoning that led to their actions; while followers could have a preferential vantage point to observe behaviours such as their concern for the team's well-being. Peers, on the other hand, might be well positioned to sense the extent to which they share information, and superiors, their composure and self-confidence when presenting to higher-ranking executives (Oh and Berry, 2009; McKee et al., 2018a).

In summary, this study's findings have provided empirical support to the literature that proposes that rater groups in a 360-degree leadership assessment will see different things, depending on their position in relation to the leader who is evaluated. This finding has justified the need to separately analyse the data from the different rating sources when examining the relationship between the variables.

This study has also provided initial evidence regarding the specific content of these differences, as a function of certain personality variables. For example, peers positively valued Enneagram 6 (The Loyalist), a type described as anxious but committed and team-oriented; superiors devalued Enneagram 5 (The Investigator), highly analytical but slow to take action; and followers acknowledged Enneagram 9 (The Peacemaker), characterised by a high level of Agreeableness. None of these patterns were shared by the other rater groups.

That said, all the findings regarding the relationships with the Enneagram model should be viewed with caution, since the instrument used to measure this construct did not reach adequate levels of reliability (only three of the nine Enneagram subscales reached acceptable levels of internal consistency, while most ranged between .65 and .67, and one was as low as .55). This deficiency of the measurement instrument was detailed in chapter 6, and will be discussed further in the following section of this chapter.

11.2 The Enneagram and Leadership: Summary of Findings

11.2.1 The Enneagram and Leadership Behaviour

This study's first Research Objective aimed to examine the relationship between the Enneagram personality model and Leadership Behaviours, when these are rated by leaders themselves, their superiors, their peers, and their followers. For this purpose, scores were obtained for the nine Enneagram types using the Halin-Prémont Enneagram Inventory or HPEI (Delobbe, Halin and Prémont, 2012), a self-assessment questionnaire for the Enneagram model. The HPEI was responded by the 133 senior leaders who were the subjects of this study.

The scores for these subjects' Leadership Behaviours were obtained from the Multifactor Leadership Questionnaire or MLQ (Avolio and Bass, 1991). This is a 360-degree survey, designed to measure nine different Leadership Behaviours comprised in the Transformational, Transactional, and Passive Leadership styles (Avolio and Bass, 1991). A few questions were added to measure a tenth behaviour, Instrumental Leadership a construct developed to compensate for some deficiencies found in the previous model (Antonakis and House, 2014). This questionnaire was answered by 129 superiors, 730 peers, 666 followers and 130 of the subjects.

Multiple linear regressions were run between the nine subscales of HPEI, and the ten measures of Leadership Behaviour, separately for each of the rater groups: self, superiors, peers, and followers. The assumptions for running the Multiple Linear regressions were tested. No evidence of multicollinearity was found; and only a slight deviation from normality (positive kurtosis) was observed in the case of self-ratings and followers ratings, which were small enough to be dismissed due to the large sample according to recommendations by Tabachnick and Fidell, (2013, p.79-80).

The study reported findings regarding the Enneagram model considered as a whole and separately for the nine Enneagram Types (scales), in relation to each rater group's assessment of the different Leadership Behaviours. The detail of these findings was presented in chapter 7.

In general terms, the vast majority of the relationships between the nine Enneagram subscales and the ten Leadership Behaviours perceived by the four rater groups, were non-significant. Of those that were, for the most part they were statistically weak.

Regarding the relationship between the Enneagram and **self-assessed Leadership Behaviours, the model as a whole** was able to explain a small percentage of the total variance of the ten Leadership Behaviours included in the study, values ranging between 5.3% and 17.6%. Eight of these values were significant.

Regarding the nine individual Enneagram scales, and self-rated Leadership Behaviours, the number of significant associations was low: A total of 17 associations were found, out of the 90 relationships explored (9*10). These represented an average of 1.89 significant associations per Enneagram type. The type with the biggest number of significant associations to self-rated behaviours presented six, (Enneagram 9, The Peacemaker), while two types presented none (Enneagram 3, the Achiever; and 4, the Romantic). Six of these associations to self-assessed behaviours were moderate (<.50 and >.30), and 11 were weak (<.30 and >.10), according to the cut-off points proposed by Cohen (1988). The specific content of the associations by type and their connection to the literature was discussed in chapter 10. These results, although weak, are stronger and more numerous than those found for the rest of the leadership variables examined by this study.

Regarding the relationship between the Enneagram and the Leadership Behaviours rated by others, the model as a whole was unable to explain a significant portion of the total variance in any of the ten Leadership Behaviours, for any of the rater groups. The percentage of variance explained ranged from 0% to 6.3%, being, slightly higher, on average, in the case of superiors, and lowest in the case of followers.

Regarding the nine individual Enneagram scales, and Leadership Behaviours rated by other raters considered altogether, the number of significant associations was extremely low: A total of 7 associations were found, out of the 270 relationships explored (9*10*3). These represented an average of .78 significant associations per Enneagram type, across rater groups. The significant associations were distributed among five types (types 1, the Reformer; 3, the Achiever; 4, the Romantic; 6, the Loyalist;

and 8, the Challenger), leaving four types with no significant association with Leadership Behaviours rated by others, across rater groups. All these associations were weak ($<.30$ and $>.10$), except for one, which was moderate ($<.50$ and $>.30$). The specific content of these associations and their connection with the literature was discussed in chapter 10.

In this general context of association deficiency, it was observed, however, that all individual Enneagram subscales showed at least one association with specific Leadership Behaviours, either self-perceived or perceived by others. The implications of these findings and their connections to the literature will be discussed in the following section.

11.2.2 The Enneagram and Perceived Leadership Outcomes

The second Research Objective of this study aimed to examine the relationship between the Enneagram personality model and Perceived Leadership Outcomes, when rated by self, superiors, peers, and followers.

Again, the independent variables were the nine subscales of the Enneagram self-assessed questionnaire. The dependent variables were obtained from the second part of the MLQ 360 questionnaire, focused on evaluating perceptions of three Leadership Outcomes: Satisfaction with the Leader, Extra Effort, and Overall Leadership Effectiveness, from the perspective of the four rater groups. The variables were analysed through multiple linear regressions, having checked the assumptions of multicollinearity and normality of the distribution. Once again, findings were reported regarding the Enneagram model as a whole, and for the nine Enneagram Types (scales) considered separately.

Once again, the vast majority of the relationships between the nine Enneagram subscales and the three Perceived Leadership Outcomes, according to the four rater groups, were non-significant. Of those that were, for the most part they were statistically weak.

More specifically, regarding self-perceived Leadership Outcomes, the results indicated that the Enneagram model as a whole was able to explain a significant, but small percentage of the variance in the three dependent variables. Regarding the relationship of the individual Enneagram types and the self-perceived Leadership Outcomes, three

significant associations were found distributed among two of the types. Two of these relationships were moderate (<.50 and >.30), while the third was weak (<.30 and >.10). This is an extremely low number of associations considering the possible total of 27 relationships that were examined (9 Enneagram types * 3 Perceived Leadership Outcomes rated by self).

In the case of other raters, the model as a whole was unable to explain a significant portion of the variance in any of the three dependent variables, and for any of the three rater groups: superiors, peers or followers. When considering the individual Enneagram subscales, only five significant associations were found, across rater groups, distributed among three of the nine Enneagram types. This overall number of associations is very low considering the total of 81 relationships examined between the nine Enneagram types, the three Perceived Leadership Outcomes, and the three rater groups of "others". All these associations were weak (<.30 and >.10). Once again, the specific content of the associations or lack thereof in relation to each Enneagram type was discussed in chapter 10.

11.2.3 The Enneagram and Leadership Performance Indicators

The third Research Objective of this study aimed to examine the relationship between the Enneagram personality model and Leadership Performance Indicators obtained from company data.

To examine this relationship, self-assessed Enneagram scales were analysed in connection to seven Leadership Performance Indicators obtained from company records: Potential for Promotion, Financial Performance, Task Competencies, Compliance Competencies, People Competencies, a team survey representing the opinion of the direct team regarding the leaders' coordination practices, and a more structured organisational survey representing the opinion of the direct and indirect reports making up the area reporting to each leader. This study considered the first as an indicator of Leadership Emergence, the next three were classified as indicators of Task Effectiveness, and the last three were considered indicators of People Effectiveness.

As in the previous analyses, the relationship between the independent and dependent variables was analysed through multiple linear regressions, having checked that the assumptions of absence of multicollinearity and normality of the distribution were fulfilled. As before, the findings were reported regarding the Enneagram model as a whole, and for the nine Enneagram Types (scales) considered separately. It is important to remember at this point that, unlike the two previous groups of variables, the Leadership Performance Indicators only included 1 data point per subject, since this measure did not consider rater groups but rather values provided by the company.

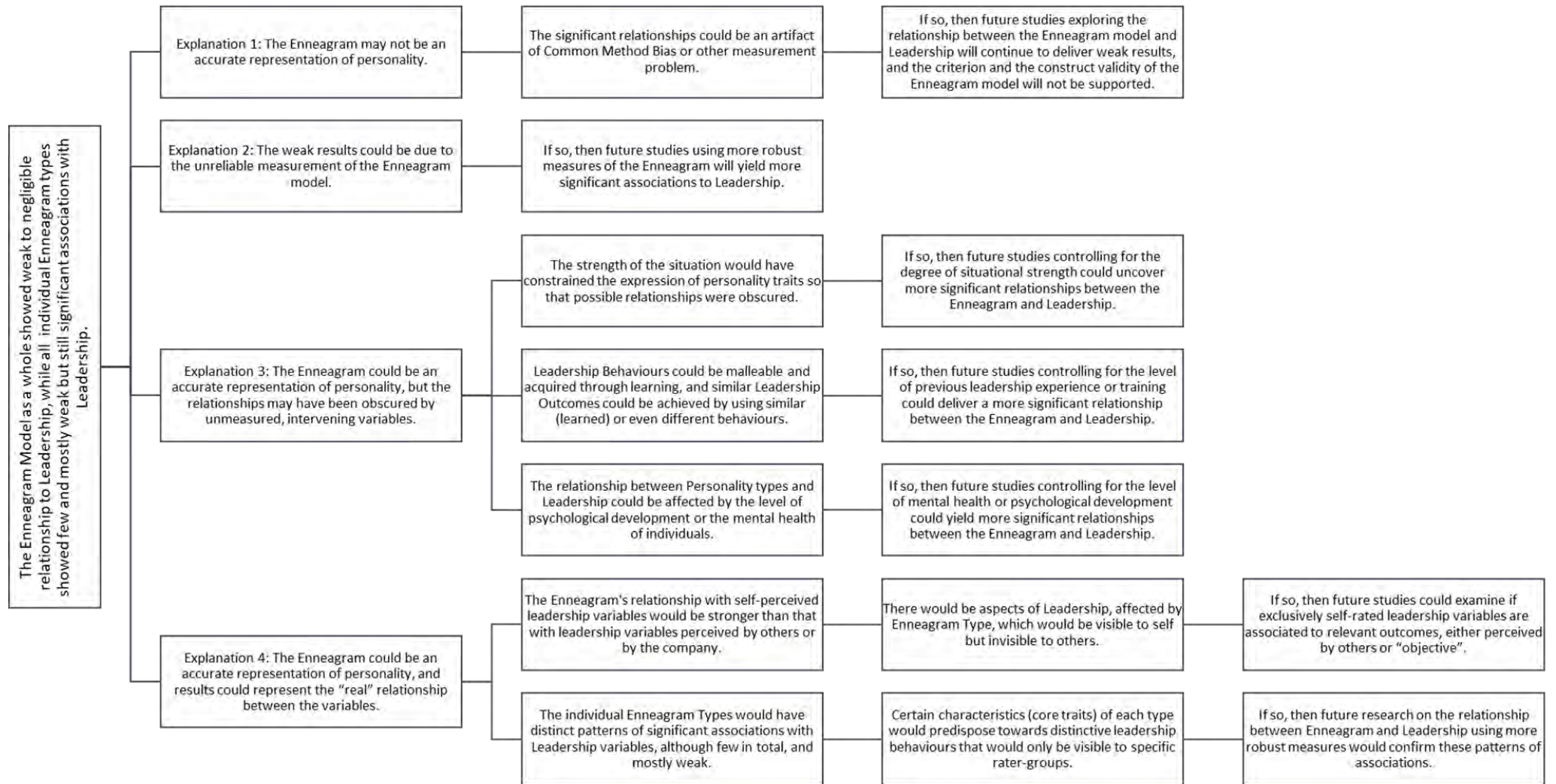
In sum, the results of the analyses showed no significant relationship between the Enneagram model as a whole and the Leadership Performance Indicators. The model was unable to explain a significant percentage of the variance in any of the seven dependent variables. Regarding the nine individual subscales, only six significant associations were found, distributed among four of the Enneagram types. This is extremely low considering the total number of 63 relationships that were examined (9 subscales * seven dependent variables). Of the six significant associations that were found across types, half of them related to Task and the other half to People Leadership Effectiveness. No association was found between the Enneagram Types and Leadership Emergence.

11.3 The Enneagram and Leadership: Discussion

Three general patterns can be distinguished among the findings presented in section 11.2: (1) there was a general lack of significant associations between the nine self-rated Enneagram types (subscales) and the multiple leadership variables examined in this study, and of those associations that were found, most were weak. (2) the relationships between the Enneagram types and the self-rated leadership variables were slightly stronger (less weak) than the relationship with leadership variables rated by others or obtained from the company. And (3) despite the previous two patterns, all individual Enneagram types showed at least one significant association with leadership variables beyond those self-perceived (that is, evaluated by others or provided by the company), although these relationships were, for the most part, weak. This section discusses the

possible explanations to these findings in relation to the literature. These explanations are summarised in figure 24.

Figure 24: Summary of possible explanations to the main findings of this research.



11.3.1 Possible Explanation 1: The Enneagram might not be an accurate representation of personality.

The general deficiency of significant associations between the variables of this study was surprising, given the relationship previously found between the Enneagram and FFM (Newgent et al., 2004a; Brown and Bartram, 2005; Sutton, 2007; Giordano, 2008; Stevens, 2011; Delobbe, Halin and Prémont, 2012; Yilmaz et al., 2016b), and between the FFM and Leadership (Bono and Judge, 2004; Newgent et al., 2004a; Derue et al., 2011; Sutton, Allinson and Williams, 2013).

A first possible explanation to these results is that the Enneagram is not an accurate representation of personality. This possibility must be seriously considered, since the evidence supporting its concurrent and criterion validity is still very little (Hook *et al.*, 2021), and studies exploring its construct validity have yielded mixed results (Wagner and Walker, 1983; Wagner, 1999; Newgent et al., 2004a; Scott, 2011a; Stevens, 2011; Delobbe, Halin and Prémont, 2012; Yilmaz et al., 2014).

This study's poor findings regarding the concurrent criterion validity of the Enneagram in relation to several leadership variables could also be viewed as further evidence that the Enneagram is not an accurate representation of personality. In any case, this evidence is not conclusive either, due to the measurement errors pointed out in chapter 6 and which will be discussed extensively in the following section. More research and evidence needs to be conducted to establish the overall validity of the Enneagram model.

On the other hand, this possibility would not be consistent with the significant relationships that were actually obtained between the Enneagram and Leadership, beyond the self-assessed leadership variables. These relationships, although few and mostly weak, were observed for all the types that make up the model. If the Enneagram model were not an accurate representation of personality, then it would be necessary to find an alternative explanation for these findings.

It could be argued that these relationships were an artefact of a methodological problem, such as Common Method Variance or CMV. CMV was discussed in Chapters 6 and 7, as a problem that can occur when measurement artifacts produce artificial

correlations that do not reflect the true relationship between variables (Podsakoff et al., 2003b). It was mentioned that a usual kind of CMV is “common source”, that is, when the significant associations were found between self-reported independent and dependent variables, as it happened in the current study. However, there were significant associations between all the Enneagram types and leadership variables either evaluated by others and/or provided by the company. Even so, it could be argued that these relationships were also susceptible to CMV, due to “item similarity” (Podsakoff et al., 2003b). In the case of this study, the questions used to measure the Enneagram model (e.g., “When I speak out, I tell it how it is. I'm the straightforward and blunt type, who leaves no room for ambiguity”²¹); are similar in nature and content to the questions used to measure Leadership Behaviours (e.g., “I talk optimistically about the future”²²). This would imply that, even in leadership evaluations rated by others, there could be artificial correlations between the variables. This study performed, ex post, the Harman's single-factor test (Harman, 1967), a method recommended by many researchers to check for the presence of Common Method Variance in the data (Krishnaveni and Deepa, 2013; Fuller *et al.*, 2016; Rodríguez-Ardura and Meseguer-Artola, 2020). The total variance extracted by a single factor was found to be well below the cut-off point (see detail in chapter 6). Therefore, it was assumed that CMV was not a major issue affecting the results of this study. However, some researchers have criticised Harman's method (Podsakoff et al., 2003b; Malhotra, Kim and Patil, 2006; Baumgartner, Weijters and Pieters, 2021), so it is not possible to completely rule out the interference of CMV in the relationships found.

It is important to mention that any lack of evidence supporting the invalidity of the Enneagram as a model does not lead, from any point of view, to invalidate the models of personality types in general. In fact, several recent studies on large databases of subjects measured with the FFM, have found evidence of the existence of "Personality Types", understood as combinations of FFM traits that tend to be consistently repeated

²¹ Extracted from the Enneagram Inventory HPEI (Provided by the author)

²² Extracted from the Leadership Behaviours section in the MLQ (Avolio and Bass, 1991)

in reality (Sava and Popa, 2011; von Davier, Naemi and Roberts, 2012; Zhang *et al.*, 2015; Isler *et al.*, 2017; Kerber, Roth and Herzberg, 2021). These studies have used sophisticated statistical techniques to examine large databases of tens of thousands of individuals, extracting the number of clusters that best fit their data. These studies have found 3, 4 or 5 of these recurrent trait patterns. One of such studies on a longitudinal database, also explored how life outcomes could be predicted from isolated FFM traits, versus their “personality types” (clusters of FFM traits). They found that the types were more useful than the individual traits in predicting complex outcomes, that is, associated with multiple FFM traits, such as impulsivity or locus of control (Kerber, Roth and Herzberg, 2021). Their findings, on the one hand, suggest that personality types would exist in reality, and that type models would potentially be complementary to trait models in explaining outcomes associated with personality. On the other hand, they indicate that the nine types described by the Enneagram have not been found in the data when research on patterns of variation is done factorially and a-theoretically. It would remain to be known whether the same patterns of 3, 4 or 5 personality types appear in large databases that included assessments of aspects of personality (e.g., motives) beyond those included in the FFM.

In summary, the results of the present study could imply that the Enneagram is not a valid personality theory, but the findings were inconclusive in this regard and would need to be explored further. The following sections will discuss other alternative ways in which the existing literature could help explain this study’s findings.

11.3.2 Possible Explanation 2: The weak results could be due to measurement problems.

A second possible line of explanation would be that the Enneagram is a reasonably accurate representation of personality, but that the low number of significant results were due to the low reliability of the instrument used to measure the model. As described in chapter 6, only three of the nine Enneagram subscales reached acceptable levels of internal consistency, while most ranged between .65 and .67, and one was as low as .55.

According to literature, an instrument that is not reliable cannot be trusted as a valid measurement of the construct it claims to measure (Campbell and Fiske, 1959; Carmines and Zeller, 2012). Furthermore, research has found that the lack of reliability of a measurement instrument usually attenuates the correlations between the variables under study rather than emphasising them (Lance *et al.*, 2010; Fuller *et al.*, 2016). Therefore, this deficiency could help explain the low number of significant relationships found between the variables. It is also possible to speculate that the deficiency in the measurement instrument could be related to conceptual weaknesses in the Enneagram theory. As argued in Chapter 2, recent developments by Enneagram authors have become increasingly divorced from academic research, and their concepts and definitions suffer from considerable confusion and theoretical overlap (jingle-jangle).

In short, the poor results of this study may not be reflecting the true relationship between the Enneagram and Leadership, but rather this relationship could be clouded by measurement problems. This possibility would be in line with the literature presented in Chapter 4, to justify the expectation of a relationship between the Enneagram and Leadership. This literature includes the evidence of the consistent patterns of associations between the Enneagram and the Five-factor model (Newgent *et al.*, 2004a; Sutton, 2007; Stevens, 2011; Delobbe, Halin and Prémont, 2012; Yilmaz *et al.*, 2014); and between the FFM and Leadership (Barrick and Mount, 1991b; Bono and Judge, 2004; Oh and Berry, 2009; Derue *et al.*, 2011; Deinert *et al.*, 2015; Gottlieb and Gøtzsche-Astrup, 2020).

If this were true, then future studies using more reliable and accurate measures of the Enneagram would find more significant associations with the Leadership Behaviours and Outcomes.

11.3.3 Possible Explanation 3: Relationships may have been obscured by unmeasured intervening variables.

A third possible explanation to this study's deficient results would be that the relationship between the variables may have been obscured by unmeasured intervening variables. For example, there could be factors restricting the variation of the dependent variables, or factors confusing this relationship.

A first factor that could have restricted variation in the dependent variables would be that the different personality types would be similarly capable of displaying the different behaviours. Bono and Judge (2004), suggested that leadership behaviours could be inherently malleable and learnable, as a way to explain their own weak results in a study that examined the relationship between FFM traits and leadership behaviour. They proposed that “even if personality traits predict the tendency toward certain leadership behaviours, the observed trait-behaviour association may be weakened by leadership training.” (Bono and Judge, 2004, p.906). This would also be consistent with Roberts and Yoon’s (2021) distinction between the concepts of personality trait, and socio-emotional skill. The first would be understood as “cognitive, affective and behavioural tendencies: what a particular person tends to do, averaged across situations”; and the latter as “(what a person is) capable of doing when the situation calls for it” (Roberts and Yoon, 2021 p.493). The first would be automatic tendencies, and the second, conscious choices that may require a level of practice, effort, or long-term development. If this was the case, then future studies controlling for the leaders previous level of exposure to leadership development initiatives or even their years of experience in leading, could perhaps find more significant relationships among the variables.

A second factor that might have restricted the variation in the dependent variables would be that different personality types were forced to behave in similar ways due to common characteristics of their situations. For example, it could be argued that the subjects’ position as high-ranking executives of the same business organisation can be considered a “strong” situation. Several authors have argued that people who are subjected to "strong" situations are affected by pressure to conform to certain standards, and therefore show less variability in their behaviour (Mischel, 1977; Kenrick and Funder, 1988; Antonakis, Avolio and Sivasubramaniam, 2003; Calderwood, Meyer and Minnen, 2023). This argument is also captured by the Trait Activation Theory or TAT (Tett, Toich and Ozkum, 2021), that considers Situational Strength as one of the main parameters affecting the expression of an individual's personality traits on actual behaviours. TAT proposes that the expression of these traits will depend on their relevance with respect to the context, considering the demands and limitations that it imposes (see chapter 2). For example, implicit leadership theories shared by a

company's culture (Lord, Foti and de Vader, 1984; Phillips and Lord, 1986) could create a high-pressure environment, where leaders would be expected to live up to these standards in order to be successful. The organisation where this study was conducted is known for having a fiercely competitive culture, both externally and internally, therefore, this possibility cannot be excluded.

Extrapolated to the Enneagram model, these possible explanations would imply that different types would be capable of displaying similar Leadership Behaviours. Several Enneagram authors point out that personality types should not be distinguished from each other solely based on visible behaviours, but rather on their underlying motivations and their most frequent and long-lasting emotional, cognitive and behavioural tendencies (Riso and Hudson, 1999; Wagner, 2010).

On the other hand, it would be inferred from the theory that certain behaviours would be harder to develop for some types than for others, since the same behaviours might come easy and natural to some, while for others they might require a significant amount of practice. For example, both Type 1 (The Reformer) and Type 2 (The Giver) leaders could exhibit the behaviour of Individualised Consideration (a dimension of Transformational Leadership), but for The Giver, naturally inclined to pay attention to people and try to please them, it would be natural; while for The Reformer, perfectionistic, task-focused, and judgemental, it would require a learned, conscious effort to pay attention to the moods or the needs of the people in their teams. The Enneagram theory would also imply that each personality type would enact these behaviours in a different way, for example, Type 2 (the Giver) would be smiling and approachable, and Type 1 (the Reformer) more serious and paternalistic. However, it could be argued that this "personal style" cannot be captured by the Multifactor Leadership questionnaire, because its items are worded to capture the most concrete aspect of behaviours and whether they occur or not, but they do not ask about the way or the "style" in which they are carried out: e.g. "Suggests new ways of looking at how to complete assignments" or "Spends time teaching and coaching" (Avolio and Bass, 1991). It would also follow logically that equivalent Leadership Outcomes could be achieved by the different types, using these similar (learned) behaviours.

A third factor that may have obscured the relationship between the Enneagram model and Leadership could be the presence of unmeasured differences in the degree of mental health or “levels of psychological development” of the leaders. As reviewed in Chapter 2, the Enneagram theory proposes these levels of psychological development (Riso and Hudson, 1996), based on academic research on adult development (Loevinger, 1966, 1985; Kegan, 1980, 1999). According to this theory, adult individuals would evolve throughout life in the way they perceive themselves and the world; moving from a limited perspective to an increasingly broader one, capable of apprehending increasing levels of complexity and decreasing levels of egocentrism (Loevinger, 1966; Kegan, 1999; Cook-Greuter, 2004). These levels of development would be independent of personality type, that is, people of any Enneagram type could potentially be highly developed and well-adjusted, or “fixed” in a low level of development. The theory suggests that most adults would stagnate at average, and even low, levels of development, which would be consistent with research indicating that only 10 to 20% of adults would reach the above-average stages (Hy and Loevinger, 1996; Cook-Greuter, 2004). These levels of development have been assimilated to degrees of mental health, which would determine the perception and adaptive capacity of individuals (Riso and Hudson, 1999). And the way their pathology or well-being would manifest would be connected to the core traits of their personality type. For example, a highly developed Type 1 (the Reformer) could be perceived as an upright, exemplary, and self-disciplined leader; an average Type 1 might be seen as slightly rigid, perfectionistic, micromanaging, and overly critical, while a mentally-ill Type 1 could exhibit symptoms consistent with obsessive-compulsive disorder.

Adult development theory has been applied to leadership as a factor that would influence leader performance beyond personality (Kuhnert and Lewis, 1987; Rooke and Torbert, 2005; McCauley *et al.*, 2006). A study by Strang and Kuhnert (2009) examined this idea empirically, testing the relationship of FFM personality traits and leadership developmental levels with the ratings of leadership performance by superiors, peers, and followers. It was found that leaders’ developmental levels captured “an aspect of leadership above-and-beyond that which is attributable to personality” (Strang and Kuhnert, 2009, p.432). This would suggest that the leaders’ unmeasured levels of adult

development (or mental health) may have obscured the relationship between the independent and dependent variables.

In sum, any of the aforementioned factors, or others not considered here, could have obscured the relationship between the independent and dependent variables. If so, then future studies that control for the degree of Situational Strength, levels of prior leadership experience or training, or degrees of psychological development of leaders, might perhaps find more and stronger significant associations between the Enneagram and the Leadership.

11.3.4 Possible Explanation 4: Results could reflect the real relationship between the variables.

A fourth alternative would assume that none of the explanations mentioned above are valid, or that if they were, they did not affect the results of this study in a relevant way. Rather, it would assume that there is a "real" reason to explain the relationship patterns found in this study.

The following lines analyse the main patterns found in the data (apart from the absence of associations), and propose how these could be explained based on the literature. When considering these explanations, one must still take into account the problematic nature of the tool that was used to measure the Enneagram in this study, as discussed above.

11.3.4.1 Possible explanations to the Enneagram's stronger relationship with self-rated Leadership.

Assuming that this finding is not an artefact of Common Method Variance (Podsakoff et al., 2003b), as the results of Harman's single factor test suggest (see chapter 6), it would mean that the Enneagram's slightly stronger relationship with self-rated leadership variables would reflect real aspects of the subjects' leadership that was visible to the self and invisible to others.

Several authors have argued that self-assessments carry relevant information about an individual's personality or behaviour, often not visible to external observers (Vazire, 2010; Funder, 2012; Bollich, Rogers and Vazire, 2015). These theorists claim that, although self-assessments are subject to bias, the same is true for the assessments of

others. While the former have sometimes been assumed to be self-serving (Dunning, Meyerowitz and Holzberg, 1989, 2012; Coleman, 2011; Wang *et al.*, 2017), the latter are also affected by observers' motives and opportunities to observe behaviour (Vazire, 2010). It would follow that the difference between self and others' ratings should not be considered evidence that one of these sources is more "accurate" than the others, since no source should be considered "objective" by itself (Vazire, 2010; Funder, 2012; Bollich, Rogers and Vazire, 2015). Chapter 2 reviewed Vazire's (2010) findings in relation to self and other's ratings of personality. She found that personality characteristics associated with "internal" behaviours (i.e., thinking processes, emotions) were more visible to the self than to the others, those more "evaluative" in nature such as cognitive or social skills (i.e., intelligence) were more visible to others than to self; and those more explicit or externalised tended to be equally visible to both (i.e., talkativeness) (Vazire, 2010).

Arguably, this same reasoning could be applied to Leadership, since, like personality, it is mostly evaluated through the assessment of behaviours. It would follow that self-ratings could be a unique source of information about "internal" leadership behaviours, which by their nature could only be visible to the leaders themselves (Vazire, 2010; Funder, 2012; Bollich, Rogers and Vazire, 2015). For example, a leader's real concern for their followers could be hidden by the restrictions imposed to them by the context, e.g., their responsibility for leading mass layoffs. Leaders could also be more aware than outside observers regarding how they think through diverse strategies to achieve their goals; the degree to which their anxiety affects their planning processes; or the extent to which they communicate everything they have on their mind, to name just a few examples. According to Vazire's reasoning (2010), then it would be possible that the stronger relationship with the self-rated leadership variables could be explained because the MLQ questionnaire was composed in part of items that targeted "internal" leadership behaviours (visible only to the leader), and partly by "explicit" leadership behaviours (visible equally to oneself and others), and few or none referring to "evaluative" behaviours (visible to others and not the self), resulting in the observed gradient in the number and strength of the associations. A quick review of the wording of the MLQ items tends to confirm this assumption, as most of its items refer to either

"internal" leadership behaviours (i.e., "Considers the moral and ethical consequences of decisions."), or "explicit" leadership behaviours (i.e., "Expresses satisfaction when I meet expectations."), and only in the Perceived Outcomes section can some evaluative items be found (i.e., "Uses methods of leadership that are satisfying.").

As mentioned before, this argument implies that leadership self-assessments contain valid information, that is, that it really represents real aspects of the leadership of those evaluated, and is not just the product of a distorted self-image. One way to test this possible explanation in future studies would be to examine the relationship between exclusively self-assessed leadership variables and relevant outcomes, or better yet, their ability to predict "objective" outcomes of their leadership over time, or at least, outcomes perceived by other organisational stakeholders.

11.3.4.2 Possible explanations to the few and specific relationships between Enneagram Types and Leadership.

The finding of few, but still significant associations between all the nine Enneagram types and leadership variables beyond those self-perceived, and the fact that these associations were very different depending on the rater group, would also need to be explained.

These specific relationships between Enneagram types and leadership profiles, considered in the general context of few significant relationships, could be interpreted as an indication that the different Enneagram types would display similar Leadership Behaviours and be capable of obtaining similar outcomes under most circumstances; but that, at the same time, they would differ in very specific aspects of their Leadership, differences that would be visible only to specific organisational stakeholders.

In other words, the unique patterns by type could suggest that in some situations, the behaviour of these leaders would be less determined by situational similarities or situational strength, and more determined by their personality differences. If the Enneagram theory were assumed to be valid, the finding of these specific leadership patterns associated with each type could be explained in terms of the "core traits" of the type (Riso and Hudson, 1999) interacting with specific aspects of the triggering situation. For example, the core trait of a personality type could predispose it to a stronger behavioural response, or a lower activation threshold, when facing certain

situational triggers, following the logic of the trait-situation interaction proposed by Tett, Toich and Ozkum (2021). Consequently, when exposed to a particular kind of situation, this personality type could exhibit a response that is more exaggerated, more visible, or just different from that of other types.

Up to this point, this explanation could ignore the construct of personality type and rely solely on the presence or absence of certain traits, as indicated by the Trait Activation Theory (Tett, Toich and Ozkum, 2021). However, it should be kept in mind that this study found that Enneagram types characterized by similar levels of a given trait (e.g., high Extraversion), were associated with different leadership variables. This finding can be connected to the aforementioned study that compared the predictive power of the FFM traits to that of “personality types” composed by clusters of FFM traits. The researchers found that “personality types” were more useful than isolated traits in predicting complex outcomes, that is, those that were associated with several FFM traits at the same time. For example, they found that the association between Neuroticism and life outcomes such as physical and mental well-being, was much stronger when it occurred in combination with low Extraversion and Openness, than otherwise (Kerber, Roth and Herzberg, 2021) (see details in chapter 2).

As to why these leadership differences were detected by one group of raters and not by others, this could be explained by the same arguments made above regarding general differences between rater groups. That is, rater groups could perceive different aspects of a person's leadership due to differences in their access to observe certain behaviours, and their motivations and expectations regarding the relationship. These differences would be determined to a great extent by the position of the rater in relation to the leader who is being rated (Hogan and Shelton, 1998; Oh and Berry, 2009; Vazire, 2010; Bergman *et al.*, 2014; Gottlieb and Gøtzsche-Astrup, 2020). In other words, their position would determine their vantage point to observe some behaviours and not others, and how they would be affected by certain behaviours and outcomes of leadership and not by others.

Interestingly, these unique association patterns per type and per rater group were mostly consistent with Enneagram theory and the documented relationship between the nine types and the FFM traits, as discussed in chapter 10. For example, type 6 (the

Loyalist), described by the model as committed, team-worker, and anxious, and characteristically high in Neuroticism and low in Extraversion, was modest in their self-evaluation, only highlighted their own diligent behaviour (Management-by-Exception_active), and did not consider themselves particularly successful in any dimension of their leadership performance. Meanwhile, they were the only type to receive positive ratings from superiors and peers, on behaviours that could theoretically be associated with diligence (negative score in Laissez-Faire), and helping their teams achieve their objectives (Instrumental Leadership).

In any case, as mentioned above, these possible interpretations of this study's results should be considered with caution, due to the poor reliability indices of the instrument used to measure the Enneagram model. Future research using a more robust measurement instrument will be able to examine these patterns of association between Enneagram Types and Leadership, specific to rater groups, to check whether these findings receive further support.

Chapter 12 Conclusions

The previous chapter laid out an overview of this study, summarising its main findings, and discussing them in connection to the literature. The current chapter will draw conclusions from this discussion, including an integration of the suggestions for future research that were mentioned in chapter 11, a revision of this study's implications in terms of theory, methodology, and practice, and the consideration of the main limitations of this study.

Overall, this study found a weak to non-significant relationship between the Enneagram personality model and Leadership. More specifically, the Enneagram model and its nine component personality types were analysed in relation to several leadership variables, including ten Leadership Behaviours, three Perceived Leadership Outcomes, and seven Leadership Performance Indicators. The Enneagram was measured through a self-reported Enneagram questionnaire, the Halin-Prémont Enneagram Inventory (Delobbe, Halin and Prémont, 2012); the Behaviours and the Perceived Leadership Outcomes were measured with the Multifactor Leadership Questionnaire (Avolio and Bass, 1991), a 360-degree survey, answered by self, superiors, peers and followers, and analysed separately for the four rater-groups. This questionnaire was complemented with the Instrumental Leadership model proposed by Antonakis and House (2014). Leadership Performance Indicators were obtained from company records.

The vast majority of the relationships analysed were found to be non-significant, with a slightly less weak relationship observed in the case of self-assessed Leadership Behaviours and Outcomes, than with those evaluated by others or provided by the company. Also, the nine Enneagram types showed few but still significant patterns of association with leadership variables, from the perspective of specific rater-groups. These findings can be considered mixed evidence regarding the concurrent criterion validity of the Enneagram model in relation to leadership.

12.1 Suggestions for Future Research

Last chapter discussed four alternative ways to explain the deficient findings of this research project. The first of them considered that the Enneagram model might not be

an accurate representation of personality. The second possible explanation proposed that the results could be partly due to problems in the measurement of the independent variable. The third mentioned that unmeasured intervening variables could have obscured the relationship between Enneagram and Leadership. And the final option that was considered assumed that the findings were a valid reflection of the real relationship between the variables, and sought to explain the two major patterns found apart from the relative absence of relationships, that is, the slightly stronger relationship between the Enneagram model and self-assessed leadership variables, and the few, but significant and rater-specific patterns of association found for the nine Enneagram types. Several suggestions for future research emerged from the discussion above.

Firstly, as has been mentioned throughout this thesis, the instrument used to measure the Enneagram model showed an average internal consistency of .67, clearly lower than acceptable. Future research that reexamines the relationship between the Enneagram and leadership using a more robust measure of the former could potentially find more and stronger relationships than those found in the current study, or conversely, confirm a relative absence of significant relationships, supporting the rationale of a lack of validity of the Enneagram as a personality construct.

Along the same lines, this study's results seem to indicate that the instrument used to measure the Enneagram, the HPEI (Delobbe, Halin and Prémont, 2012), might need further development. Future studies might need to reassess the content and the construct validity of this questionnaire. For example, it has been qualitatively observed that several of its items concentrate different ideas into a single sentence, potentially creating confusion on respondents (e.g. "I am instinctively demanding of everything and of everyone and I'm not ready to make concessions just because something is difficult"). There could also be an issue with the scoring procedure (items answered with a 5-point Likert scale, 0 points to the two lowest categories, and then 1, 2 and 3 points respectively to the highest categories). Future investigation could assess whether these or other issues are affecting the questionnaire's reliability and validity.

Regarding the possibility that the relationship between the variables may have been obscured by unmeasured intervening variables, future studies may want to reexamine this relationship while controlling for (1) the degree of situational strength affecting the

subjects' role in their organisations, (2) their level of prior experience or exposure to leadership development interventions; or (3) their degree of "psychological development," among other factors that may not have been considered in the above discussion. For example, future studies could choose to control the interference of Common Method Variance, instead of only checking for its presence, as suggested by Baumgartner, Weijters and Pieters (2021).

Additionally, future studies using a longitudinal research design might choose to evaluate whether self-rated Enneagram scores and self-rated leadership variables can actually predict relevant, "objective" leadership outcomes over time, or at least, more meaningful outcomes. beyond one's own self-perception. Finally, it would also be interesting if future studies using a more robust Enneagram measure could examine whether the specific patterns of relationships between each Enneagram type and leadership, and their differences in these patterns by rater-group, are replicated.

12.2 Limitations

This study has several limitations that may affect the validity, reliability, and generalizability of its results.

12.2.1 Limitations to the Validity and Reliability

The first and most serious limitation of this study is the low reliability of the instrument used to measure the Enneagram model. As mentioned throughout this thesis, the HPEI presented an average internal consistency of .67, and only three of its nine subscales achieved internal consistency values greater than .70, while the weakest subscale returned an alpha value of .55. This low reliability values could call into question the validity of this study's findings, and make their interpretation problematic. Hopefully, the few significant findings hinted at here can stimulate future researchers to conduct similar investigations using more robust tools for measuring the Enneagram model. Additionally, perhaps more work is needed to design new measurement methods and tools for the exploration of this model.

A second important limitation of this study regarding the instrument and general method used to measure the Enneagram is its relative misalignment with theory. As mentioned, the Enneagram model describes discrete types, although with fuzzy borders between them, and each type is a complex mix of traits, motives and values, that can be expressed in behaviours in various ways depending on the individual's level of psychological development. The questionnaire focused exclusively on traits, leaving aside the other aspects of the model. Nor was it aimed at discovering the central personality type of each subject, limiting itself to measuring the degree of presence of the personality traits of each type in each individual. Although the authors of the HPEI have reported a high correlation between the results of this Enneagram questionnaire and individuals' identification of their core personality type (Delobbe, Halin and Prémont, 2012), this relationship has not been examined by independent researchers. This study chose to measure the Enneagram model using only a questionnaire, to have data that could be easily translated into numbers, allowing for an overall examination that included a large number of leadership variables. It is not possible to know to what extent this approach might have affected this study, but it is possible that this may explain, at least in part, the weakness of its results.

A third limitation is that many of the strongest findings of this study came from examining the relationship between measures obtained from the same source, making it vulnerable to Common Method Variance (Podsakoff et al., 2003b). Although Harman's single-factor test (Harman, 1967) was applied ex post and the presence of CMV was ruled out, this method has been criticized by some researchers (Podsakoff et al., 2003b), who recommend to control its effect using alternative procedures, like the marker-variable technique (Podsakoff et al., 2003b; Malhotra, Kim and Patil, 2006; Krishnaveni and Deepa, 2013). This could cast doubt on the results of this study, particularly those referring to self-assessed leadership variables.

12.2.2 Limitations to Generalisability

This study has one main limitation to its generalisability, related to the cultural characteristics of the sample. First, the study was carried out within a single company, albeit a multinational. Although this fact allowed for simpler logistics and comparability

of the performance measures across individuals, at the same time, the findings could be limited to this specific organisational culture. It is not possible to know to what extent this might have influenced the results.

Additionally, although the study included individuals from 14 different nationalities, the vast majority of the subjects were born in Latin America (only 13,5% were European or from the USA). The likely influence of “regional” cultural factors could also affect the generalisability of this study’s results. However, it could be also argued that, given the organisational level of the subjects, it is possible to assume that they all belong to a socioeconomic and cultural elite within Latin America, which according to various studies are comparable to their peers in the so-called Western nations in almost every parameter (Schwartzman and Collier, 2001; Torche, 2014). It should also be considered that all studies on human subjects include a cultural variable, and that those carried out exclusively on “Western” companies are often blind to this component, assuming a cultural neutrality that does not really exist. In any case, future studies will be able to determine the degree to which these results are generalisable to other groups of senior executives in other countries and in other companies.

12.3 Implications of this Study’s Findings

The main implications of this thesis can be classified into three categories: theoretical, methodological, and practical. These have been discussed in the following sections.

12.3.1 Theoretical implications

At a theoretical level, this study’s findings could have implications regarding two areas of research: the academic study of the Enneagram model, its validity, and its relationship to workplace outcomes; and the investigation of the rating-patterns of different organisational stakeholders in 360-degree surveys of managerial performance

Regarding the academic study of the Enneagram Model in general and in relation to workplace outcomes, this study has provided evidence of a weak relationship between the model and leadership; and therefore, evidence regarding its weak concurrent and criterion validity in relation to a well-established measure of leadership. However, these

results are not entirely conclusive due to the aforementioned measurement problems in the independent variable. This evidence can complement the nascent body of empirical research on the association between the Enneagram model and the broader context of workplace outcomes (Brown and Bartram, 2005; Delobbe, Halin and Prémont, 2012; Sutton, Allinson and Williams, 2013)

Furthermore, the fact that all individual Enneagram types showed few, but still significant, associations with leadership variables obtained from others or the company may serve to inform current Enneagram theory about how different types would express themselves in leadership roles. The fact that most of the relationships examined were not significant, and that the associations found were very specific and visible only to certain rater-groups, could be giving clues about possible real relationships between personality styles and Leadership. Although all of the findings of this study regarding the Enneagram should be interpreted with caution given that the tool used to measure it did not reach an adequate level of reliability, these results seem sufficient to warrant further investigation.

This study's findings also have implications regarding the study of 360-degree ratings of managerial performance, and how these vary among organisational stakeholders (Hogan and Holland, 2003; Oh and Berry, 2009; Bergman *et al.*, 2014), as well as about the more general phenomenon of self-other agreement in these ratings (Podsakoff and Organ, 1986; Atwater and Yammarino, 1992; Fleenor *et al.*, 2010; Vazire, 2010; McKee *et al.*, 2018a).

Specifically, this thesis provided concrete information on the significant difference between rater-groups regarding their ratings of various leadership variables, depending on their position in relation to the evaluated leaders, by separately analysing and comparing the answers of the four most distinguishable stakeholders in this regard: superiors, peers, followers, and self. In addition, it provided specific evidence regarding which rater-groups tend to be more or less critical of the leaders behaviour and performance, and of how the rater-groups assessment varied in relation to the personality variables of the leaders, as was discussed extensively in chapter 10.

In summary, at a theoretical level, this study has provided evidence indicating a weak concurrent criterion validity of the Enneagram model in relation to leadership, as well

as interesting information on how the perception of leadership by different raters can vary depending on their position and on the personality of the leaders evaluated.

12.3.2 Methodological implications

From a methodological standpoint, this study's results contribute evidence about the importance of using multiple sources and strategies to assess leadership behaviours and performance in the context of the academic study of leadership. As mentioned above, this study found significant differences in the measures of leadership obtained from the different sources. This suggests that the use of a single measure of leadership or a single source to obtain them could lead to biased or mistaken conclusions about the relationship between the variables. This evidence generally supports the importance of using, and not mixing, information from multiple sources when doing research on Leadership phenomena (Hiller *et al.*, 2011; Fischer, Dietz and Antonakis, 2017; Tuncdogan, Acar and Stam, 2017; Carter *et al.*, 2020). This finding also has practical implications that will be discussed below.

In a different area, this study's results caution against using the current version of the HPEI as an Enneagram questionnaire for research purposes. The HPEI is a relatively new instrument and, although its authors have reported high levels of reliability and concurrent validity with several other more established personality measures (Delobbe, Halin, Premont, et al., 2009; Delobbe, Halin and Prémont, 2012), these values have not been confirmed by independent researchers. It appears that more research is needed, and by independent teams, to confirm the validity and reliability of this Enneagram questionnaire.

In summary, the findings of this study have methodological implications regarding the appropriateness of using multiple sources when investigating leadership behaviour and effectiveness; and regarding the risks of using the HPEI as a measure of the Enneagram in research studies.

12.3.3 Practical implications

Chapter 2 argued that several HR professionals and consultants are already using the Enneagram model as a tool in connection to leadership: talent recruiters are using it to

choose the most suitable candidates for managerial positions; Coaches use it to help senior managers evaluate their strengths and weaknesses; and training specialists, to explain “leadership styles” derived from the Enneagram types (Lapid-Bogda, 2004; Sikora and Tallon, 2006; Chestnut, 2017).

This study’s findings suggest that HR professionals and Enneagram practitioners should be more cautious when using the Enneagram model as a tool in any of these applications, since the evidence found suggests that the relationship between the Enneagram and leadership is either weak or insignificant, and circumscribed to very specific aspects of leadership. This information should incline practitioners towards tools based on more validated and established personality models. This is important from an economic perspective, since every year, thousands of companies invest millions of dollars in personality tests to select the best talent to incorporate them as future leaders. In the United States alone, a recent study reported that 32% of employers from a total sample of over 2,000 companies, used personality tests to evaluate their candidates for executive levels, and 28% for Middle Managers (Mariotti, Robinson and Esen, 2017). It is also important from an ethical perspective, since the use of an invalid tool to guide hiring, promotion, or development initiatives can lead to wrong decisions and unfair organisational practices. Therefore, more academic research should be conducted to assess the construct and criterion validity of this model before it can be relied upon to produce information that can be used in organisational decision-making.

On the other hand, this study’s findings regarding the distinct rating patterns of the different rater groups can help inform the design of an almost universal practice in current organisations: the performance appraisal. Specifically, these results can contribute information to HR professionals when deciding between a traditional top-down approach to the evaluation of performance, based solely on the subjective perception of superiors; or a 360-degree evaluation. The latter, although more complex and expensive to implement, according to these results would seem more balanced in terms of equity, as well as apparently more useful for providing realistic feedback that helps develop and improve the performance of the leaders involved.

In sum, this study’s findings can help inform organisational decisions regarding the use of the Enneagram as a tool in relation to Leadership Recruitment or Development, and

also regarding the choice between a traditional, top-down Performance Appraisal process, and a 360-degree survey to assess leadership performance.

12.4 In Conclusion

Personality and leadership are, possibly, the most studied phenomena in the social sciences. And both fields of study are experiencing a growing convergence towards the most established theoretical models representing these phenomena: the Five-factor model in the former, and the Full Range Theory of Leadership in the latter. However, evidence from different sources is increasingly suggesting that personality types could be a complementary construct to trait models such as the FFM, helping to explain the more complex life outcomes associated with personality. This includes workplace outcomes, and particularly, leadership.

This thesis has examined the Enneagram, a typological model of personality, in relation to Leadership. The Enneagram is a popular tool among practitioners but little examined by the academic world. This model was chosen for its ability to integrate nomothetic and idiographic approaches to the study of personality: understanding the experience of the individual, without giving up measurement of traits and interindividual comparison.

The results of this study indicated that the relationship between the Enneagram and Leadership is weak, although the evidence also indicated that each of the nine types defined by the model were associated with some leadership variables. These poor results are likely influenced by the multiple limitations of this study. However, these results constitute a first step and suggest possible avenues for future research. Until that happens, the information resulting from this thesis will allow practitioners to make a more informed decision regarding the potential risks involved in using a tool that has not yet been fully validated.

APPENDIX

Appendix A: The Enneagram Types

This section contains an extended description of the Enneagram types, with an emphasis on their characteristics as leaders. The descriptions have been extracted from the author's notes taken on a certification workshop conducted by Don Riso and Russ Hudson, of The Enneagram Institute, in New York between 2002 and 2004. It also contains elements gathered from the following authors: Chestnut (2017; Daniels et al. (2018); Goldberg (1999); Naranjo (1994); Palmer (1995); Riso & Hudson (1996).

Type 1: The Reformer

General Characteristics

Key descriptors: Value-oriented, disciplined, judgemental.

Worldview and motivations: What seems most important to them is living according to their principles and being consistent with their ideals. They have a visceral rejection of moral "impurity" or "disorder." They strive to do what is right, correct what is "wrong," and be virtuous or perfect. They want to be right, and they strive to be beyond criticism so as not to be condemned by anyone.

Main traits: At their best, they are principled, upright, just, noble, morally heroic and upright, with a strong sense of right and wrong and able to fight to uphold their ideals and build a better world. Most of the time, they are recognized as conscientious, disciplined, reasonable, organised, orderly, and meticulous, trying to maintain high standards, and well-intentioned, but also being overly critical and perfectionist, irritable, or severe. At worst, they are cold and impersonal, rigid, exacting, critical, and punishing of themselves or others.

Perceptual and Cognitive biases: They like cleanliness and tidiness, and they have a quick eye to catch any imperfection. They tend to think that they can only be well if they do the right thing; that there is only one way to do things: The right one, and that self-discipline is most important in life.

Emotional biases: They tend to be sober and self-controlled, yet they are vulnerable to anger and frustration towards themselves for not being able to live up to their ideals, towards others for their shortcomings, and towards reality for being so far from perfect.

Type 1 as a Leader

Leading the Task / Relationship with the Task

When in a leadership position, Type 1s are often characterized as organised, rigorous, executive, and results-oriented. They show a deep sense of responsibility and accountability with respect to the task and goals entrusted. They are oriented towards quality, continuous improvement and problem solving; with a practical mentality and always detecting what can be optimized or fixed.

They are talented at designing clear, precise, and well-coordinated processes and procedures. Their communication is assertive, and they are able to give a clear direction to their teams. Rational, they often demonstrate a natural taste for numbers and data. Perfectionists with high standards, they can occasionally become rigid. Stubborn and argumentative, it is very difficult to "beat" them in an argument. Yet at the same time they are reasonable and willing to admit their mistake if they are "proven" wrong.

Leading People / Teamwork:

They are self-assured, project clarity and authority. They command respect for their integrity, self-discipline, and leadership by example. They find it difficult to trust the judgement of others. They can micromanage, often wanting to delegate not only the "what" but also the "how". They can be cold and impersonal in their relationships, affecting their charisma and ability to "connect" with people. They are demanding and difficult to please, although at the same time fair and impartial in their dealings with others. They tend to get irritated by what they consider ethical lapses or negligence. When this happens, they can become very critical and even "punishing." However, they can quickly turn the page if the other person acknowledges their "mistake."

Making Decisions:

They make decisions quickly and confidently, most of the time based on objective data and numbers. Although they strive to listen to others' opinions, they intimately decide individually, from the conviction that they are right. They have difficulty perceiving or considering political or interpersonal variables.

Leading Change / Relationship with Change:

They can position themselves as great reformers if they feel that the existing rules are not the "correct" ones. However, they generally prefer incremental changes, which build on and improve what already exists. They are good at planning and designing change processes; although it is difficult for them to lead their implementation due to their lack of interpersonal "sensitivity", and their lack of flexibility to make decisions and find solutions "on the fly".

Type 2: The Giver

General Characteristics

Key descriptors: Caring, social, emotionally demanding,

Worldview and Motivations: What's most important for them in life is to experience love and to be loved and needed by others. They have a strong desire to connect, and they are often focused in tending to other people's needs. They like to take care of their loved ones, who they tend to feel as "family."

Main Traits: At their best, Type 2 is described as loving, generous, selfless, empathetic, and altruistic. They are generally recognized as friendly and outgoing, sociable, and socially adept. They are emotionally expressive, warm, and always willing to help. Communicative, cheerful, and often bubbly, they tend to smile a lot, make long and frequent eye contact, and show their warmth in their nonverbal language: pats on the back, shaking hands, and depending on the relationship, also hugging, kissing, or simply being close to others. At their worst, they tend to be hypersensitive, emotionally demanding, possessive, resentful, and prone to interpersonal conflict.

Perceptual and Cognitive biases: They tend to believe that they can only be well if they are loved by other people. They tend to perceive only their own good intentions, overlooking their feelings of anger or possessiveness. They are typically focused in perceiving other people's needs and have problems in perceiving or acknowledging their own.

Emotional biases: Their world and their emotions revolve around relationships with others, in a positive or negative way. They can be compassionate and empathetic; but also very sensitive to "feeling left out" or not being considered and may react aggressively when this happens.

Type 2 as a Leader

Leading the Task / Relationship with the Task

They need a good interpersonal environment to be effective, and they feel most energized when working on tasks that involve relationships with others. They may be disorganised, messy, or unclear in setting direction, delegating, or leading the task. They are skilled at weaving alliances, coalitions and networks of influence; and they are capable of enlisting the collaboration of people outside their sphere of authority to achieve their objectives.

Leading People / Teamwork:

They tend to create positive and participatory work environments, appreciating the achievements of their people and investing energy in their development. They are generous with their time, exercising "open door" leadership. Generally charming and affectionate, they can sometimes become incomprehensibly temperamental or aggressive, having difficulty regulating their emotional reactions.

They can be partial, with a tendency to favour people similar to them. They may find it difficult to give corrective feedback, or make unpopular decisions, and conversely, they may abuse recognition and positive feedback, eventually being perceived as insincere or manipulative. They may have conflicting relationships with other areas of the organisation, falling into an "us" versus "them" mentality.

Making decisions:

They tend to make decisions based on intuition or "heart" reasons, rather than data or reason. They involve others and are open to considering the ideas of others when making decisions; although they can get carried away by the desire to be loved, to make everyone happy or to make a good impression.

Leading Change / Relationship with Change:

They have no particular problems with change: they neither resist it, nor visualize it, nor embrace it. They can be talented leaders when implementing a change process, as their approachable style allows them to monitor the impact on people and take appropriate action to gain "buy-in" and keep morale high.

Type 3: The Achiever

General Characteristics

Key descriptors: Driven, Efficient, Competitive.

Worldview and Motivations: The most important thing for them in life is to feel that they are capable of achieving, in whatever field they set their minds to. They tend to view the world as a competition, and they strive to win. They desire to be successful, admired, and feel that they have overcome any obstacle that is thrown their way. They want to prove to themselves and to others that they can "do it" and they don't give up easily.

Main Traits: At their best, they have a strong drive to be better, they are hard-working, persistent, optimistic, incredibly versatile doers and achievers, inspiring others to be better. Most of the time, they are recognized as self-assured, effective problem-solvers, pragmatic, energetic, status-conscious, ambitious, and individualistic. They tend to be diplomatic and poised, but they can also be overly concerned with their image and what others think of them. At their worst, they can be impatient, workaholic, extremely competitive, insincere, utilitarian, narcissistic, or Machiavellian. Sometimes they come across as not spontaneous, as if they were representing a "role", with movements and tones of voice that sound over-engineered.

Perceptual and Cognitive biases: They tend to focus their attention on "what needs to be done" to achieve whatever goal they pursue. They tend to perceive globally, in terms of "what is most important here to achieve the objectives", having little patience for detailed analysis. They tend to be adaptive and can combine various strategies flexibly.

Emotional biases: They tend to give little importance to the world of "emotions" and to be relatively unaware of their own feelings and those of others. Although they are generally optimistic, self-assured, and tolerant of frustration, they are particularly vulnerable to embarrassment and public ridicule.

Type 3 as a Leader

Leading the Task / Relationship with the Task

Achievement oriented, they work hard, keeping an eye on results. Proactive, executive, effective, organised, persistent and resourceful, their motto is "just do it". They are usually agile, flexible, and quick to solve practical problems. They don't give up. If they're in charge, they'll make it happen (even if they have to break some rules). For them, sometimes "the end justifies the means." They are good communicators and marketing-oriented, they know how to "sell" their ideas and achievements internally (and when they want, those of their team). They enjoy leading and organizing the work of others. Astute and socially adept, they know how to manage their own image to make a good impression, and they deftly navigate the political landscape of the organisation, forging alliances to achieve their goals. Their effectiveness does not necessarily equate to efficiency, since sometimes they will not make the best use of resources.

Leading People / Teamwork:

Energetic and motivating, they exercise leadership similar to a sports coach: they know how to keep their teams in action. They can be charming with people who they perceive as effective and contributing to the goals of the team, but they can also be very cold or inconsiderate with those who are not perceived to contribute. They lack empathy, dedicating little time to listen, and finding it difficult to "read" the feelings of people around them. They tend to be impatient and get irritated by slowness, excessive analysis, inefficient meetings, and anything that seems to them like a waste of time.

They usually have a hard time admitting their mistakes, weakness, or when they do not know; and yet, they can be harsh when delivering feedback to someone in their team that has made a mistake or is not trying "hard enough". Their peers may perceive them as too competitive or individualistic, "drawing water to their own mill," and often not caring much about the impact on the rest of the organisation. They may also "retaliate" against anyone who "makes them look bad" in public.

Making decisions

Thanks to their self-confidence and their impatience, they tend to decide quickly and based on few elements, with little prior analysis, wanting to take action quickly. In general, they prefer to ask for forgiveness than permission.

Leading Change / Relationship with Change

Although they are not expected to be great visionaries or designers of change, they are proactive, entrepreneurial, and extraordinarily resilient and tolerant of uncertainty, which makes them great participants in change processes. Their flexibility and agility to adapt allow them to improvise as new situations require it, and their ability to manage the day to day makes them adept at leading the resolution of practical problems that arise in any process of change. As a counterpart, they will find it difficult to monitor the climate and the impact of change on people.

Type 4: The Romantic

General Characteristics

Key descriptors: Creative, Authentic, Susceptible

Worldview and Motivations: The most important thing for them in life is to be in touch with the authentic inner self and to express themselves, and also to experience emotional depth, truth, and beauty. They often feel that they are a little "different" from "ordinary people", feeling painfully aware of their own suffering and that of others. They want to want to feel life deeply, unconsciously exaggerating the intensity of their own emotions.

Main Traits: At their best, they are emotionally honest, inspired, and inspirational, highly creative, humane, and able to transform their own experiences. Most of the time, we can see them as sensitive, self-aware, reserved, serious, Intuitive, and Individualistic. They may carry a certain air of intensity and drama, and their appearance is often “different”, “bohemian” or sophisticated. At their worst, they can be moody and vulnerable, self-conscious, “rebel without a cause”, withdrawn, Impractical, and tormented.

Perceptual and Cognitive biases: They tend to focus their attention on the "glass half empty," on what is wrong, and particularly on their own and others' painful emotions. They tend to put the world of intuition, principles, and emotional reality before that of logic and data. They tend to inhabit their inner world more than the one around them, often deep in thought and deliberately enigmatic in their expressions.

Emotional biases: They tend to have melancholy issues. They may experience a paradoxical feeling of contempt for "ordinary people" and, at the same time, self-pity for not being "normal." Self-pity can lead them to feel that life "owes them" and to become complacent. They can come to envy the achievements of others. In their relationships with others they can oscillate between idealization and disappointment.

Type 4 as a Leader

Leading the Task / Relationship with the Task

They can be extraordinarily productive and executive, or highly unproductive and passive, depending on their motivation regarding the task, their state of mind, or whether they feel supported by their environment. When they work in their area of expertise, they often come up with creative ideas that can make a difference. When leading a team, they tend to communicate through subjective imagery, and emotionally charged language, which often has a profound impact on their listeners, but can also lead to misunderstandings and lack of clarity. They might be impractical in organizing daily work or show little interest in supervising more routine tasks. They could become discouraged by obstacles, which could lead them to "withdraw" just at the moment when their teams need strong leadership. They tend to speak little in meetings with their

peers, but their natural charisma will make their words, however few they may be, make an impact and be considered.

Leading People / Teamwork:

Usually attractive to their people, they often project an air of authenticity, and they place a lot of emphasis on creating meaningful work for the people around them. They are able to inspire, energize and align their team around a vision, which they present in extraordinary ways. They appeal to the emotions and create mystique within their team. Their openness and humanity create a close and non-threatening work environment. They respect differences and value everyone's contributions, although they can become perfectionists and controlling when it comes to issues they consider "non-negotiable." The ups and downs in their mood and motivation can be disconcerting to those who work with them. They can withdraw into themselves when under stress.

Making decisions:

They tend to decide based on their intuition, flatly discarding the options that "do not go" with their values nor purpose. They tend to value excellence and authenticity much more than what the numbers or "the market" can say. On the other hand, they can be very subjective in their point of view, not listen enough, and feel no need to justify their position to others.

Leading the Change / Relationship with the Change:

They have a great capacity to imagine alternatives and think "outside the box", and they envision new possibilities before anyone else. They have little attachment to the status quo, and their minds instinctively lead them to embrace change. They are not afraid to try new things. On the other hand, it is difficult for them to lead change processes, since they can be overwhelmed by the problems, resistance, and emerging conflicts that they often entail.

Type 5: The Investigator

General Characteristics

Key descriptors: Perceptive, Analytical, Introverted

Worldview and Motivations: The most important thing for them in life is the ability to think and understand. They have a true fascination for understanding causes and processes and delving into the area of knowledge with which they have fallen in love. They like to predict, anticipate, and be prepared, so that they are not taken by surprise. They want to be independent of other people for the satisfaction of their needs.

Main Traits: At their best, they are insightful, deeply observant of the world around them, with a great capacity for concentration, and an original look, capable of "discovering" things that others do not see and "inventing" solutions that others do not imagine. Most of the time, we can see them as analytical and inquisitive, intense, inhabiting the world of "thinking" rather than "doing" or "feeling", introverted, prudent, austere, specialist-minded, and socially awkward. They are thrifty with their time, their energy, and their resources. They do not need much to feel satisfied, just the basics that are practical and functional, because they hate waste. At their worst, they can be control-freaks, hoarders, suspicious, hostile, eccentric, nihilistic, and isolated from the world.

Perceptual and cognitive biases: They selectively focus their attention on what interests them, easily isolating other sensory or emotional stimuli. They tend to perceive details more easily than the "whole". They think analytically, categorizing and ordering new information, and quickly establishing connections with existing concepts in their head. They tend to doubt others and distrust information that comes from the outside, until its reliability is established. For all these reasons, they tend to make good scientists.

Emotional biases: They hate being made to improvise or being pushed into taking an action they are unsure of. They do not spontaneously trust other people: They need to feel independent, and to establish clear limits to feel safe in their relationships. Too much contact with other people makes them feel emotionally "drained." They need their personal spaces to ensure their privacy, since many of them only manage to truly

relax when they are alone. They can give an impression of restraint and lack of physical vitality, often contrasting with the intensity of their gaze.

Type 5 as a Leader

Leading the Task / Relationship with the Task

Well-informed, and often experts in the technical aspects of the areas they lead, they come across as knowledgeable and credible. Through patient and serious analysis, they often make notable contributions to the solution of the problems that their units must face. Their difficulty in communicating to people may hinder their ability to create a sense of shared direction or to deliver clear instructions. They tend to be careful with the company's budget and resources; sometimes to the point of becoming restrictive and losing opportunities in order to save the "penny". Their slowness in making decisions and taking action can affect the output and speed of work in their areas.

Leading People / Teamwork:

They can hinder the work of their teams with their tendency to micromanage and their need to have all the information. They may tend to lock themselves in their office and abuse email. They may underestimate the impact of emotions on motivation and performance, believing that "saying things once" is enough.

They find it difficult to manage communication and complex interactions with their people, particularly giving feedback, motivating people, or managing interpersonal conflict. It can also be difficult for them to handle meetings and they have little patience with people who don't understand what they are trying to say. They do not like to speak in public, except when they talk about a subject that they dominate and are passionate about.

Making decisions:

They often can't see the forest for the trees, as they tend to get bogged down in details, failing to see the big picture. They like to analyse and consider all the variables, weighing them objectively, which results in deep understanding but often very slow decision making. What seems out of their control will look threatening to them and they will tend

to avoid it. They have difficulty visualizing "non-objective" factors, such as the impact of their decisions on motivation and people in general, as well as listening to the opinions of others when making decisions. If they feel rushed or pressured to decide quickly, they will tend to be distrustful and "barricade" themselves into a position of resistance.

Leading Change / Relationship with Change

They can be disruptive visionaries, capable of detecting the need for change, developing new ideas or visualizing the future. On the other hand, they will have a hard time leading the implementation of a change process because of their slowness to act and their difficulty in seeing the impact on people.

Type 6: The Loyalist

General Characteristics

Key descriptors: Committed, Alert, Anxious

Worldview and Motivations: The most important thing for them in life is to feel that they have fulfilled their duty, and with what others expect of them, particularly their authority (often internalized) and the people they love and respect. Additionally, they feel a strong unconscious desire to feel safe, to be protected from possible threats. They can invest a lot of energy to mitigate and control the risks that they perceive in their social or work environment. They strive to create a safe environment for their family or their people. They want to feel like they belong to their "tribe." They strive to overcome their own fears and insecurities.

Main traits: At their best, they are committed, endearing, cooperative, loyal, and courageous, empathetic, and perceptive. Most of the time we can see them as team players, hardworking, responsible, and trustworthy, respectful of others, cooperative, always alert, and cautious, excellent risk mitigators and "problem solvers," albeit prone to self-doubt. themselves and a bit contradictory: oscillating between emotionality and rationality, naive trust and excessive mistrust, introversion, and the need to connect. At their worst, they can be anxious, unsure of themselves, and overly trusting or mistrusting of others, indecisive and plagued by doubt, reactive, and sometimes

defensive, oscillating between overly subservient to authority and defiant. and rebellious.

Perceptual and cognitive biases: The always "vigilant" attention and its permanent state of alert in the face of danger is a determining characteristic of its personality. Their cognitive alertness is triggered and reinforced by their natural sensitivity to fear, and for this reason, they often tend to exaggerate the probability and severity of the dangers that lie ahead. Their attention is focused on the future based on planning and mitigation. This makes them focus even more on the "must" to the detriment of the connection with the present experience, the sensory stimuli, or their own enjoyment.

Emotional biases: They tend to experience the family emotions of fear, anxiety, and insecurity more intensely. For the same reason, they often fight against their own fear and seek to overcome it. They are vulnerable to doubt and overthinking. They feel the weight of their multiple duties, but they dare not walk away from them. Their eyes often express sweetness and sympathy and, at the same time, "restlessness" or "weariness". Their body often reveals physical signs of shyness, such as hunched shoulders or a tendency to blush. They can strike as edgy, but when they feel at ease, they can also be bubbly, fun, and with a friendly (and often self-deprecating) sense of humour.

Type 6 as a Leader

Leading the Task / Relationship with the Task

Good planners, they strive to contemplate every detail in advance. They implement cautiously, minimizing errors, but their doubts can slow down or overcomplicate the job. They are rational, and able to explain complex problems clearly. They anticipate risks and react quickly when something goes wrong. Good problem solvers, although they are also good "problem finders", looking for problems even where there are none. Despite their natural anxiety, they tend to remain calm in crises and handle threats well. They try to balance their task orientation with their concern for people. When they are good, this duality of tendencies makes them very balanced leaders, but in the worst case, it generates internal conflict, anxiety, and paralyzing doubt. They can be seen as a model of a sense of duty and responsibility. They find it difficult to navigate the political

complexity of the organisation, build alliances and exert "influence," as well as defend their own interests or positions in a negotiation.

Leading People / Teamwork:

They find it easy to build teams and rally them to collaborate around a common purpose. Most of the time they are loved by their people since they are friendly, close, protective, and empathetic. They assume positions of power with humility, admitting their mistakes and open to hearing opinions. They tend to invest time and energy in developing their people, they grant recognition and do not appropriate the merits or achievements of their team. On the other hand, they can be too condescending when delegating, tending to absorb part of the responsibilities that should fall on their subordinates, and having a hard time demanding compliance from irresponsible people. Likewise, it is often difficult for them to resolve the conflict of loyalties between the "interests" of their boss and those of their team, feeling torn by the doubt and once again being the ones who absorb most of the pressure.

Making decisions:

Making decisions can be agonizing for them, as they find it difficult to reach a sense of certainty before taking action. They easily fall into "analysis paralysis", going over and over the various options and their possible consequences in their minds, often exaggerating the risks and thinking in "worst case" terms. If it weren't for this indecisiveness, they would be great decision makers, as possibly more than any other type, they are able to perceive the different factors at play, analyse them and clearly assess the possible impacts on both the task and the people. To unlock this indecision, sometimes they resort to consulting the opinion of their trusted people. They feel more comfortable questioning the decisions of others, often positioning themselves as "devil's advocates", since their perceptive bias makes them detect the risks of any initiative above all else.

Leading Change / Relationship with Change

Change processes are difficult for them. Their first reaction will always be "No". It will be much easier for them to accept the changes when they are in contexts of trust and a sense of psychological safety, so they feel free to ask questions or make involuntary

mistakes. However, once they have embraced the change, they are able to lead it effectively, given their dual task-relationship orientation.

Type 7: The Enthusiast

General Characteristics

Key descriptors: Enthusiastic, Active, Impulsive

Worldview and Motivations:

The most important thing for them is to enjoy life to the fullest. Your body and mind "crave" constant movement, stimulation, novelty, variety, and sensation. They desire to be free; they fear feeling "trapped" by situations or relationships, and they detest deprivation, restrictions, and limits.

Main traits: At their best they are grateful, joyful, and content, while being enterprising, open-minded, and innovative. Most of the time we can see them as enthusiastic, dynamic, curious, outgoing, spontaneous, optimistic, versatile, and multifaceted. They are energetic, histrionic, lively talkers and great storytellers, often using casual language or slang. They love to joke around and are the life of the party. Although they are innovative and practical, their natural hyperactivity often leads them to get distracted and not finish what they start, or not fulfil what they promise. At worst, they have impatience and impulsiveness issues, becoming scattered, undisciplined, reckless, selfish, fearful of commitment, and unable to stop.

Perceptual and cognitive biases: They are highly distractible, but also cognitively agile and able to jump from one task to another without tiring. They also have a quick mind, are flexible and adaptable, able to improvise and solve problems "on the fly." Their thoughts tend to focus on the future and in an optimistic way, which makes them visualize possibilities in a colourful way, underestimating risks and exaggerating the possible benefits of any decision or undertaking. They tend to fear missing out, often feeling that there could be more fun elsewhere, or that the neighbour's lawn is greener.

Emotional bias: They need intensity and variety to feel "alive", alert and connected to their environment. Their state of mind is almost always happy, expressing it in multiple ways: dressing in a showy or "sporty" way, and with expressive and captivating gestures, smiling faces, and sparkling eyes. They find it difficult to acknowledge their own negative emotions of anger, hurt, or frustration. They are prone to disappointment because reality almost always turns out to be less pleasant or fun than they had imagined. This makes me feel a bit "empty". They are sensitive to feeling "stuck" or "locked in," so they find it difficult to commit to long-term relationships with people or organisations.

Type 7 as a Leader

Leading the Task / Relationship with the Task

They can generate and transmit a positive and colourful vision of the future. They are good planners, able to calculate the steps necessary to carry out their vision and to coordinate many elements at once. They push new projects with energy, but can "drop" them in the middle, because they get bored with the follow-up and the day-to-day, especially when it comes to long-term initiatives. They can also be scattered and confuse their teams with too many open fronts.

Leading People / Teamwork

Outgoing and sociable by nature, they like to lead and work in a team. They know how to create a fun and energetic environment for their work teams. His casual and informal style, and his direct and open communication often stimulate the creation of a participatory and horizontal environment, which provides autonomy and freedom to make decisions. They are keen to paint the future and to celebrate the successes of their team. On the other hand, they often provide less structure and clarity than what the team needs to perform well; they have a hard time stopping and really concentrating to listen, especially when it comes to information about problems. Their teams may feel that it is difficult to approach them to talk. Their overall friendliness can also contrast with some actions that reveal selfishness or lack of commitment to their people, ultimately making their teams feel let down or "used."

Making decisions:

For them, making decisions is a "piece of cake". They don't need many elements to form an impression, and they are quick to jump into action. They bet on the ideas they are passionate about, often convinced that everything will "be great". They enjoy the "adrenaline rush" that comes with taking risks. However, their enthusiasm for new projects can blind them to potential risks and problems. On the other hand, sometimes their desire to "try everything" makes it difficult for them to choose and commit to one course of action. They try to keep as many options open, for as long as possible.

Leading Change / Relationship with Change

They are often the great initiators of change and innovation processes. Their futuristic heads abound with original ideas, and they are also adept at planning implementation and mobilizing others with their great enthusiasm. However, when it comes to leading the implementation, their skills are mixed: on the one hand they are agile at "putting out fires" and solving the many problems that transformations usually imply. On the other hand, they are too impatient, wanting to see results soon, and find it difficult to detect risks or problems, or to listen to people who are affected by the change.

Type 8: The Challenger

General Characteristics

Key descriptors: Brave, Decisive, Confrontational

Worldview and Motivations: The most important thing for them is to be strong, to be powerful, to be brave. They conceive life as the "law of the jungle": either you eat, or they eat you. They experience an almost automatic impulse to defend their position, to repel what they see as an attack, invasion, or attempted domination. Perhaps as a reaction, they are the ones who often attack, invade, and dominate. They consistently seek to experience power, not have "limits" or vulnerabilities, and live their "way."

Main traits: At their best they are charismatic, courageous, determined, and impactful, using their strength to improve the lives of others, to build a better world, becoming heroic, magnanimous, and inspiring. Most of the time we can see them as assertive, strong, fearless, and self-assured, protectors of their own, decisive, intense, and visceral,

witty, and extraordinarily frank, though often confrontational and with authoritarian tendencies. They fill the room with their charismatic presence and passionate conversation, sometimes seductive, sometimes intimidating, and always with an air of "I'm in charge". At their worst, they are arrogant, reckless, aggressive, self-centred, and hot-tempered, often confrontational and intimidating, using their strength to dominate those around them, and even to "destroy" those they consider to be their enemies.

Perceptual and cognitive biases: Eights are quick to distinguish what is important in a situation, who is important within a group, or what political forces or power alliances are present in a room. Their perception tends to focus on the "big picture" and overlook details. On the other hand, often their impatience and impulsiveness prevent them from thinking clearly, which is finally expressed in speeches or actions full of passion but with little rationality.

Emotional bias: Despite being skilled "readers" of other people's emotions and motivations, they tend to be insensitive to the pain of others. They divide people into "strong" and "weak", valuing the former and despising the latter. Not surprisingly, they do not allow themselves to show any vulnerability. They are intense and like intensity in everything they do. They get bored with diplomacy, routine, "sensitivity" or the "middle ground." For them, "either they are with me, or they are against me". They tend to be quick-tempered and always ready to confront. At the slightest sign that their power might be challenged, they opt to "strike first."

Type 8 as a Leader

Leading the Task / Relationship with the Task

Their vision of the future is often bold and powerful, seeking to "make the impossible possible." They like to lead large projects and push them "against all odds". They are also skilled at building their power base, creating alliances, and extending their influence, as well as effective negotiators. On the other hand, they tend to focus only on those projects that motivate them, completely leaving aside the support or monitoring of "day-to-day" functions or projects with less impact that also fall within their area of responsibility. Impatient and irascible, they do not give their teams space to raise their disagreements, discuss their doubts, or implement carefully.

Leading People / Teamwork:

They lead with passion, projecting authority and charisma and conveying a sense of confidence that "it can be done." They can be magnanimous and protective of those who "are with them", although always establishing a vertical relationship. On the other hand, they talk a lot and listen little; and they often use force instead of arguments or reasons to cement their position, becoming authoritarian or dictatorial. They react with anger to what they perceive as slowness, inefficiency, complaints, or when people don't tell them what they really think, which often happens to them due to their intimidating style. In their fits of rage, it is not uncommon for them to subject a member of their team to a public humiliation that is deeply uncomfortable for everyone.

Making decisions:

They tend to make decisions viscerally, guided by their instinct of "what needs to be done," although their overflowing self-confidence often leads them to confuse their own point of view with objective truth. They often find it even more exciting if the decisions they have to make are particularly difficult, risky, or unpopular. The quality of their decisions can be affected by their impatience, recklessness, or impulsiveness, leading them to overlook important details or take unnecessary risks. At their best, they manage to improve their decisions by listening and incorporating the opinions of their close advisors or trusted people.

Leading Change / Relationship with Change

They are ideal leaders to promote disruptive changes, especially in their early phases, when it is necessary to instill a will to change and drag wills, given their audacity and charisma. On the other hand, they are not good at designing the change process, as they are poor planners and tend not to perceive the real risks involved.

When leading change implementation they are able to "push hard" and keep the faith that "it can be done", but their reluctance to listen to information about problems can often push their teams to the point of helplessness.

Type 9: The Peacemaker

General Characteristics

Key descriptors: Easy-going, Empathic, Conformist

Worldview and Motivations: The most important thing for them is to live a simple life, in peace, with their loved ones. They feel a basic drive to control aggression, both in themselves and in others, to maintain harmony. Therefore, they avoid conflicts and situations that may expose them to them. They want to experience unity, peace, and stability, and to eliminate the feeling of separation.

Main traits: In their best moments they are kind, receptive, generous and seek the common good, capable of uniting people and healing conflicts. Most of the time we can see them as modest, accepting, affable, spontaneous, patient. They are satisfied with little and stable, and their appearance is often calm and non-threatening; they prefer to go unnoticed. They tend to be optimistic, empathetic, and trust in the natural "goodness" of people, but they can also be too willing to compromise and give up their own interests to keep the peace. For the same reason, they may minimize problems or ignore their own negative feelings. At their worst, they can be submissive, detached, emotionally flat, procrastinators, and passive-aggressive, having trouble reacting even when necessary, and stubbornly clinging to their own status quo.

Perceptual and cognitive biases: They tend to perceive the glass as half full and overlook problems or what is not working well. They tend to perceive situations in a holistic way, visualizing all the elements within a system, and how they connect to one another systemically. This is probably the reason why they are often skilled in disciplines such as mathematics, computer science, or philosophy.

Emotional bias: They are sensitive to perceive any type of conflict or possibility of conflict in their environment. They are also quick to deploy strategies to manage them, which can be more or less healthy depending on their development or state of mind: from denying that the conflict exists, to sophisticated strategies to mediate and build bridges between the parties. They are also sensitive to feeling pressured to get out of their "calm state", and in general, to do something they do not want to do, although on

the other hand, they find it difficult to say no, and will unconsciously opt for a passive-aggressive reaction, such as forgetting about it.

Type 9 as a Leader

Leading the Task / Relationship with the Task

They lead from a holistic vision and are motivated by a sincere desire to collaborate for the common good of the team or organisation and not for their personal interests. They are usually hard-workers, although not very proactive or innovative. They may tend to keep their true opinions to themselves, or to say “yes” when they really mean “no” (although when they disagree, they may still engage in passive resistance). For the same reason, they may lack assertiveness when defending their own interests or those of their team. They may procrastinate when faced with a difficult task, sometimes diverting their attention to secondary ones. This can make them appear disorganised or with a low sense of urgency.

Leading People / Teamwork:

They work to unite the team and create harmony and strive to make everyone on the team feel happy, supported, and included, regardless of their talents. They exercise participatory leadership, in which all opinions are heard, and they have no problem delegating and sharing power. If problems arise or mistakes are made, they focus on finding solutions and not assigning blame. They themselves are genuinely open to criticism. They don't take ownership of their team's accomplishments and strive to make everyone "shine." On the other hand, their tendency to avoid conflicts can lead to them being perpetuated over time and end up damaging relationships in the team, leading to a climate of artificial harmony. They may also have difficulty negotiating resources or deadlines for their team, ultimately leaving team members feeling unprotected against organisational pressures.

Making decisions:

They do not like having to make difficult decisions because of the possibility of interpersonal conflict that these almost always entail. When they do, they prefer to risk as little as possible, choosing to follow precedent or common practice. On other

occasions they like to decide through mediation and consensus: submitting the points for discussion among the relevant actors and adopting themselves a role of listening and mediation between the parties. However, this is also difficult for them when there are significant divergences of opinion since they are honestly able to see the value in all of them.

Leading Change / Relationship with Change

They like structure and stability and tolerate routine, so they don't like change for the sake of change itself: Why improve what already works? Why "push the river"? They often experience change as pressure to do things they don't really want to do. This usually leads them to waste time denying the need or resisting the change, joining the process late. Once this initial resistance is overcome, they strive to adapt, be flexible and collaborate, and can become good implementation leaders, thanks to their holistic vision and ability to listen to the real problems people are facing. Their natural optimism and their ability to remain calm in the face of crisis are also helpful.

Appendix B: Research Evidence on the Relationship between FFM & Leadership

This appendix contains a summary of the main findings of the studies cited in this thesis on the empirical connections between the Five Factor Personality Model and Leadership.

Its first section presents the studies of FFM and Leadership Behaviour, and the second, on FFM and Leadership Effectiveness and Emergence.

Evidence Connecting FFM & Leadership Behaviour

This section presents the main findings of three major meta-analyses connecting FFM and Leadership Behavioural Styles: Bono and Judge, (2004); Derue *et al.*, (2011) and Deinert *et al.*, (2015); and also from a primary study that illustrates how this relationship differs depending on who is evaluating the leadership behaviour, self or other: McKee *et al.*, (2018).

Bono & Judge (2004) analysed 26 independent studies, exploring the relationship between of the FFM personality traits with overall Transformational Leadership, its subdimensions of intellectual stimulation, individualized consideration, and a combination of Idealised influence and Inspirational motivation that they identified as “charisma”. They also examined the relationship of FFM with the two subdimensions of Transactional Leadership: Contingent reward and Management by exception–active, and to overall Passive-Avoidant Leadership (management by exception–passive and Laissez-faire, combined). See a summary of their estimated corrected correlations on the following table.

Table 99: FFM and Leadership Behaviour by Bono & Judge (2004).

	TFL	TL_II + IM	TL_IS	TL_IC	CREW	MBE_A	PASS
E	$p = .24$	$p = .22$	$p = .18$	$p = .18$	$p = .14$	$p = -.03$	$p = -.09$
O	$p = .15$	$p = .22$	$p = .11$	$p = .11$	$p = .03$	$p = -.04$	$p = .04$
C	$p = .13$	$p = .05$	$p = .03$	$p = .14$	$p = .02$	$p = -.02$	$p = -.11$
A	$p = .14$	$p = .21$	$p = .14$	$p = .17$	$p = .17$	$p = -.11$	$p = -.12$
N	$p = -.17$	$p = -.17$	$p = -.12$	$p = -.10$	$p = -.10$	$p = .02$	$p = .05$

N = neuroticism; *E* = extraversion; *O* = openness to experience; *A* = agreeableness, *C* = conscientiousness; *TFL* = transformational leadership; *II* = idealized influence; *IM* = inspirational motivation; *IS* = intellectual stimulation; *IC* = individualized consideration; *p* = estimated corrected correlation.

De Rue et al (2011) examined the extent to which the relationship between the FFM Personality Factors and Leadership Effectiveness was mediated by the different dimensions of Transformational, Transactional and Passive Leadership, as well as by Initiating Structure and Consideration behaviours. They explored the direct and the indirect (mediated) effects, or the variance explained by each leader traits over and leader effectiveness, and the total effect as the summation of both. Their main findings were:

- The impact of Extraversion over Leadership Effectiveness was mediated by Consideration behaviours, by Contingent Reward, and by Transformational Leadership.
- The impact of Agreeableness over Leadership Effectiveness altogether, was mediated by Consideration behaviours, by Contingent Reward, and by Laissez-Faire (positive relationship), but not by Transformational Leadership.
- The impact of Conscientiousness was mediated by initiating structure and, to a lesser degree, by Transformational Leadership.
- The impact of Emotional Stability was only mediated by Contingent Reward, and
- The impact of Openness was mediated by Laissez-Faire and by Initiating Structure (negatively).

Deinert, Homan, Boer, Voelpel, & Gutermann (2015) explored the relationship of a leaders' personality traits, measured by the Big Five version of the FFM (Goldberg, 1992), with Transformational Leadership and all its sub-dimensions, across 58 independent studies. They additionally examined the relationship between these two sets of variables and an overall measure of perceived leadership performance. They found that all the Five Factors of personality were related to overall Transformational Leadership and to all its sub-dimensions, and that all of them were indirectly linked to leadership performance. See a summary of their findings on table 100.

Table 100: FFM and Leadership Behaviour found by Deinert et al (2015).

<i>Var</i>	<i>TFL</i>	<i>TL_II</i>	<i>TL_IM</i>	<i>TL_IS</i>	<i>TL_IC</i>
<i>E</i>	<i>p= .22</i>	<i>p= .37</i>	<i>p= .27</i>	<i>p= .12</i>	<i>p= .09</i>
<i>O</i>	<i>p= .27</i>	<i>p= .31</i>	<i>p= .35</i>	<i>p= .35</i>	<i>p= .36</i>
<i>C</i>	<i>p= .17</i>	<i>p= .15</i>	<i>p= .04</i>	<i>p= -.08</i>	<i>p= .05</i>
<i>A</i>	<i>p= .11</i>	<i>p= .16</i>	<i>p= .13</i>	<i>p= -.05</i>	<i>p= .08</i>
<i>N</i>	<i>P= -.08</i>	<i>p= .01</i>	<i>p= .13</i>	<i>p= .17</i>	<i>p= .04</i>

N = neuroticism; E = extraversion; O = openness to experience; A = agreeableness, C = conscientiousness; TFL = transformational leadership; II = idealized influence; IM = inspirational motivation; IS = intellectual stimulation; IC = individualized consideration; p = estimated corrected correlation.

McKee et al, (2018) explored the patterns of relationship between FFM personality traits (self-rated) and overall transformational and instrumental leadership, and how they differed when rated by self, as compared to the same variable rated by others (superior, peer and followers taken together). See the table below.

Table 101: FFM and Self and Others' ratings of Transformational Leadership (McKee et al (2018)).

Var	Self_TFL	Other_TFL
E	0.35	0.10
O	0.29	0.06
C	0.36	0.04
A	0.17	0.16
N	-0.30	-0.03

N=418 managers and 3,164 raters; C = Conscientiousness, A = Agreeableness, O = Openness, E = Extraversion, N = Neuroticism, TFL = transformational leadership.

Table 102: FFM and Self and Others' ratings on the four dimensions of Instrumental Leadership (McKee et al (2018)).

Var	Self EM	Self SF	Self PG	Self OM	Other EM	Other SF	Other PG	Other OM
E	0.13	0.12	0.17	0.07	-0.05	0.05	0.02	-0.03
O	0.05	0.10	0.12	0.05	-0.05	0.04	0.01	0.00
C	0.32	0.20	0.28	0.24	0.04	-0.01	0.09	0.07
A	0.04	0.04	0.11	0.13	0.09	0.11	0.08	0.14
N	-0.22	-0.16	-0.18	-0.12	0.07	-0.01	0.05	0.01

N = 378 managers and 2,895 raters; C = Conscientiousness, A = Agreeableness, O = Openness, E = Extraversion, N = Neuroticism; EM = environment monitoring, SF = strategy formulation, PG = path-goal facilitation, OM = outcome monitoring; Self= self-rated, Other=rated by others.

Evidence Connecting FFM & Leadership Outcomes

The second set of evidence is that connecting FFM to Leadership Outcomes, which will be based mainly on the key findings of two meta-analyses Judge et al. (2002); again the study of Derue et al., (2011), that also provided evidence on Leadership Styles., one review of several meta-analytic studies (Gottlieb & Gøtzsche-Astrup, 2020), and a few primary studies like Oh & Berry, (2009); and Do and Minbashian (2014). Some other

studies have also been referenced (Barrick & Mount, 1991). All these studies have explored the connection of FFM to Leadership Emergence and/or Effectiveness.

Judge et al. (2002) conducted a meta-analysis that explored 222 correlations from 73 different samples. They explored the correlations between the FFM and two main criteria of Leadership: Leadership Effectiveness and Leadership Emergence. The measures of leadership they used were supplied by others' ratings, rankings, or nominations. Some of the studies they used employed teachers' ratings of leadership behaviours of their students, which were treated as supervisory ratings, and peer ratings of leadership of their fellow students. In some cases, the source of the ratings could not be determined, and the average corrected reliability across all sources and number of ratings was .60. Their main findings are presented in the following table.

Table 103: Correlations between FFM and Leadership Emergence and Effectiveness found by Judge et al (2002).

	Leader Emergence	Leader Effectiveness
E	<i>p= .33</i>	<i>p= .24</i>
C	<i>p= .33</i>	<i>p= .16</i>
O	<i>p= .24</i>	<i>p= .24</i>
A	<i>p= .05</i>	<i>p= .21</i>
N	<i>p= -.24</i>	<i>p= -.22</i>

p= estimated corrected correlation

Derue et al., (2011) attempted a theoretical integration of trait and behavioural theories of leadership and conducted a meta-analysis to test their relative validity. They tested the strength of the FFM traits as predictors of four different criteria of Leadership Effectiveness, one classified as "overall leadership effectiveness", a second one, "Group Performance", classified as "task" effectiveness, and the last two as "relational" effectiveness criteria. Their main findings are presented in table 104.

Table 104: FFM and Leadership Outcomes found by Derue et al. (2011).

	Leader Overall Effectiveness	Leader Task Effectiveness (Group Performance)	Leader Contextual Effectiveness (Follower Job Satisfaction)	Leader Contextual Effectiveness (Satisfaction w/ Leader)
E	$p = .31$	$p = .00$	$p = .07$	$p = .03$
C	$p = .28$	$p = .31$	$p = -.08$	$p = -.03$
O	$p = .24$	$p = .13$	$p = .00$	$p = .03$
A	$p = .08$	$p = .20$	$p = .01$	$p = .22$
ES (-N)	$p = .24$	$p = -.03$	$p = .02$	$p = .08$

Oh & Berry (2009) analysed the predictiveness of FMM in relation to managerial task and contextual (relational) performance measured through 360 ratings, distinguishing between rater groups. They employed a sample of 277 managers of a single business company, with an average of 13.44 raters per leader. The following table summarizes the correlations between the FFM traits and these two aspects of leadership effectiveness when measured by superiors, peers, followers, and self respectively (p.1503):

Table 105: FFM and Leadership Outcomes per rater group by Oh and Berry (2009).

	Supervisor Task Performance	Peer Task Performance	Subordinates Task Performance	Self Task Performance	Supervisor Contextual Performance	Peer Contextual Performance	Subordinates Contextual Performance	Self Contextual Performance
E	$p = .17$	$p = .21$	$p = .01$	$p = .32$	$p = .21$	$p = .17$	$p = .03$	$p = .33$
C	$p = .13$	$p = .20$	$p = .05$	$p = .27$	$p = .16$	$p = .14$	$p = .05$	$p = .23$
O	$p = .15$	$p = .26$	$p = .01$	$p = .33$	$p = .14$	$p = .16$	$p = -.04$	$p = .26$
A	$p = .01$	$p = .06$	$p = .04$	$p = .27$	$p = .06$	$p = .11$	$p = .12$	$p = .34$
ES	$p = .14$	$p = .24$	$p = .02$	$p = .28$	$p = .19$	$p = .21$	$p = .03$	$p = .29$

Appendix C: Summary of Variables and Measurement Instruments

Table 106 provides a summarized view of the variables and measurement instruments used in this study:

Table 106: Summary of variables and measurement instruments used in this study.

Variable	Construct	Dimensions Measured	Instrument	Source	Scale description	Level of measurement
Personality	Enneagram Personality Model	Enneagram types 1, 2, 3, 4, 5, 6, 7, 8, 9.	Enneagram Inventory (HPEI), (Delobbe et al., 2009)	Self	9 subscales, 52 items, Likert scale	Quantitative, interval level, continuous
Leadership Behaviours	Full Range Theory of Leadership: Transformational, Transactional, Passive Leadership	Idealized Influence (Attributed & Behaviours); Inspirational Motivation, Individualised Consideration, Intellectual Stimulation; Contingent Reward, Management-by-Exception (Active & Passive), Laissez Faire.	MLQ 360 Survey (Bruce J. Avolio & Bass, 2004)	Self, Superiors, Peers, Followers	9 subscales, 36 items, Likert scale	Quantitative, interval level, continuous
	Instrumental Leadership	Instrumental Leadership	IL scale (Antonakis et al, 2014)	Self, Superiors, Peers, Followers	Subscales not considered for the analysis, 8 items, Likert scale	Quantitative, interval level, continuous
Perceived Leadership Outcomes	Perceived Leadership Effectiveness	Overall Effectiveness, Satisfaction with Leader, Extra Effort.	MLQ 360 Survey (Bruce J. Avolio & Bass, 2004)	Self, Superiors, Peers, Followers	3 subscales, 9 items, Likert scale	Quantitative, interval level, continuous
Leadership Performance Indicators	Leadership Emergence	Potential for Promotion	Company data on leaders' performance KPIs	Superiors, superior's peers and superior's supervisor	1 Score (9-box matrix), agreed by Committee	Ordinal
	Leadership Effectiveness - Task	Financial Performance, Task Competences, Compliance Competences	Company data on leaders' performance KPIs	Superiors	6 scores, Likert scales	Quantitative, interval level, continuous
	Leadership Effectiveness - People	People Competences, Opinion of Direct Team, Opinion of Area Employees	Company data on leaders' performance KPIs	Superiors & Followers	7 scores, Likert scales	Quantitative, interval level, continuous

Appendix D: Sample items of Measurement Instruments

This appendix presents the rating scales and sample items for the three instruments used in this study: The HPEI, used to measure the Enneagram scales; the MLQ, used to assess Leadership Behaviours and Perceived Leadership Outcomes, and the questionnaire designed by Antonakis to measure Instrumental Leadership, adapted to a 360 format.

Halin-Premont Enneagram Inventory (HPEI)

Because this is the instrument used to measure the independent variables of this study, and because it is a relatively new and less established questionnaire than the MLQ, this section will present its main characteristics in more detail, including: the instructions for respondents and the evaluation categories, a sample of the items ²³, and the instructions for scoring.

HPEI Instructions for Respondents:

Hello, you are about to answer a personality type indicator based on the enneagram model. Please read the following text carefully before starting. The questionnaire will take 15 to 20 minutes to complete. Please answer it when you feel relaxed and when you are sure you won't be interrupted.

52 sentences will appear, one by one.

For each sentence we ask you to tick a checkbox to indicate the degree in which each of the statements generally characterises you:

- 'Very well'
- 'Rather well'
- 'More or less'
- 'Not really'
- 'Hardly'

Don't hesitate to use the whole range of the five possible responses. There are no right or wrong answers. Be as honest as possible with yourself. Don't base your answers on what you would like to be or what others think of you. Also don't base your answers on

²³ For reasons of the agreement established with the authors, only a sample of the questionnaire items can be reproduced.

a particular context (for example what is expected of you at work or in your family). Answer each question naturally, spontaneously, immediately, automatically. In short, answer with this in mind: what is my very first tendency? This doesn't mean that you react, will react, or have always reacted like this. It simply means that this is your automatic tendency.

HPEI Scoring Instructions:

The instructions for scoring delivered by the authors of the HPEI are:

“All items of HPEI have the same weight inside their own type : if a type is measured by 6 questions, each item weighs 1/6 of the scores for this type, if it's measured by 7 questions, 1/7, etc. Total scores of each type are expressed in terms of percentages, calculated over a total of 100 for each scale.

The score for each answer is :

- 0 for 'Hardly'
- 0 for 'not really'
- 1 for 'More or less'
- 2 for 'Rather well'
- 3 for 'very well'

Table 107: HPEI - sample items, English version.

Enneagram type	ENGLISH VERSION
1	I am instinctively demanding of everything and of everyone and I'm not ready to make concessions just because something is difficult.
2	I tend to do an awful lot for others. I can really go out of my way for them.
3	I am better than most people at making the most of any opportunities that come my way in order to achieve my goals quickly.
4	I often show a side of me which is dreamy and emotional. I tell myself stories that feed my moods, and I get a kick out of that.
5	To safeguard my time and energy, I like to lead a simple, unassuming and independent life, staying away from what seems trivial to me.
6	I'm forever anticipating what is going to happen and I want to be prepared for anything. That's why my mind is always racing.
7	I love trying out lots of things and savouring what is new. I look for variety, diversity and action.
8	When I speak out, I tell it how it is. I'm the straightforward and blunt type, who leaves no room for ambiguity.
9	I appreciate and support settings that are harmonious, relaxed, give-and-take - where everyone finds his/her place in the group comfortably and at his/her own pace.

Table 108: HPEI - sample items, Spanish version.

Enneagram type	SPANISH (LATIN AMERICA) VERSION
1	Soy instintivamente exigente con todo y con todos. No hago concesiones solo porque algo sea difícil.
2	Tiendo a hacer muchas cosas por los demás. No pongo límites cuando se trata de ayudar.
3	Soy más eficaz que la mayoría a la hora de aprovechar las oportunidades que se presentan para alcanzar rápidamente mis objetivos.
4	Suelo tener un lado soñador y emocional. Me encanta imaginar escenarios que alimenten mis estados anímicos.
5	Para ahorrar tiempo y energía, prefiero llevar una vida sencilla, sobria e independiente, lejos de lo que considero trivialidades.
6	Preveo casi siempre lo que va a ocurrir y quiero estar preparado(a) para todo. De ahí que mi mente esté tan activa.
7	Me gusta probar muchas cosas diferentes y mantenerme abierto(a) a las novedades. Busco variedad, diversidad y actividad.
8	Si decido hablar, se sabrá exactamente lo que pienso. Soy de carácter franco y directo. Conmigo no hay ambigüedades.
9	Me gustan y prefiero los ambientes armoniosos, distendidos e igualitarios, donde todos pueden encontrar su lugar en el grupo tranquilamente y a su ritmo.

Table 109: HPEI - sample items, Portuguese version.

Enneagram type	PORTUGUESE (BRAZIL) VERSION
1	Eu sou instintivamente exigente com tudo e com todos, e não estou pronto(a) para fazer concessões só porque algo é difícil.
2	Eu costumo fazer muito pelos outros. Faço o possível e o impossível por eles.
3	Eu sou melhor do que a maioria das pessoas em tirar o máximo proveito das oportunidades que aparecem a fim de alcançar rapidamente meus objetivos.
4	Eu, por vezes, mostro um lado sonhador e emocional. Eu conto histórias para mim mesmo(a) que melhoram o meu humor e eu adoro isso.
5	Para preservar o meu tempo e energia, prefiro levar uma vida simples, sóbria e independente, longe do que considero fútil.
6	Eu quase sempre antecipo o que irá acontecer e eu preciso estar preparado(a) para tudo. É por isso que meus pensamentos estão sempre a mil.
7	Eu gosto de experimentar muitas coisas e conhecer as novidades. Procuro variedade, diversidade e movimento.
8	Quando decido falar, as pessoas sabem o que eu realmente penso. Eu sou franco(a) e direto(a). Comigo, não há ambigüidade.
9	Eu aprecio e sou favorável a ambientes harmoniosos, descontraídos e igualitários, onde cada pessoa pode encontrar seu lugar no grupo no seu ritmo e com tranquilidade.

Multifactor Leadership Questionnaire (MLQ) Sample items²⁴

MLQ Leader Form 5X (Self-rating)

Instructions:

This questionnaire is to describe your leadership style as you perceive it. Please answer all items on this answer sheet. If an item is irrelevant, or if you are unsure or do not know the answer, leave the answer blank.

Forty-five descriptive statements are listed on the following pages. Judge how frequently each statement fits you. The word “others” may mean your peers, clients, direct reports, supervisors, and/or all of these individuals.

Use the following rating scale:

- 0 Not at all
- 1 Once in a while
- 2 Sometimes
- 3 Fairly often
- 4 Frequently, if not always

Sample Items (By contract, citation of the instrument may only include the following items):

Table 110: MLQ - sample items, self-form.

Item	SAMPLE ITEMS - ENGLISH
9	I talk optimistically about the future.
15	I spend time teaching and coaching.
28	I avoid making decisions.

Item	SAMPLE ITEMS - SPANISH
9	Hablo acerca del futuro de manera optimista.
15	Dedico tiempo a enseñar y formar.
28	Evito tomar decisiones.

Item	SAMPLE ITEMS - PORTUGUESE
9	Falo de forma otimista sobre o futuro.
15	Dedico tempo ensinando e formando.
28	Evito tomar decisões.

²⁴ Copyright © 1995 by Bernard Bass & Bruce J. Avolio. All rights reserved in all media. Published by Mind Garden, Inc. www.mindgarden.com. Reproduced with permission of Mind Garden.

MLQ Raters Form 5X (Others' ratings)

Instructions:

This questionnaire is to describe the leadership style of the above-mentioned individual as you perceive it. Please answer all items on this answer sheet. If an item is irrelevant, or if you are unsure or do not know the answer, leave the answer blank. Please answer this questionnaire anonymously.

IMPORTANT (necessary for processing): Which best describes you?

I am at a higher organisational level than the person I am rating.

The person I am rating is at my organisational level.

I am at a lower organisational level than the person I am rating.

I do not wish my organisational level to be known.

Forty-five descriptive statements are listed on the following pages. Judge how frequently each statement fits the person you are describing. Use the following rating scale: Use the following rating scale:

- 0 Not at all
- 1 Once in a while
- 2 Sometimes
- 3 Fairly often
- 4 Frequently, if not always

Sample Items (By contract, citation of the instrument may only include the following items):

THE PERSON I AM RATING. . .

Table 111: MLQ - sample items, rater form.

Item	SAMPLE ITEMS - ENGLISH
9	Talks optimistically about the future.
15	Spends time teaching and coaching.
28	Avoids making decisions.

Item	SAMPLE ITEMS - SPANISH
9	Es optimista al hablar del futuro.
15	Dedica tiempo a enseñar y formar.
28	Evita tomar decisiones.

Item	SAMPLE ITEMS - PORTUGUESE
9	Fala de forma otimista sobre o futuro.
15	Dedica tempo ensinando e formando.
28	Evita tomar decisões.

Instrumental Leadership Questionnaire: items ²⁵

IL questionnaire - Leader Form (Self-rating)

Instructions:

Please answer the items below considering the frequency with which you demonstrate each of the following behaviours in your performance as a leader.

Use the following rating scale:

- 0 Not at all
- 1 Once in a while
- 2 Sometimes
- 3 Fairly often
- 4 Frequently, if not always

Table 112: ILQ - items, self-form.

Item Nº	English (original) version	Spanish (Latin American) version	Portuguese (Brazilian) version
1	I understand the constraints of our organization.	Entiendo las restricciones que debemos manejar en nuestra organización.	Compreendo as restrições que devemos gerenciar em nossa organização.
2	I sense what needs to be changed in our organization.	Detecto los cambios que son necesarios en nuestra organización.	Detecto o que precisa ser mudado em nossa organização.
3	I ensure that the organization's vision and aspiration are understood in specific terms.	Aseguro que mi visión para el área y la aspiración de la compañía sean entendidas en términos específicos.	Garanto que a minha visão para a área e a aspiração da empresa sejam entendidas em termos específicos.
4	I translate the mission into specific goals.	Traduzco nuestro propósito en objetivos específicos.	Traduzo nosso propósito em objetivos específicos.
5	I remove obstacles to the goal attainment of my team.	Elimino obstáculos para el logro de los objetivos de los demás.	Elimino os obstáculos que outros têm para atingir seus objetivos de desempenho
6	I ensure that the members of my team have sufficient resources to reach their goals.	Aseguro que el equipo tenga suficientes recursos para alcanzar sus metas.	Asseguro que a equipe tenha recursos suficientes para alcançar seus objetivos.
7	I help my team to learn from their mistakes.	Ayudo al equipo a aprender de los errores.	Ajudo a equipe a aprender com os erros
8	I provide my team with constructive feedback about their mistakes.	Proporciono feedback constructivo acerca de los errores.	Forneço feedback construtivo sobre os erros.

²⁵ (Antonakis & House, 2014) Reproduced with permission of John Antonakis, December 26, 2018.

IL questionnaire - Raters Form (Others' ratings)

Instructions:

Please answer the items below considering the frequency with which this leader demonstrates each of the following behaviours. If the item is not relevant to your relationship with the person you are rating, please rate the person in terms of how he or she acts with others.

Use the following rating scale:

- 0 Not at all
- 1 Once in a while
- 2 Sometimes
- 3 Fairly often
- 4 Frequently, if not always

Table 113: ILQ - items, rater form.

Item Nº	English (original) version	Spanish (Latin American) version	Portuguese (Brazilian) version
1	Understands the constraints of our organization.	Entiende las restricciones que debemos manejar en nuestra organización.	Compreende as restrições que devemos gestionar em nossa organização.
2	Senses what needs to be changed in our organization.	Detecta los cambios que son necesarios en nuestra organización.	Detecta o que precisa ser mudado em nossa organização.
3	Ensures that his/her vision is understood in specific terms.	Asegura que su visión para el área y la aspiración de la compañía sean entendidas en términos específicos.	Garante que sua visão para a área, e a aspiração da empresa sejam entendidas em termos específicos.
4	Translates the mission into specific goals.	Traduce el propósito en objetivos específicos.	Traduz o proposito em objetivos específicos.
5	Removes obstacles to my goal attainment.	Elimina obstáculos para el logro de mis objetivos.	Elimina obstáculos para a realização dos meus objetivos.
6	Ensures that I have sufficient resources to reach my goals.	Asegura que su equipo tenga suficientes recursos para alcanzar sus metas.	Garante que sua equipe tem recursos suficientes para alcançar suas metas.
7	Assists me to learn from my mistakes.	Me ayuda a aprender de mis errores.	Me ajuda a aprender com meus erros.
8	Provides me with constructive feedback about my mistakes.	Me proporciona feedback constructivo acerca de mis errores.	Me dá um feedback construtivo sobre meus erros.

Leadership Performance Indicators provided by the Company.

Table 114: Detail of Leadership Performance Indicators provided by the Company.

CATEGORY	INDICATOR	CODE NAME	SOURCE	AVERAGES FOLLOWING MEASURES:
EMERGENCE	Potential for Promotion	PfP	Superiors	Total Potential for promotion 2018
				Total Potential for promotion 2019
TASK EFFECTIVENESS	Financial Performance	TOFP	Superiors	Task Outcome Financial Performance 2018
				Task Outcome Financial Performance 2019
TASK EFFECTIVENESS	Task Competencies	TCA	Superiors	Task Competences Analysis 2018
				Task Competences Analysis 2019
				Task Competences Efficiency 2018
				Task Competences Efficiency 2019
				Task Competences Dealing with Pressure 2018
				Task Competences Dealing with Pressure 2019
TASK EFFECTIVENESS	Compliance Competencies	CC	Superiors	Compliance Competences Safety 2018
				Compliance Competences Safety 2019
				Compliance Competences Alignment 2018
				Compliance Competences Alignment 2019
PEOPLE EFFECTIVENESS	People Competencies	PC	Superiors	People Competences Communication 2018
				People Competences Communication 2019
				People Competences People Development 2018
				People Competences People Development 2019
				People Competences Customer Care 2018
				People Competences Customer Care 2019
				People Competences Teamwork 2018
				People Competences Teamwork 2019
PEOPLE EFFECTIVENESS	People's Opinion – All Employees	PO	Followers	People Survey OHI 2018
				People Survey OHI 2019
PEOPLE EFFECTIVENESS	People's Opinion - Direct Team	POFP	Followers	Followers Pulse - 2018 Mar
				Followers Pulse - 2018 Aug
				Followers Pulse - 2019 Mar
				Followers Pulse - 2019 Aug

Appendix E: Distribution of Types as Highest Scores in the Sample

It has been mentioned that the Enneagram theory claims that people only have one predominant type. If this thesis had chosen to strictly adhere to this approach, the Enneagram type would have been measured as a nominal variable, only considering the scale with the maximum score for each individual. If this had been so, the predominant Enneagram types in the sample of 133 individuals were distributed as follows:

Table 115: Percentage of individuals according to type as highest score

<i>Predominant Enneagram Type</i>	<i>N</i>	<i>%</i>
Enneagram Base 1: The Perfectionist	39	29,3%
Enneagram Base 2: The Helper	15	11,3%
Enneagram Base 3: The Achiever	17	12,8%
Enneagram Base 4: The Romantic	0	0,0%
Enneagram Base 5: The Investigator	4	3,0%
Enneagram Base 6: The Loyalist	6	4,5%
Enneagram Base 7: The Enthusiast	23	17,3%
Enneagram Base 8: The Challenger	15	11,3%
Enneagram Base 9: The Peacemaker	14	10,5%
Total	133	100,0%

When analysing the detail of the distribution, it is striking that the most chosen Enneagram types are also those that could be identified as the most prototypical of socially expected Leadership behaviour (Hogan et al., 1994) (Judge et al., 2009): by far, it is Type 1, characterized by high Conscientiousness, followed by several types whose main common element is high Extraversion: 7, 3, 8 and 2.

The least chosen types are also the least prototypical of Leadership, as they have in common their low Extroversion: 4, 5, and 6. On the other hand, Type 9, characterized by high Agreeableness (trait that they share with Type 2), is chosen a considerable 10.5% of times as the main type.

It was qualitatively observed that individuals who identify with a less socially desirable type have more distributed scores (smaller difference between their first choice and the others), while individuals who identify with a socially desirable type have a clearly higher score on their main preference.

This can be interpreted as that individuals with personality structures less prototypically associated with leadership are more hesitant in their responses and tend to also recognize themselves in behaviours commonly associated with other, more successful types.

Appendix F: Ethics, Information Sheets & Consent Forms

English Versions

Participant Information Sheet



1. Invitation

We would like to invite you to take part in a research study to better understand the relationship between Personality and Leadership Performance. My name is Claudia Nario, I am an Organizational Psychologist, doctoral researcher and former Head of Talent and Organizational Development of LATAM Airlines Group. This study is being supported by the HR Vice-presidency of the company.

Please take time to read the following information carefully. Ask questions if anything is not clear or if you would like more information in order to decide whether to take part.

2. Why have I been invited?

All the leaders of the company at your level in (country), and that have a tenure of over 6 months on their current position, have been invited to participate.

3. Do I have to take part?

It is up to you to decide. We will describe the study and go through the information sheet, which we will give to you. We will then ask you to sign a consent form to show you agreed to take part. You are free to withdraw at any time, without giving a reason.

4. What will I be asked to do?

You (and your raters) would be expected to go through the following actions:

- **Self-Assessment of Personality:** You would have to answer to 2 personality tests on a single on-line platform. The estimated time to answer the two tests is 30 minutes. You will be able to pause as many times you want, since the system saves the answers automatically. **The results of these Personality Assessments will only be known to yourself and the researcher, and under no condition they will be handed to any other person in your company (*).**
- **360-Survey to your boss, peers, and direct reports:** A 360-survey will be sent to your boss, peers and direct reports, which you will also be invited to answer. The results of the 360 survey will be known by yourself, the researcher, and the HR department of the company, which will use it exclusively for developmental purposes. Under no condition it will be handed to your boss or any other person in your company (*).
- **3-hour Training Session:** You will receive a 3-hour training session, on Leadership and the Personality Model behind the assessments.

- **Individual Coaching Session:** You will receive a 1-hour individual coaching session to allow you to interpret your information, identify your personality type and develop a focused personal plan for the development of your Leadership Skills.

5. Are there any risks if I participate?

For some people, receiving 360-feedback may prove to be uncomfortable, although in the experience of many, it is a very useful experience to increase self-awareness. Again, it should be noted that only you and the researcher will have access to the results of your Personality Assessments, and that the 360 will only be known by the HR Vice Presidency, who will only use it to help you in your development as a leader. Under no condition will it be employed for organisational decision-making of any kind. No results will be transferred to your boss.

6. Are there any advantages if I participate?

If you decide to participate, you will receive:

- A full report of your personality profile, with its strengths and weaknesses when faced with diverse leadership challenges.
- A full report of your leadership-behavioural profile, as assessed by your multiple raters on a 360, together with an understanding of how this profile might influence your success within diverse realms of leadership performance.
- A 3-hour training session to understand the models of Leadership and Personality involved in the study.
- An individual coaching session with the researcher, who will guide you into the integration of your results and the design of a development agenda with very specific behavioural goals and actions plans designed to leverage your effectiveness as a leader.

We think that participation could help you to increase your self-awareness as a leader and consequently, help you to improve your leadership skills.

7. Additional Information: What will happen with the data I provide?

If you agree to participate in this research, we will collect from you some personally identifiable information.

The **Manchester Metropolitan University** ('the University') is the Data Controller in respect of this research and any personal data that you provide as a research participant.

The University is registered with the Information Commissioner's Office (ICO) and manages personal data in accordance with the General Data Protection Regulation (GDPR) and the University's Data Protection Policy.

We collect personal data as part of this research (such as name, telephone numbers or age). As a public authority acting in the public interest we rely upon the 'public task' lawful basis. When we collect special category data (such as medical information or ethnicity) we rely upon the research and archiving purposes in the public interest lawful basis.

Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained.

We will not share your personal data collected in this form with any third parties.

If your data is shared this will be under the terms of a Research Collaboration Agreement which defines use; and agrees confidentiality and information security provisions. It is the University's policy to only publish anonymised data unless you have given your explicit written consent to be identified in the research. **The University never sells personal data to third parties.**

We will only retain your personal data for as long as is necessary to achieve the research purpose.

***IMPORTANT:** For the purpose of the research, your names and personal identification data will be erased from the records, before they are processed for analysis. Under no condition your data will be identifiable by any person outside yourself or the researcher. The processing, storage and final disposal of your data will be performed in the UK, under UK legislation for data protection.

For further information about use of your personal data and your data protection rights please see the [University's Data Protection Pages](#).

8. What will happen to the results of the research study?

The overall findings of this study will be presented to the top executives within HR Vice-presidency. NO INDIVIDUAL ASSESSMENT SCORES WILL BE INCLUDED IN THIS PRESENTATION.

The overall results of this study will also be published on a scientific journal. The name of the company will not be disclosed in this publication.

9. Who has reviewed this research project?

This research project has been supervised by Sarah Crozier (Senior Lecturer in Occupational Psychology, Department of People and Performance, Business School, MMU); Sumona Mukhuty (Principal Lecturer & Subject Group Lead of Strategy & Sustainability Subject Group, Business School, MMU); and Anna Sutton (Senior Lecturer in Organisational Psychology, University of Waikato, NZ); and it has been reviewed by the University's Ethics Committee.

Who do I contact if I have concerns about this study or I wish to complain?

For general questions about the project contact Claudia Nario: claudia.nario@stu.mmu.ac.uk
For concerns/complaints about the project contact Dr. Sarah Crozier: S.Crozier@mmu.ac.uk
For concerns regarding the personal data collected from you contact our Faculty Head of Ethics, Dr. Ian Ashman: I.Ashman@mmu.ac.uk; or using the legal@mmu.ac.uk e-mail address, by calling +44 0161 247 3331 or in writing to: Data Protection Officer, Legal Services, All Saints Building, Manchester Metropolitan University, Manchester, M15 6BH. You also have a right to lodge a complaint in respect of the processing of your personal data with the Information Commissioner's Office as the supervisory authority. Please see: <https://ico.org.uk/global/contact-us/>

THANK YOU FOR CONSIDERING PARTICIPATING IN THIS PROJECT!

Rater Information Sheet-



1. Invitation

You have been invited to rate the leadership behaviours of one of the leaders of this organisation, because he/she has agreed to participate from a project to study the connection between personality and leadership performance, that will also contribute to increase the awareness of leaders in the company. Please take time to read the following information carefully. If anything you read is not clear or would like more information, please direct your questions to claudia.nario@stu.mmu.ac.uk

2. Why have I been invited?

All the peers, direct reports and direct supervisor of your ratee, have been invited to participate.

3. Will my answers remain anonymous?

Yes, your answers will remain anonymous and will only be displayed as a group average within each rater category: "direct reports" or "peers".

Only if you are rating as the Boss, your ratee will be able to identify your answers to you.

4. Who will see the results of this Survey?

The results of this survey will only be known by the ratee, the researcher and a small team from HR, who will use them exclusively for developmental purposes.

The results of this survey will NOT be handed to or known by any other person within the company. This information will NOT be used to assess performance, for promotion decisions, reward allocation, or any other decisions or consequences.

5. What is the purpose of my participation?

As a rater, you are asked to provide your honest feedback so that you can help your ratee have a clear vision on how his/her leadership behaviours are perceived by those people that work with him/her every day.

6. Do I have to answer the Survey?

Your participation is voluntary, but we encourage you to do so. Your honest perception constitutes valuable and irreplaceable information to help in this case.

7. Last tip:

Please give your honest impression. Do not overthink, sometimes the best answer is the one that comes from your first response. You will find further instructions in the Survey form.

8. Further information and contact details:

If you need any additional information or have any additional concern about any aspect of this study, please refer to your HR dept or directly to the researcher: Claudia Nario / +34 609058531 / claudia.nario@stu.mmu.ac.uk

THANK YOU FOR CONSIDERING PARTICIPATING IN THIS PROJECT!

Spanish Versions

Documento de Información para el Participante



1. Invitación

Queremos invitarte a participar en un estudio de investigación que tiene por objetivo mejorar nuestra comprensión de la relación entre Personalidad y Liderazgo. Mi nombre es Claudia Nario, soy psicóloga organizacional, investigadora doctoral y ex Directora de Talento y Desarrollo Organizacional de LATAM Airlines Group. Este estudio se encuentra avalado por la Vicepresidencia de Recursos Humanos de la compañía.

Por favor, tómate el tiempo necesario para leer cuidadosamente la siguiente información. Puedes hacer preguntas si algo no está claro o si deseas más información para decidir si deseas participar.

2. ¿Por qué he sido invitado?

Todos los líderes de la compañía con tu mismo nivel, y que tengan una permanencia de más de 6 meses en su cargo actual, han sido invitados a participar.

3. ¿Tengo que participar?

Es tu decisión. Este documento, que te será entregado, describe los detalles del estudio. Luego te pediremos que firmes un formulario de consentimiento para demostrar tu aceptación a participar. Aun cuando hayas firmado este consentimiento, serás libre de retirarte en cualquier momento, sin necesidad de dar una razón.

4. ¿Qué tendría que hacer?

Tú (y tus evaluadores) tendrían que realizar las siguientes acciones:

- **Autoevaluación de Personalidad:** tendrías que responder a 2 cuestionarios de personalidad en una única plataforma en línea. El tiempo estimado para responder a las estas pruebas es de 30 minutos. Podrás interrumpir y retomar tantas veces como desees, ya que el sistema grabará tus respuestas en forma automática. Los resultados de los cuestionarios de personalidad solo serán conocidos por ti mismo y por el investigador, y en ninguna circunstancia serán entregados a ninguna otra persona de la compañía (*).
- **Evaluación 360:** se enviará un cuestionario en 360 a tu jefe, tus pares y tus colaboradores directos, que tú también estarás invitado a responder. **Los resultados de este cuestionario 360 sólo serán conocidos por usted, el investigador y la Vicepresidencia de recursos humanos de la compañía, que lo utilizarán exclusivamente para fines de desarrollo. Bajo ninguna condición será entregado a tu jefe o cualquier otra persona en la compañía (*).**

- **Sesión de formación de 3 horas:** recibirás una sesión de formación de 3 horas de duración, para comprender los modelos de Liderazgo y de Personalidad en los que se basan las evaluaciones.
- **Sesión de coaching individual:** recibirás una sesión de coaching individual de 1 hora de duración que te permitirá interpretar tus resultados, identificar tu tipo de personalidad y desarrollar un plan personal enfocado en el desarrollo de tus habilidades de liderazgo.

5. ¿Corro algún riesgo en caso de participar?

Para algunas personas, recibir un feedback en 360 puede resultar incómodo, aunque en la experiencia de muchos es que resulta una experiencia muy útil para aumentar la autoconciencia. Una vez más, debes tener en cuenta que solo tú mismo y el investigador a cargo tendrán acceso a los resultados de tu cuestionario de Personalidad, y que el 360 solo será conocido por la Vicepresidencia de Recursos Humanos, que lo utilizará únicamente para ayudarte en tu desarrollo como un líder. Ningún resultado será transmitido a tu jefe, y en ninguna circunstancia tus resultados serán empleados para tomar decisiones organizacionales de ningún tipo.

6. ¿Cuáles son las ventajas en caso de participar?

Si decides participar, vas a recibir:

- Un informe completo de tu perfil de personalidad, con tus fortalezas y debilidades al momento de enfrentar desafíos de liderazgo de diversa índole.
- Un informe completo de tu perfil de comportamientos de liderazgo, según tus evaluadores múltiples en el 360, junto con una comprensión de cómo este perfil podría influir en tu éxito en diversos ámbitos del desempeño del liderazgo.
- Una sesión formativa de 3 horas para comprender los modelos de liderazgo y personalidad involucrados en el estudio.
- Una sesión de coaching individual con el investigador, que te guiará en la integración de tus resultados y en el diseño de una agenda para tu desarrollo, con metas de comportamiento muy específicas y planes de acción diseñados para potenciar tu eficacia como líder.

Más en general, creemos que la participación en este proceso podría ayudarte a aumentar tu autoconocimiento como líder y, en consecuencia, incrementar tus habilidades de liderazgo.

7. Información adicional: ¿Qué sucederá con los datos que entregaré?

Si aceptas participar en esta investigación, requeriremos una cantidad determinada de información de identificación personal acerca de ti.

La Universidad Metropolitana de Manchester ("la Universidad") será el Controlador de datos respecto de esta investigación y de cualquier información personal que proporciones como participante de este estudio.

La Universidad está registrada en la Oficina del Comisionado de Información (ICO) y administra los datos personales en conformidad con el Reglamento General de Protección de Datos (GDPR) del Reino Unido, y con la Política interna de Protección de Datos de la Universidad.

Recopilaremos algunos de tus datos personales (como nombre, correo electrónico o edad). Como autoridad pública que actúa en el interés público, confiamos en la base legal de la "tarea pública". Cuando recopilamos datos respecto de categorías especiales (como datos médicos o de pertenencia a una raza o etnia) confiamos en que los fines de investigación y los propósitos de su archivo se realizan en interés público y con base legal.

Tus derechos para acceder, cambiar o remover tu información serán limitados, ya que necesitamos administrar la información con metodologías específicas que garanticen que la investigación sea confiable y precisa. Si se retira del estudio, conservaremos la información sobre usted que hayamos obtenido.

No compartiremos los datos personales recopilados en este formulario con ningún tercero.

En cualquier caso que sus datos sean compartidos, será bajo los términos del *Research Collaboration Agreement* (Acuerdo de Colaboración para la Investigación) que define su uso; y acuerda las disposiciones de confidencialidad y seguridad de la información. Es política de la Universidad el publicar solo datos anónimos a menos que hayas dado tu consentimiento explícito y por escrito para ser identificado en la investigación. **La universidad nunca vende datos personales a terceros.**

Conservaremos tus datos personales solamente durante el tiempo que sea necesario para lograr el propósito de la investigación.

* **IMPORTANTE:** Tu nombre y otros datos de identificación personal se borrarán de los registros, antes de que se procesen para su análisis para fines de la investigación. Bajo ninguna condición, tu información resultará identificable por cualquier persona ajena a ti mismo o al investigador. El procesamiento, almacenamiento y disposición final de tus datos se llevará a cabo en el Reino Unido, conforme a la legislación del Reino Unido para la protección de datos.

Para mayor información acerca del uso de sus datos personales y sus derechos de protección de datos, consulte la página de protección de datos de la Universidad ([*University's Data Protection Pages*](#)).

¿Qué sucederá con los resultados de este estudio de investigación?

Los resultados generales de este estudio se presentarán al nivel directivo de la Vicepresidencia de Recursos Humanos. ESTA PRESENTACIÓN NO INCLUIRÁ NINGUNA PUNTUACIÓN DE EVALUACIONES INDIVIDUALES DE LOS PARTICIPANTES.

Los resultados generales de este estudio también se publicarán en una revista científica. El nombre de la empresa no se dará a conocer en esta publicación.

¿Quién ha revisado este proyecto de investigación?

Este proyecto de investigación ha sido supervisado por Sarah Crozier (Profesora titular de Psicología Ocupacional, Departamento de Personas y Desempeño, Escuela de Negocios, MMU); Sumona Mukhuty (Profesora y jefe de departamento de Estrategia y Sostenibilidad, Escuela de negocios, MMU); y Anna Sutton (Profesora titular de Psicología Organizacional, Universidad de Waikato, Nueva Zelanda); y ha sido revisado por el Comité de Ética de la Universidad.

¿Con quién me comunico si tengo inquietudes sobre este estudio o deseo presentar una queja?

Para preguntas generales sobre el proyecto contacte a Claudia Nario: claudia.nario@stu.mmu.ac.uk

Para inquietudes/quejas sobre el proyecto, comuníquese con la Dra. Sarah Crozier: S.Crozier@mmu.ac.uk

Para inquietudes relacionadas con los datos personales recopilados, comuníquese con nuestro Jefe de Ética de la Facultad, Dr. Ian Ashman: I.Ashman@mmu.ac.uk; o bien, usando la dirección de correo electrónico: legal@mmu.ac.uk, llamando al +44 0161 247 3331 o por escrito a: *Data Protection Officer, Legal Services, All Saints Building, Manchester Metropolitan University, Manchester, M15 6BH.*

También tendrás derecho a presentar una queja con respecto al procesamiento de tus datos personales ante la *Information Commissioner's Office* (Oficina del Comisionado de Información) como autoridad supervisora. Por favor consulta en: <https://ico.org.uk/global/contact-us/>

¡GRACIAS POR CONSIDERAR TU PARTICIPACIÓN EN ESTE PROYECTO!

Documento de Información al Evaluador



1. Invitación

Has sido invitado a calificar los comportamientos de liderazgo de uno de los líderes de la compañía, porque él / ella ha aceptado participar de una investigación acerca de la relación entre personalidad y liderazgo. Este proyecto tiene a su vez como objetivo el contribuir al desarrollo de los líderes de la organización.

Por favor, tómate el tiempo necesario para leer cuidadosamente la siguiente información. Si algo de lo que lee no está claro o deseas más información, dirige tus preguntas a claudia.nario@stu.mmu.ac.uk

2. ¿Por qué he sido invitado?

Todos los compañeros, colaboradores y el jefe directo de este líder han sido invitados a participar.

3. ¿Mis respuestas permanecerán anónimas?

Sí, todas tus respuestas serán anónimas y solo se mostrarán como un promedio de grupo dentro de cada categoría de evaluador: "colaboradores directos" o "pares".

La única excepción es el jefe directo de la persona evaluada, en cuyo caso, sus respuestas a la evaluación sí serán identificables por el líder evaluado.

4. ¿Quién verá los resultados de esta encuesta?

Los resultados de esta encuesta solo serán conocidos por el evaluador, el investigador y un pequeño equipo de Recursos Humanos, quienes los utilizarán exclusivamente para fines de desarrollo.

Los resultados de esta encuesta NO serán entregados ni conocidos por ninguna otra persona dentro de la compañía. Esta información NO se utilizará para evaluar el desempeño, para decisiones de promoción, para asignación de bonos o cualquier otra decisión o consecuencia organizacional.

5. ¿Cuál es el propósito de mi participación?

Como evaluador, se te solicita que brindes tu honesta opinión, de manera de poder contribuir a que la persona evaluada tenga una visión clara de cómo su comportamiento de liderazgo es percibido por las personas que trabajan con él todos los días.

6. ¿Tengo que responder la encuesta?

Tu participación es voluntaria, pero te recomendamos que respondas. Tu percepción constituye información valiosa e insustituible para ayudar en este caso.

7. Un último consejo:

Por favor entrega tu opinión más honesta. No lo pienses demasiado, a veces la mejor respuesta es la que pensaste primero. Encontrarás más instrucciones en el sitio de la encuesta.

8. Más información y datos de contacto:

Si necesitas información adicional o tienes alguna inquietud adicional sobre algún aspecto de este estudio, consulta a tu ejecutivo de recursos humanos o directamente al investigador: Claudia Nario / +34 609058531 / claudia.nario@stu.mmu.ac.uk

¡GRACIAS POR CONSIDERAR TU PARTICIPACIÓN EN ESTE PROYECTO!

Portuguese Versions:

Documento de informação para o participante



1. Convite

Queremos convidá-lo a participar de um estudo de pesquisa que visa melhorar nossa compreensão da relação entre Personalidade e Liderança. Meu nome é Claudia Nario, sou psicóloga organizacional, pesquisadora de doutorado e ex-diretora de Talentos e Desenvolvimento Organizacional da LATAM Airlines Group. Este estudo é apoiado pela Vice-Presidência de Recursos Humanos da empresa.

Por favor, reserve um tempo para ler atentamente as seguintes informações. Você pode fazer perguntas se algo não estiver claro ou se quiser mais informações para decidir se deseja participar.

2. Por que fui convidado?

Todos os líderes da empresa com o mesmo nível, e que tenham permanência de mais de 6 meses no cargo atual, foram convidados a participar.

3. Eu tenho que participar?

É sua decisão. Este documento, que será entregue a você, descreve os detalhes do estudo. Em seguida, pediremos que você assine um formulário de consentimento para mostrar sua aceitação em participar. Mesmo que você tenha assinado este consentimento, você será livre para desistir a qualquer momento, sem dar um motivo.

4. O que devo fazer?

Você (e seus avaliadores) devem executar as seguintes ações:

- **Autoavaliação da personalidade:** você teria que responder a 2 questionários de personalidade em uma única plataforma online. O tempo estimado para responder a esses testes é de 30 minutos. Você pode interromper e reiniciar quantas vezes desejar, já que o sistema gravará suas respostas automaticamente. **Os resultados dos questionários de personalidade só serão conhecidos por você e pelo pesquisador, e sob nenhuma circunstância eles serão entregues a qualquer outra pessoa na empresa (*).**
- **Avaliação 360:** um questionário 360 será enviado ao seu chefe, seus colegas e seus colaboradores diretos, aos quais você também será convidado a **responder**. **Os resultados deste questionário 360 só serão conhecidos por você, o pesquisador e a Vice-Presidência de recursos humanos da empresa, que o utilizará exclusivamente para fins de desenvolvimento. Sob nenhuma condição será entregue ao seu chefe ou a qualquer outra pessoa na empresa (*).**

- **Sessão de Treinamento de 3 horas:** você receberá uma sessão de treinamento de 3 horas para entender os modelos de Liderança e Personalidade nos quais as avaliações são baseadas.
- **Sessão de Coaching individual:** você receberá uma sessão individual de treinamento de 1 hora que lhe permitirá interpretar seus resultados, identificar seu tipo de personalidade e desenvolver um plano pessoal focado no desenvolvimento de suas habilidades de liderança.

5. Corro algum risco se participo?

Para algumas pessoas, receber feedback 360 pode ser desconfortável, embora na experiência de muitos seja uma experiência muito útil para aumentar a autoconsciência. Mais uma vez, você deve ter em mente que somente você e o pesquisador responsável terão acesso aos resultados do seu questionário de Personalidade, e que o 360 só será conhecido pela Vice-Presidência de Recursos Humanos, que o utilizará apenas para ajudá-lo em seu desenvolvimento como líder. Nenhum resultado será transmitido ao seu chefe e, sob nenhuma circunstância, seus resultados serão usados para tomar decisões organizacionais de qualquer tipo.

6. Quais são as vantagens em caso de participação?

Se você decidir participar, você receberá:

- Um relatório completo do seu perfil de personalidade, com seus pontos fortes e fracos ao enfrentar desafios de liderança de vários tipos.
- Um relatório completo do seu perfil de comportamentos de liderança, de acordo com seus múltiplos avaliadores no 360, junto com um entendimento de como esse perfil pode influenciar seu sucesso em várias áreas de desempenho de liderança.
- Uma sessão de treinamento de 3 horas para entender os modelos de liderança e personalidade envolvidos no estudo.
- Uma sessão individual de coaching com o pesquisador, que irá guiá-lo na integração de seus resultados e no planejamento de uma agenda para o seu desenvolvimento, com metas comportamentais e planos de ação muito específicos, projetados para melhorar sua eficiência como líder.

De maneira mais geral, acreditamos que a participação nesse processo poderia ajudá-lo a aumentar seu autoconhecimento como líder e, conseqüentemente, aumentar suas habilidades de liderança.

7. Informações adicionais: O que acontecerá com os dados que entregarei?

Se você concordar em participar desta investigação, precisaremos de uma certa quantidade de informações pessoais identificáveis sobre você.

A Universidade Metropolitana de Manchester ("a Universidade") será o Controlador de dados sobre esta pesquisa e qualquer informação pessoal que você fornecer como participante deste estudo.

A Universidade está registrada no Gabinete da Comissão da Informações (ICO) e gerencia dados pessoais em conformidade com o Regulamento Geral de Proteção de Dados (PIBR) no Reino Unido, e a Política de proteção de dados interna da Universidade.

Nós coletaremos algumas de suas informações pessoais (como nome, e-mail ou idade). Enquanto autoridade pública agindo no interesse público, contamos com a base legal da "tarefa pública". Quando coletamos dados sobre categorias especiais (como dados médicos ou pertenciam a uma raça ou etnia) somos confiantes de que o propósito de fins de pesquisa e arquivamento são realizadas no interesse público e base legal.

Seus direitos de acesso, alterar ou remover a sua informação serão limitados, uma vez que precisamos para gerenciar informações de metodologias específicas para assegurar que a pesquisa é confiável e precisa. Se você desistir do estudo, nós reteremos as informações sobre você que obtivemos.

Não compartilharemos as informações pessoais coletadas neste formulário com terceiros.

Em qualquer caso que seus dados sejam compartilhados, será sob os termos do *Research Collaboration Agreement* (Contrato de Colaboração de Pesquisa) que define seu uso; e concorda as disposições de confidencialidade e segurança da informação. É política da Universidade publicar apenas dados anônimos, a menos que você tenha dado seu consentimento explícito e por escrito para ser identificado na investigação. **A universidade nunca vende dados pessoais para terceiros.**

Manteremos seus dados pessoais apenas pelo tempo que for necessário para alcançar o objetivo da investigação.

* **IMPORTANTE:** Seu nome e outros dados de identificação pessoal serão excluídos dos registros, antes de serem processados para análise para fins de pesquisa. Sob nenhuma condição, suas informações serão identificáveis por qualquer pessoa que não seja você ou o pesquisador. O processamento, armazenamento e disposição final de seus dados ocorrerão no Reino Unido, de acordo com a legislação do Reino Unido para proteção de dados.

Para obter mais informações sobre o uso de seus dados pessoais e seus direitos de proteção de dados, consulte as páginas de proteção de dados da universidade (University's Data Protection Pages).

O que acontecerá com os resultados desta pesquisa?

Os resultados gerais deste estudo serão apresentados ao nível executivo da Vice-Presidência de Recursos Humanos. Esta apresentação não inclui nenhuma pontuação individual dos participantes.

Os resultados gerais deste estudo também serão publicados em um periódico científico. O nome da empresa não será divulgado nesta publicação.

Quem revisou este projeto de pesquisa?

Este projeto de investigação tem sido supervisionado por Sarah Crozier (Professora Titular de Psicologia do Trabalho, Departamento de Pessoas e Desempenho, Business School, MMU); Sumona Mukhuty (Professora e Chefe do Departamento de Estratégia e Sustentabilidade, Business School, MMU); e Anna Sutton (Professora Titular de Psicologia Organizacional da Universidade de Waikato, Nova Zelândia); e foi revisado pelo Comitê de Ética da Universidade.

Quem devo contatar se tiver dúvidas sobre este estudo ou se desejar fazer uma reclamação?

Para perguntas gerais sobre o projeto, entre em contato com Claudia Nario: claudia.nario@stu.mmu.ac.uk

Para preocupações / reclamações sobre o projeto, entre em contato com a Dra. Sarah Crozier: S.Crozier@mmu.ac.uk

Para questões relacionadas com dados pessoais recolhidos, entre em contato com o nosso Ética Chefe da Faculdade, Dr. Ian Ashman: I.Ashman@mmu.ac.uk; ou, usando o endereço de e-mail: legal@mmu.ac.uk; chamando +44 0161 247 3331 ou por escrito a *Data Protection Officer, Legal Services, All Saints Building, Manchester Metropolitan University, Manchester, M15 6BH*.

Você também terá o direito de registrar uma queixa referente ao processamento de seus dados pessoais no Escritório do Comissionado da Informação como autoridade supervisora. Por favor, consulte: <https://ico.org.uk/global/contact-us/>

OBRIGADO POR CONSIDERAR SUA PARTICIPAÇÃO NESTE PROJETO!

1. Convite

Você foi convidado a avaliar os comportamentos de liderança de um dos líderes da empresa, porque ele / ela concordou em participar de uma investigação sobre a relação entre personalidade e liderança. Este projeto também irá contribuir para o desenvolvimento dos líderes da organização.

Por favor, reserve um tempo para ler atentamente as seguintes informações. Se algo que você lê não estiver claro ou quiser mais informações, direcione suas perguntas para claudia.nario@stu.mmu.ac.uk

2. Por que fui convidado?

Todos os colegas, colaboradores e o líder direto deste líder foram convidados a participar.

3. As minhas respostas permanecerão anônimas?

Sim, todas as suas respostas serão anônimas e serão exibidas apenas como uma média de grupo dentro de cada categoria de avaliadores: "colaboradores diretos" ou "pares".

A única exceção é o supervisor direto da pessoa que está sendo avaliada e, nesse caso, suas respostas à avaliação serão identificáveis pelo líder avaliado.

4. Quem verá os resultados desta pesquisa?

Os resultados desta pesquisa só serão conhecidos pelo avaliador, pelo pesquisador e por uma pequena equipe de Recursos Humanos, que os utilizará exclusivamente para fins de desenvolvimento.

Os resultados desta pesquisa NÃO serão entregados ou conhecidos por qualquer outra pessoa dentro da empresa. Esta informação NÃO será usada para avaliar o desempenho, decisões de promoção, alocação de bônus ou qualquer outra decisão ou consequência organizacional.

5. Qual é o propósito da minha participação?

Como avaliador, você é solicitado a dar sua opinião sincera, a fim de ajudar a pessoa avaliada a ter uma visão clara de como seu comportamento de liderança é percebido pelas pessoas que trabalham com ele todos os dias.

6. Eu tenho que responder a pesquisa?

Sua participação é voluntária, mas recomendamos que você responda. Sua percepção constitui uma informação valiosa e insubstituível para ajudar neste caso.

7. Um último conselho:

Por favor, dê sua opinião mais sincera. Não pense muito, às vezes a melhor resposta é aquela que você pensou primeiro. Você encontrará mais instruções no site da pesquisa.

8. Mais informações e informações de contato:

Se você precisar de informações adicionais ou tiver alguma preocupação adicional sobre qualquer aspecto deste estudo, consulte seu executivo de recursos humanos ou diretamente com o pesquisador: Claudia Nario / +34 609058531 / claudia.nario@stu.mmu.ac.uk

OBRIGADO POR CONSIDERAR SUA PARTICIPAÇÃO NESTE PROJETO!

Appendix G: Licenses and Agreements to use Assessment Tools.

License to use MLQ

**Approval for Remote Online Use
of a Mind Garden Instrument**

Effective date is June 14, 2019 for:
Leadership Development 360

You submitted your Application for Remote Online Use at 3:44 pm EDT on June 13, 2019.



(v2)

Remote online use of the Mind Garden instrument stated below is approved for the person on the title page of this document.

Your name:

Claudia Nario

Email address:

claudianario@gmail.com

Company/institution:

Manchester Metropolitan University

Mind Garden Sales Order or Invoice number for your license purchase:

31050

The name of the Mind Garden instrument you will be using:

MLQ 360

Please specify the name of and web address for the remote online survey website you will be using and describe how you will be putting this instrument online:

OnlineSurveys, url: <https://www.onlinesurveys.ac.uk/> I will use a functionality to copy & paste the items, directly from the document provided by Mindgarden

Please include any other comments or explanations you would like to provide about your remote online use of a Mind Garden instrument:

It is the official survey site used by my university, which provides a paid licence to all its PhD students.

The Remote Online Survey License is a data license for research purposes only. This license grants one permission to collect and disclose (a) item scores and scale scores, (b) statistical analyses of those scores (such as group average, group standard deviation, T-scores, etc.) and (c) pre-authorized sample items only, as provided by Mind Garden, for results write-up and publication.

The instrument items, directions, manual, individual report, group report, and any other descriptive information available through Mind Garden is the intellectual property of the copyright holder and can be used only with purchase or written permission from Mind Garden.

added 13 September 2018

Conditions of Use

Question	Answer
I will administer this Mind Garden instrument for research purposes only.	I agree to this condition.
I will not send Mind Garden instruments in the text of an email or as a PDF file to survey participants.	I agree to this condition.
I will put the instrument copyright statement (from the footer of my license document; includes the copyright date, copyright holder, and publisher details) on every page containing questions/items from this instrument.	I agree to this condition.
I will send screenshots of my online survey to info@mindgarden.com so that Mind Garden can verify that the copyright statement appears.	I agree to this condition.
I will compensate Mind Garden, Inc. for each license use; one license is used when a participant first accesses the online survey.	I agree to this condition.
I will track my license use.	I agree to this condition.
Once the number of administrations reaches the number purchased, I will purchase additional licenses or the survey will be closed to use.	I agree to this condition.
I will remove this online survey at the conclusion of my data collection and I will personally confirm that it cannot be accessed.	I agree to this condition.

I agree to abide by each of the conditions stated above

Your name (as electronic signature):
Date:

Claudia A. Nario Larrondo
June 13, 2019

For use by Leadership Development 360 only. Received from Mind Garden, Inc. on May 22, 2019
**Permission for Leadership Development 360 to reproduce 1 copy
within one year of May 22, 2019**

For Publications:

We understand situations exist where you may want sample test questions for various fair use situations such as academic, scientific, or commentary purposes. No items from this instrument may be included in any publication without the prior express written permission from Mind Garden, Inc. Please understand that disclosing more than we have authorized will compromise the integrity and value of the test.

For Dissertation and Thesis Appendices:

You may not include an entire instrument in your thesis or dissertation, however you may use the three sample items specified by Mind Garden. Academic committees understand the requirements of copyright and are satisfied with sample items for appendices and tables. For customers needing permission to reproduce the three sample items in a thesis or dissertation, the following page includes the permission letter and reference information needed to satisfy the requirements of an academic committee.

Online Use of Mind Garden Instruments:

Online administration and scoring of the Multifactor Leadership Questionnaire is available from Mind Garden, (<https://www.mindgarden.com/16-multifactor-leadership-questionnaire>). Mind Garden provides services to add items and demographics to the Multifactor Leadership Questionnaire. Reports are available for the Multifactor Leadership Questionnaire.

If your research uses an online survey platform other than the Mind Garden Transform survey system, you will need to meet Mind Garden's requirements by following the procedure described at mindgarden.com/mind-garden-forms/58-remote-online-use-application.html.

All Other Special Reproductions:

For any other special purposes requiring permissions for reproduction of this instrument, please contact info@mindgarden.com.



www.mindgarden.com

To Whom It May Concern,

The above-named person has made a license purchase from Mind Garden, Inc. and has permission to administer the following copyrighted instrument up to that quantity purchased:

Multifactor Leadership Questionnaire

The three sample items only from this instrument as specified below may be included in your thesis or dissertation. Any other use must receive prior written permission from Mind Garden. The entire instrument may not be included or reproduced at any time in any other published material. Please understand that disclosing more than we have authorized will compromise the integrity and value of the test.

Citation of the instrument must include the applicable copyright statement listed below.
Sample Items:

As a leader

- I talk optimistically about the future.
- I spend time teaching and coaching.
- I avoid making decisions.

The person I am rating...

- Talks optimistically about the future.
- Spends time teaching and coaching.
- Avoids making decisions

Copyright © 1995 by Bernard Bass & Bruce J. Avolio. All rights reserved in all media.
Published by Mind Garden, Inc. www.mindgarden.com

Sincerely,

Robert Most
Mind Garden, Inc.
www.mindgarden.com

Authorisation to use ILQ

2019 Corneo: Claudia Nario - Outlook

Director, Ph. D. Program in Management
Faculty of Business and Economics (HEC)
University of Lausanne
Internef #618
CH-1015 Lausanne
Switzerland
Tel ++41 (0)21 692-3438
Fax ++41 (0)21 692-3305
<http://www.hec.unil.ch/people/j.antonakis>

Editor in Chief:
The Leadership Quarterly

On 26.12.2018 16:33, Claudia Nario wrote:

Dear Mr. Antonakis,

My name is Claudia Nario and I am a PhD student at MMU. My research is focused on testing the predictive power of two sets of leaders' variables: personality traits (distal) and leaders' behaviours (proximal); over objective leadership outcomes (individual and team level).

I have followed all of your papers on Leadership and I feel totally interpreted by your view on the need for a "fuller" range theory of leadership and encouraged by the results of your research. May I say I admire your clarity?

I am totally new to academic research, but I do have over 20 years of professional experience, 12 of them as a Leader myself. My view is also complemented by my training as a Psychologist and an MSc in Organizational Behaviour.

Due to the contacts developed along my previous life as a practitioner, I have been confirmed access to a sample of approximately 400 leaders (from middle to top management positions) within a major multinational organization based in Latin America.

My interest is to apply MLQ and the scale for Instrumental Leadership, and cross them against objective performance measures within the organization. My questions to you are:

1. **Would you be available to connect by Zoom or Skype, so I could briefly introduce myself and my research?**
2. **Is it possible to use your IL scale, and would there be fees involved?** The fee aspect is also critical, since I am a self-funded student.

Looking forward to hearing from you,

Claudia Nario

/outlook.office.com/mail/D8AAQAD30DBmMTUdUWlZGMWdDhZStNerylLWfNlTMdZQozTxAwAQAcUjQlYncITfGKY2a%2F%3D

30/3/2019

Correo: Claudia Nario - Outlook

RE: Interest in using Instrumental Leadership scale for a doctoral research

Claudia Nario <claudianario@outlook.com>

Mié 26/12/2018 17:21

Para: John Antonakis <John.Antonakis@unil.ch>; Claudia Nario <CLAUDIANARIO@stu.mmu.ac.uk>

Thank you very much for your prompt answer. Very sorry that we cannot connect!
Maybe in the future!

Best regards,

Claudia Nario

De: John Antonakis <John.Antonakis@unil.ch>

Enviado el: miércoles, 26 de diciembre de 2018 17:07

Para: Claudia Nario <CLAUDIA.NARIO@stu.mmu.ac.uk>

CC: claudianario@outlook.com

Asunto: Re: Interest in using Instrumental Leadership scale for a doctoral research

Hi:

Feel free to use the measures--there is no cost and it is in the public domain.

Sorry--but I am very maxed-out time wise with the journal and travel and won't have time to discuss things.

Good luck with your research.
John.

John Antonakis
Professor of Organizational Behavior

<https://outlook.office.com/mail/fd1AAQkADM3ODBmMTU0LW11ZGMNDNzS1INmY1LWFINTM0ZjQxZTRtMMAAQACjUYjQLYhCtffGKY2a%2FeY%3D>

Permission to use HPEI



TEMPORARY, FREE-OF-CHARGE USAGE AGREEMENT FOR THE Halin Prémont Enneagram Indicator™ (HPEI™)

Between Crescendo 3 Sprl, 23 Boulevard de la Révision, B-1070, Anderlecht, Belgium,
represented by Philippe Halin, Managing Director, known hereafter as the "Company"

and Mrs Claudia NARIO, Passcig Miramar 22B, Sant Pere de Ribes, 08810 Barcelona, Spain, PhD
Student; known hereafter as the "Trainer".

Whereas:

Preamble

The Company has developed a value-added personality test, known as the "Halin Prémont Enneagram Indicator™" (abbreviated to HPEI™), based on the Enneagram model, and on the knowledge and experience of two clinical psychologists.

The HPEI™ has been formally tested and approved by the Université catholique de Louvain. The HPEI™ is the subject of the following publication:

Nathalie Delobbe, Philippe Halin and Jacques Prémont, HPEI. *Ennéagramme évolutif. Manuel pour le psychologue et le praticien certifié*. Presses Universitaires de Louvain, 2012, 120 pp.

It is owned by the Company and is protected by copyright.

The HPEI™ is used exclusively by Trainers certified by the Company.

1. The Company hereby authorises the Trainer to use the HPEI™, on an exceptional basis, without certification. Such authorisation shall cover usage thereof for research purposes, and for a limited period commencing on today's date and terminating on October 2020. The purpose of this research is as follows: *To assess the predictive validity of the Enneagram, as measured by the HPEI™, with regards to Leadership Behaviours, as measured by the Multifactor Leadership Questionnaire (MLQ), and Leadership Outcomes provided by the participating company.*

The authorisation shall be renewed automatically for successive periods of three months, provided that the Trainer continues to meet the terms and conditions of use as set out in this agreement.

The Trainer and the Company may terminate the agreement at any time, by expressing such intention in writing one month before the end of the current term.

2. The Trainer shall be authorised to use the HPEI™ on a personal, named basis, and shall not be permitted to transfer such authorisation to any other person, including persons from the same company as the Trainer. Such authorisation shall not confer upon the Trainer any exclusivity whatsoever.

3. The Trainer undertakes to comply with the code of ethics included in the appendices hereto throughout the duration of this agreement. Where the Trainer infringes said code of ethics, the Company reserves the right to withdraw the Trainer's authorisation without notice. Such withdrawal shall occur from the date upon which the Company notifies the Trainer of his/her infringement.

4. The Trainer shall be entitled to use the HPEI™ free of charge and shall refrain from charging its users for the usage thereof.

Crescendo 3 Sprl, 23 Boulevard de la Révision, B-1070, Anderlecht, Belgium. Tel.: +32.2.524.17.90 – www.cenneagram.eu

VAT: BE 0464 133 221 - IBAN: BE 66 3101 3565 0243 - BIC: BBRUBEBB E-mail: philippe.halin@crescendo3.be
Operations HQ: Halin Prémont Enneagram Institute, 25/15 Place de l'Université, B-1348, Louvain-la-Neuve, Belgium. Tel.: +32.10.45.41.82



5. The Trainer undertakes to treat all of the Company's questionnaires as strictly confidential. Such questionnaires may only be used via the Company's websites. He/she shall not reproduce said questionnaires, or allow said questionnaires to be reproduced by a third party, by any means whatsoever.
6. The Company undertakes to provide the Trainer with the necessary applications and to keep the Trainer informed of all changes as and when such changes go live.
7. The Company undertakes to treat all information that may come into his/her possession through the usage of the HPEI™ by the Trainer's users as strictly confidential. Furthermore, the Company undertakes to use such information on an anonymous basis and for research purposes only.
8. Any dispute arising in connection with this agreement shall fall under the exclusive jurisdiction of the Courts of Brussels.

APPENDIX: Code of Ethics for the Halin Prémont Enneagram Indicator™.

The HPEI™ is a powerful personality assessment tool. It may be used for individual support or coaching, for group training, or for scientific research purposes. It must be used carefully and with suitable professional judgement in all circumstances. This code of ethics therefore sets out some essential rules and guidelines concerning the use of the HPEI™.

The HPEI™ must be handled with strict confidentiality. Only the person who completed the questionnaire may authorise disclosure of his/her results to other persons.

The HPEI™ does not assess the person's professional or personal skills, nor does it reflect his/her intelligence, morals, performance or value system.

The Trainer must always present the questionnaire results as a hypothesis, to be confirmed by the participant. The Trainer must adopt a neutral position at all times and must offer several possible hypotheses.

Two original copies (one duly handed to each party) signed in Brussels.

For the Company:

Philippe Halin, Managing Director

The Trainer:

Claudia Nario L, PhD Student
Barcelona, June 12, 2019

Appendix H: Ex Post Harman Single-Factor Test Analysis: Tables of Results

The Harman's single factor test (Harman, 1967) was run to check for the presence of Common Method Variance in the relationship between the self-assessed Enneagram scales and the self-rated Leadership Behaviours, since they are the most potentially affected by CMV. The analysis was done following the steps suggested by Analysis INN (2020). The following tables show the results of the analysis:

Table 116: Harman Single-Factor Analysis Enneagram & Self Rated IIA

Enneagram & Self Rated Idealised Influence_Attributed: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	5,703	10,562	10,562	5,703	10,562	10,562
2	5,043	9,338	19,900			
3	3,418	6,330	26,230			
4	2,880	5,334	31,564			
5	2,375	4,398	35,962			
6	2,249	4,165	40,126			
7	1,899	3,517	43,643			
8	1,649	3,054	46,697			
9	1,622	3,004	49,701			
10	1,533	2,838	52,539			
11	1,491	2,760	55,299			
12	1,380	2,556	57,855			
13	1,320	2,444	60,299			
14	1,205	2,231	62,530			
15	1,177	2,179	64,710			
16	1,112	2,060	66,769			
17	1,096	2,030	68,799			
18	1,027	1,901	70,700			
19	,978	1,812	72,512			
20	,916	1,697	74,208			
21	,849	1,572	75,780			
22	,836	1,547	77,328			
23	,741	1,373	78,701			
24	,735	1,361	80,062			
25	,709	1,312	81,374			
26	,697	1,291	82,665			
27	,645	1,194	83,859			
28	,620	1,148	85,007			
29	,585	1,083	86,090			
30	,558	1,031	87,121			
31	,544	1,007	88,128			
32	,506	,938	89,066			
33	,473	,876	89,942			
34	,454	,840	90,782			
35	,417	,772	91,554			
36	,404	,748	92,301			
37	,376	,697	92,999			
38	,366	,678	93,677			
39	,353	,653	94,330			
40	,334	,619	94,949			
41	,295	,546	95,495			
42	,288	,534	96,029			
43	,268	,496	96,526			
44	,256	,473	96,999			
45	,242	,448	97,447			
46	,230	,426	97,873			
47	,199	,369	98,242			
48	,183	,338	98,581			
49	,177	,328	98,909			
50	,143	,265	99,174			
51	,127	,235	99,409			
52	,116	,216	99,624			
53	,116	,215	99,840			
54	,087	,160	100,000			

Método de extracción: Análisis de Componentes principales.

Table 117: Harman Single-Factor Analysis Enneagram & Self Rated IIB

Enneagram & Self Rated Idealised Influence_Behaviour: Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% de la varianza	Cumulative %	Total	% of variance	Cumulative %
1	5,879	10,887	10,887	5,879	10,887	10,887
2	4,788	8,864	19,750			
3	3,241	6,002	25,752			
4	2,938	5,441	31,193			
5	2,599	4,812	36,006			
6	2,209	4,091	40,097			
7	2,085	3,861	43,957			
8	1,654	3,063	47,021			
9	1,609	2,979	50,000			
10	1,548	2,867	52,868			
11	1,364	2,526	55,392			
12	1,330	2,464	57,855			
13	1,324	2,451	60,307			
14	1,252	2,319	62,625			
15	1,175	2,176	64,801			
16	1,155	2,139	66,940			
17	1,116	2,067	69,007			
18	1,056	1,956	70,964			
19	,925	1,714	72,677			
20	,878	1,627	74,304			
21	,853	1,579	75,884			
22	,825	1,527	77,411			
23	,771	1,428	78,839			
24	,753	1,394	80,233			
25	,714	1,322	81,555			
26	,659	1,220	82,775			
27	,647	1,197	83,972			
28	,604	1,118	85,091			
29	,587	1,088	86,178			
30	,547	1,013	87,192			
31	,527	,976	88,168			
32	,506	,937	89,105			
33	,494	,915	90,020			
34	,465	,861	90,881			
35	,409	,757	91,638			
36	,392	,725	92,364			
37	,385	,712	93,076			
38	,369	,683	93,759			
39	,331	,613	94,372			
40	,321	,595	94,967			
41	,303	,561	95,528			
42	,291	,539	96,067			
43	,268	,496	96,563			
44	,241	,446	97,009			
45	,238	,441	97,450			
46	,219	,406	97,857			
47	,210	,389	98,245			
48	,183	,339	98,584			
49	,169	,313	98,898			
50	,152	,281	99,179			
51	,133	,246	99,425			
52	,122	,226	99,651			
53	,105	,195	99,846			
54	,083	,154	100,000			

Método de extracción: Análisis de Componentes principales.

Table 118: Harman Single-Factor Analysis Enneagram & Self Rated IM

Enneagram & Self Rated Inspirational Motivation: Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	6,029	11,164	11,164	6,029	11,164	11,164
2	4,746	8,789	19,953			
3	3,356	6,215	26,168			
4	2,854	5,285	31,453			
5	2,556	4,734	36,186			
6	2,378	4,403	40,590			
7	1,919	3,553	44,143			
8	1,704	3,156	47,299			
9	1,682	3,114	50,413			
10	1,545	2,861	53,274			
11	1,457	2,698	55,973			
12	1,312	2,429	58,402			
13	1,279	2,369	60,771			
14	1,178	2,181	62,952			
15	1,166	2,159	65,111			
16	1,067	1,975	67,086			
17	1,027	1,902	68,988			
18	,972	1,799	70,787			
19	,945	1,750	72,537			
20	,932	1,725	74,262			
21	,873	1,617	75,879			
22	,804	1,489	77,368			
23	,772	1,429	78,797			
24	,714	1,323	80,120			
25	,696	1,290	81,410			
26	,688	1,274	82,684			
27	,652	1,208	83,892			
28	,608	1,125	85,017			
29	,593	1,098	86,115			
30	,570	1,056	87,171			
31	,544	1,007	88,178			
32	,536	,993	89,171			
33	,493	,913	90,084			
34	,449	,832	90,916			
35	,418	,774	91,690			
36	,398	,737	92,426			
37	,378	,700	93,126			
38	,355	,659	93,784			
39	,348	,645	94,429			
40	,314	,581	95,011			
41	,306	,567	95,578			
42	,275	,510	96,088			
43	,257	,475	96,563			
44	,249	,461	97,024			
45	,225	,417	97,442			
46	,213	,394	97,835			
47	,202	,374	98,210			
48	,196	,363	98,572			
49	,174	,322	98,894			
50	,141	,261	99,155			
51	,139	,257	99,412			
52	,123	,228	99,639			
53	,109	,201	99,840			
54	,086	,160	100,000			

Método de extracción: Análisis de Componentes principales.

Table 119: Harman Single-Factor Analysis Enneagram & Self Rated IC

Enneagram & Self Rated Individualised Consideration Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative%
1	5,765	10,675	10,675	5,765	10,675	10,675
2	4,837	8,958	19,633			
3	3,246	6,010	25,643			
4	2,903	5,376	31,019			
5	2,515	4,657	35,676			
6	2,367	4,383	40,060			
7	1,994	3,693	43,752			
8	1,715	3,176	46,928			
9	1,628	3,015	49,943			
10	1,606	2,974	52,917			
11	1,426	2,641	55,558			
12	1,315	2,434	57,993			
13	1,303	2,412	60,405			
14	1,202	2,226	62,631			
15	1,177	2,180	64,811			
16	1,135	2,103	66,914			
17	1,082	2,004	68,918			
18	1,019	1,887	70,805			
19	,936	1,734	72,539			
20	,893	1,654	74,193			
21	,841	1,558	75,751			
22	,822	1,523	77,273			
23	,769	1,424	78,697			
24	,757	1,402	80,099			
25	,692	1,281	81,380			
26	,676	1,251	82,632			
27	,636	1,177	83,809			
28	,599	1,110	84,918			
29	,577	1,069	85,987			
30	,567	1,051	87,038			
31	,539	,999	88,037			
32	,519	,961	88,998			
33	,509	,943	89,941			
34	,476	,882	90,823			
35	,438	,811	91,633			
36	,385	,712	92,345			
37	,381	,706	93,052			
38	,358	,663	93,715			
39	,344	,637	94,353			
40	,325	,602	94,955			
41	,294	,544	95,499			
42	,279	,516	96,015			
43	,269	,498	96,513			
44	,249	,460	96,973			
45	,237	,438	97,411			
46	,214	,396	97,807			
47	,196	,362	98,170			
48	,185	,343	98,513			
49	,172	,319	98,831			
50	,154	,286	99,117			
51	,147	,271	99,389			
52	,122	,226	99,615			
53	,107	,199	99,814			
54	,101	,186	100,000			

Método de extracción: Análisis de Componentes principales.

Table 120: Harman Single-Factor Analysis Enneagram & Self Rated IS

Enneagram & Self Rated Intellectual Stimulation: Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	6.003	11,117	11,117	6,003	11,117	11,117
2	4,785	8,860	19,977			
3	3,428	6,349	26,326			
4	2,892	5,356	31,882			
5	2,689	4,980	36,662			
6	2,200	4,074	40,736			
7	1,886	3,493	44,230			
8	1,688	3,125	47,355			
9	1,617	2,995	50,350			
10	1,583	2,931	53,280			
11	1,412	2,614	55,895			
12	1,326	2,456	58,350			
13	1,266	2,344	60,695			
14	1,181	2,187	62,881			
15	1,168	2,162	65,044			
16	1,093	2,025	67,068			
17	1,021	1,891	68,959			
18	,985	1,824	70,783			
19	,937	1,735	72,518			
20	,905	1,676	74,193			
21	,845	1,565	75,758			
22	,806	1,493	77,252			
23	,781	1,447	78,698			
24	,727	1,347	80,045			
25	,706	1,308	81,353			
26	,693	1,283	82,635			
27	,648	1,199	83,835			
28	,636	1,178	85,013			
29	,573	1,061	86,074			
30	,546	1,011	87,086			
31	,539	,998	88,084			
32	,503	,931	89,015			
33	,487	,902	89,916			
34	,473	,876	90,793			
35	,429	,795	91,588			
36	,402	,745	92,333			
37	,383	,709	93,042			
38	,363	,673	93,715			
39	,329	,609	94,324			
40	,321	,595	94,919			
41	,305	,564	95,483			
42	,292	,541	96,024			
43	,276	,512	96,536			
44	,255	,473	97,008			
45	,233	,432	97,441			
46	,223	,414	97,854			
47	,195	,362	98,216			
48	,189	,349	98,566			
49	,164	,303	98,869			
50	,157	,291	99,160			
51	,141	,281	99,420			
52	,133	,246	99,666			
53	,100	,185	99,852			
54	,080	,148	100,000			

Método de extracción: Análisis de Componentes principales.

Table 121: Harman Single-Factor Analysis Enneagram & Self Rated CR

Enneagram & Self Rated Contingent Reward Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,669	10,497	10,497	5,669	10,497	10,497
2	4,852	8,985	19,482			
3	3,430	6,351	25,833			
4	2,818	5,219	31,052			
5	2,517	4,661	35,713			
6	2,178	4,034	39,747			
7	1,865	3,453	43,200			
8	1,795	3,325	46,525			
9	1,689	3,129	49,653			
10	1,574	2,916	52,569			
11	1,411	2,613	55,181			
12	1,357	2,513	57,694			
13	1,322	2,448	60,142			
14	1,206	2,233	62,375			
15	1,190	2,204	64,579			
16	1,109	2,054	66,633			
17	1,080	2,000	68,633			
18	,979	1,812	70,445			
19	,924	1,711	72,156			
20	,901	1,668	73,825			
21	,843	1,561	75,385			
22	,800	1,481	76,866			
23	,777	1,439	78,305			
24	,765	1,417	79,722			
25	,688	1,293	81,015			
26	,665	1,232	82,247			
27	,649	1,202	83,449			
28	,617	1,144	84,593			
29	,600	1,111	85,704			
30	,561	1,039	86,742			
31	,539	,999	87,741			
32	,512	,948	88,688			
33	,506	,936	89,624			
34	,485	,899	90,523			
35	,443	,820	91,344			
36	,423	,784	92,127			
37	,415	,768	92,895			
38	,381	,706	93,602			
39	,341	,631	94,232			
40	,322	,597	94,829			
41	,308	,570	95,400			
42	,289	,535	95,935			
43	,264	,489	96,424			
44	,252	,467	96,891			
45	,248	,459	97,350			
46	,211	,391	97,742			
47	,209	,388	98,130			
48	,197	,365	98,495			
49	,179	,332	98,826			
50	,161	,298	99,124			
51	,137	,254	99,378			
52	,127	,235	99,613			
53	,115	,212	99,825			
54	,094	,175	100,000			

Método de extracción: Análisis de Componentes principales.

Table 122: Harman Single-Factor Analysis Enneagram & Self Rated IL

Enneagram & Self Rated Instrumental Leadership: Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	6,322	10,901	10,901	6,322	10,901	10,901
2	4,997	8,615	19,516			
3	3,816	6,579	26,094			
4	2,852	4,917	31,011			
5	2,799	4,826	35,837			
6	2,228	3,841	39,878			
7	2,138	3,687	43,365			
8	1,847	3,184	46,549			
9	1,679	2,895	49,444			
10	1,568	2,703	52,147			
11	1,538	2,652	54,799			
12	1,453	2,504	57,304			
13	1,359	2,343	59,647			
14	1,273	2,195	61,842			
15	1,225	2,112	63,953			
16	1,160	2,000	65,954			
17	1,133	1,953	67,907			
18	1,067	1,839	69,746			
19	1,004	1,730	71,476			
20	,969	1,671	73,147			
21	,936	1,613	74,761			
22	,880	1,518	76,279			
23	,828	1,427	77,706			
24	,792	1,365	79,071			
25	,757	1,306	80,377			
26	,720	1,241	81,618			
27	,681	1,174	82,792			
28	,653	1,126	83,918			
29	,612	1,054	84,972			
30	,593	1,022	85,994			
31	,563	,971	86,966			
32	,543	,936	87,901			
33	,523	,902	88,804			
34	,498	,858	89,662			
35	,475	,820	90,482			
36	,454	,783	91,265			
37	,437	,754	92,019			
38	,400	,689	92,708			
39	,382	,658	93,366			
40	,368	,634	94,000			
41	,349	,601	94,601			
42	,333	,574	95,175			
43	,317	,547	95,722			
44	,254	,438	96,160			
45	,233	,401	96,561			
46	,229	,395	96,956			
47	,221	,381	97,337			
48	,208	,358	97,695			
49	,196	,338	98,033			
50	,182	,314	98,347			
51	,168	,273	98,619			
52	,156	,269	98,888			
53	,137	,236	99,125			
54	,123	,212	99,336			
55	,121	,208	99,544			
56	,102	,176	99,720			
57	,087	,150	99,870			
58	,076	,130	100,000			

Método de extracción: Análisis de Componentes principales.

Table 123: Harman Single-Factor Analysis Enneagram & Self Rated MBEA

Enneagram & Self Rated Mgmt-by-Exception_Active: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	5,957	11,032	11,032	5,957	11,032	11,032
2	4,814	8,915	19,947			
3	3,393	6,283	26,230			
4	2,992	5,540	31,770			
5	2,570	4,759	36,529			
6	2,284	4,230	40,759			
7	1,843	3,414	44,173			
8	1,691	3,132	47,305			
9	1,672	3,097	50,402			
10	1,624	3,008	53,410			
11	1,434	2,658	56,068			
12	1,351	2,502	58,568			
13	1,287	2,384	60,952			
14	1,220	2,259	63,211			
15	1,153	2,135	65,345			
16	1,100	2,038	67,383			
17	1,065	1,973	69,356			
18	,980	1,815	71,170			
19	,942	1,745	72,915			
20	,858	1,588	74,503			
21	,830	1,538	76,041			
22	,807	1,494	77,535			
23	,739	1,369	78,904			
24	,727	1,346	80,250			
25	,712	1,319	81,569			
26	,698	1,292	82,861			
27	,647	1,198	84,059			
28	,593	1,097	85,156			
29	,561	1,039	86,195			
30	,554	1,026	87,221			
31	,529	,980	88,201			
32	,499	,924	89,125			
33	,470	,870	89,996			
34	,453	,839	90,835			
35	,439	,814	91,648			
36	,406	,751	92,399			
37	,371	,687	93,086			
38	,366	,677	93,763			
39	,344	,637	94,401			
40	,309	,572	94,973			
41	,284	,527	95,499			
42	,281	,520	96,019			
43	,266	,493	96,512			
44	,250	,463	96,974			
45	,233	,431	97,405			
46	,222	,412	97,817			
47	,202	,375	98,191			
48	,197	,365	98,556			
49	,166	,307	98,864			
50	,156	,289	99,152			
51	,150	,278	99,430			
52	,117	,217	99,648			
53	,115	,212	99,860			
54	,076	,140	100,000			

Método de extracción: Análisis de Componentes principales.

Table 124: Harman Single-Factor Analysis Enneagram & Self Rated MBEP

Enneagram & Self Rated Mgmt-by-Exception_Passive: Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	5,403	10,005	10,005	5,403	10,005	10,005
2	4,796	8,882	18,888			
3	3,187	5,903	24,789			
4	3,044	5,837	30,426			
5	2,563	4,746	35,172			
6	2,298	4,256	39,428			
7	2,179	4,035	43,463			
8	1,823	3,376	46,839			
9	1,676	3,105	49,943			
10	1,543	2,858	52,801			
11	1,395	2,584	55,385			
12	1,369	2,535	57,920			
13	1,297	2,402	60,321			
14	1,234	2,285	62,607			
15	1,228	2,274	64,880			
16	1,162	2,152	67,032			
17	1,098	2,034	69,066			
18	,980	1,814	70,880			
19	,950	1,759	72,639			
20	,892	1,652	74,290			
21	,832	1,541	75,832			
22	,808	1,497	77,328			
23	,788	1,459	78,788			
24	,727	1,346	80,134			
25	,698	1,292	81,426			
26	,650	1,203	82,630			
27	,649	1,202	83,832			
28	,631	1,168	85,000			
29	,598	1,107	86,107			
30	,572	1,059	87,166			
31	,534	,989	88,155			
32	,522	,966	89,121			
33	,466	,864	89,985			
34	,460	,852	90,837			
35	,427	,790	91,627			
36	,421	,780	92,407			
37	,392	,726	93,133			
38	,355	,657	93,790			
39	,347	,642	94,432			
40	,328	,607	95,039			
41	,306	,566	95,605			
42	,299	,555	96,160			
43	,257	,476	96,636			
44	,249	,462	97,097			
45	,240	,445	97,543			
46	,215	,399	97,941			
47	,196	,363	98,304			
48	,183	,339	98,643			
49	,152	,282	98,925			
50	,143	,266	99,191			
51	,138	,255	99,446			
52	,127	,235	99,681			
53	,095	,175	99,856			
54	,078	,144	100,000			

Método de extracción: Análisis de Componentes principales.

Table 125: Harman Single-Factor Analysis Enneagram & Self Rated PL

Enneagram & Self Rated Passive Leadership: Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of variance	Cumulative %
1	5,682	10,521	10,521	5,682	10,521	10,521
2	4,955	9,175	19,697			
3	3,267	6,050	25,746			
4	2,835	5,249	30,996			
5	2,417	4,476	35,472			
6	2,190	4,055	39,527			
7	2,018	3,737	43,265			
8	1,751	3,243	46,508			
9	1,704	3,156	49,664			
10	1,624	3,008	52,672			
11	1,439	2,665	55,337			
12	1,371	2,539	57,876			
13	1,340	2,481	60,356			
14	1,225	2,269	62,625			
15	1,180	2,185	64,811			
16	1,124	2,081	66,892			
17	1,099	2,034	68,926			
18	,982	1,818	70,744			
19	,908	1,681	72,425			
20	,878	1,625	74,051			
21	,875	1,620	75,671			
22	,813	1,505	77,176			
23	,785	1,454	78,630			
24	,743	1,376	80,005			
25	,704	1,304	81,309			
26	,700	1,297	82,606			
27	,667	1,234	83,840			
28	,646	1,197	85,037			
29	,572	1,060	86,097			
30	,564	1,045	87,142			
31	,541	1,001	88,144			
32	,523	,968	89,112			
33	,475	,879	89,991			
34	,461	,853	90,844			
35	,430	,797	91,641			
36	,414	,767	92,408			
37	,390	,722	93,129			
38	,372	,689	93,818			
39	,355	,657	94,475			
40	,313	,579	95,053			
41	,298	,553	95,606			
42	,278	,515	96,121			
43	,265	,491	96,612			
44	,252	,466	97,078			
45	,231	,428	97,506			
46	,221	,409	97,914			
47	,197	,365	98,279			
48	,180	,332	98,612			
49	,158	,292	98,904			
50	,146	,271	99,175			
51	,142	,264	99,438			
52	,127	,236	99,675			
53	,101	,187	99,861			
54	,075	,139	100,000			

Método de extracción: Análisis de Componentes principales.

References

Abdel Hadi, S. *et al.* (2023) 'Relationships between proactive personality, work locus of control, and vocational satisfaction: the role of level of education', *Heliyon*, 9(2). Available at: <https://doi.org/10.1016/j.heliyon.2023.e13283>.

Abdul Karim, M.M. (2021) 'Failure of Lehman Brothers', *Journal of Finance and Investment Analysis* [Preprint]. Available at: <https://doi.org/10.47260/jfia/1041>.

Allen, T.A. *et al.* (2020) 'A Hierarchical Integration of Normal and Abnormal Personality Dimensions: Structure and Predictive Validity in a Heterogeneous Sample of Psychiatric Outpatients', *Assessment*, 27(4), pp. 643–656. Available at: <https://doi.org/10.1177/1073191119887442>.

Allik, J. *et al.* (2010) 'Generalizability of self-other agreement from one personality trait to another', *Personality and Individual Differences*, 48(2). Available at: <https://doi.org/10.1016/j.paid.2009.09.008>.

Allport, F.H. and Allport, G.W. (1921) 'Personality Traits: Their Classification and Measurement', *Journal of Abnormal Psychology and Social Psychology*, 16(1). Available at: <https://doi.org/10.1037/h0069790>.

Allport, G.W. (1937) *Personality: A psychological interpretation*. New York: MacMillan.

Allport, G.W. (Gordon W. (1961) *Pattern and growth in personality*, *Journal of the American Academy of Child Psychiatry*.

Alvarez-Huerta, P., Muela, A. and Larrea, I. (2022) 'Entrepreneurial self-efficacy among first-year undergraduates: Gender, creative self-efficacy, leadership self-efficacy, and field of study', *Entrepreneurial Business and Economics Review*, 10(4). Available at: <https://doi.org/10.15678/EBER.2022.100405>.

Amabile, T.M. and Glazebrook, A.H. (1982) 'A negativity bias in interpersonal evaluation', *Journal of Experimental Social Psychology*, 18(1). Available at: [https://doi.org/10.1016/0022-1031\(82\)90078-6](https://doi.org/10.1016/0022-1031(82)90078-6).

American Psychiatric Association (2014) *DSM-5. edición Española*, *Journal of Chemical Information and Modeling*. Available at: <https://doi.org/10.1017/CBO9781107415324.004>.

Analysis INN (2020) *Harman's one-factor test for common method bias*, *Analysis INN*. Available at: <https://www.analysisinn.com/post/harman-s-one-factor-test-for-common-method-bias/> (Accessed: 15 March 2024).

Anastasi, A. and Urbina, S. (1997) *Psychological testing*. Prentice Hall/Pearson Education.

Ancona, D.G. *et al.* (2001) 'Time: A New Research Lens', *The Academy of Management Review*, 26(4). Available at: <https://doi.org/10.2307/3560246>.

- Anderson, E.S., Winett, R.A. and Wojcik, J.R. (2007) 'Self-regulation, self-efficacy, outcome expectations, and social support: Social cognitive theory and nutrition behavior', *Annals of Behavioral Medicine*, 34(3). Available at: <https://doi.org/10.1007/BF02874555>.
- Andrade, C. (2018) 'Internal, external, and ecological validity in research design, conduct, and evaluation', *Indian Journal of Psychological Medicine*, 40(5). Available at: https://doi.org/10.4103/IJPSYM.IJPSYM_334_18.
- Andrew, W.K. (1982) 'Review of Humanistic Psychology: Concepts and Criticisms.', *Canadian Psychology / Psychologie canadienne*, 23(3). Available at: <https://doi.org/10.1037/h0081314>.
- Anglim, J. et al. (2020) 'Predicting Psychological and Subjective Well-Being From Personality: A Meta-Analysis', *Psychological Bulletin* [Preprint]. Available at: <https://doi.org/10.1037/bul0000226>.
- Antonakis, J. (2017) 'On doing better science: From thrill of discovery to policy implications', *Leadership Quarterly*, 28(1), pp. 5–21. Available at: <https://doi.org/10.1016/j.leaqua.2017.01.006>.
- Antonakis, J., Ashkanasy, N.M. and Dasborough, M.T. (2009) 'Does leadership need emotional intelligence?', *Leadership Quarterly*, 20(2), pp. 247–261. Available at: <https://doi.org/10.1016/j.leaqua.2009.01.006>.
- Antonakis, J., Avolio, B.J. and Sivasubramaniam, N. (2003) *Context and leadership: An examination of the nine-factor full-range leadership theory using the Multifactor Leadership Questionnaire*, *Leadership Quarterly*. Available at: [https://doi.org/10.1016/S1048-9843\(03\)00030-4](https://doi.org/10.1016/S1048-9843(03)00030-4).
- Antonakis, J., Cianciolo, A.T. and Sternberg, R.J. (2004) 'Leadership: Past, present, and future The Nature of Leadership', *Human Relations*, 54(4).
- Antonakis, J., Day, D. V. and Schyns, B. (2012) 'Leadership and individual differences: At the cusp of a renaissance', *Leadership Quarterly*, 23(4), pp. 643–650. Available at: <https://doi.org/10.1016/j.leaqua.2012.05.002>.
- Antonakis, J. and House, R.J. (2014) 'Instrumental leadership : Measurement and extension of transformational – transactional leadership theory ☆', *The Leadership Quarterly*, 25(4), pp. 746–771. Available at: <https://doi.org/10.1016/j.leaqua.2014.04.005>.
- Araiba, S. (2020) 'Current Diversification of Behaviorism', *Perspectives on Behavior Science*, 43(1). Available at: <https://doi.org/10.1007/s40614-019-00207-0>.
- Arthur, K.B., Keeling, M.L. and Piercy, F.P. (2008) *Attachment Styles and Enneagram Types: Development and Testing of an Integrated Typology for use in Marriage and Family Therapy*. Blacksburg, VA.

- Asendorpf, J.B. (2002) 'The puzzle of personality types', *European Journal of Personality*, 16(1_suppl), pp. S1–S5. Available at: <https://doi.org/10.1002/per.446>.
- Asendorpf, J.B. (2006) 'Typeness of personality profiles: A continuous person-centred approach to personality data', *European Journal of Personality*, pp. 83–106. Available at: <https://doi.org/10.1002/per.575>.
- Ashton, M.C. and Lee, K. (2008) 'The HEXACO Model of Personality Structure and the Importance of the H Factor', *Social and Personality Psychology Compass*, 2(5), pp. 1952–1962. Available at: <https://doi.org/10.1111/j.1751-9004.2008.00134.x>.
- Atherton, O.E. *et al.* (2021) 'Why has personality psychology played an outsized role in the credibility revolution?', *Personality Science*, 2. Available at: <https://doi.org/10.5964/ps.6001>.
- Atwater, L.E. *et al.* (2005) 'Self – Other Agreement : Comparing its Relationship with Performance in the US and Europe', *International Journal of Selection and Assessment*, 13(1), pp. 25–40.
- Atwater, L.E. and Yammarino, F.J. (1992) 'Does self-other agreement on leadership perceptions moderate the validity of leadership and performance predictions?', *Personnel psychology*, 1992, p. 45.
- Avolio, B.J. *et al.* (2009) 'A meta-analytic review of leadership impact research: Experimental and quasi-experimental studies', *Leadership Quarterly*, 20(5), pp. 764–784. Available at: <https://doi.org/10.1016/j.leaqua.2009.06.006>.
- Avolio, B.J. and Bass, B.M. (1991) 'The full range of leadership development: Basic and advanced manuals', *NY: Bass & Avolio* [Preprint].
- Avolio, B.J. and Bass, B.M. (2004) 'Multifactor leadership Questionnaire-Manual'.
- Avolio, B.J., Bass, B.M. and Jung, D.I. (1999) 'Re-examining the components of transformational and transactional leadership using the multifactor leadership questionnaire', *Journal of Occupational and Organizational Psychology*, 72(4). Available at: <https://doi.org/10.1348/096317999166789>.
- Bachmann, R. *et al.* (2023) 'Firms and Collective Reputation: A Study of the Volkswagen Emissions Scandal', *Journal of the European Economic Association*, 21(2). Available at: <https://doi.org/10.1093/jeea/jvac046>.
- Bagby, R.M. and Widiger, T.A. (2018) 'Five factor model personality disorder scales: An introduction to a special section on assessment of maladaptive variants of the five factor model', *Psychological Assessment*, 30(1). Available at: <https://doi.org/10.1037/pas0000523>.
- Bandura, A. (1978) 'Self-efficacy: Toward a unifying theory of behavioral change', *Advances in Behaviour Research and Therapy* [Preprint]. Available at: [https://doi.org/10.1016/0146-6402\(78\)90002-4](https://doi.org/10.1016/0146-6402(78)90002-4).

Bandura, A. (1988) 'Self-Regulation of Motivation and Action Through Goal Systems', in *Cognitive Perspectives on Emotion and Motivation*. Available at: https://doi.org/10.1007/978-94-009-2792-6_2.

Banks, G.C. *et al.* (2016) 'A meta-analytic review of authentic and transformational leadership: A test for redundancy', *Leadership Quarterly*, 27(4), pp. 634–652. Available at: <https://doi.org/10.1016/j.leaqua.2016.02.006>.

Banks, G.C. *et al.* (2017) 'A meta-analytic review and future research agenda of charismatic leadership', *Leadership Quarterly*, 28(4), pp. 508–529. Available at: <https://doi.org/10.1016/j.leaqua.2016.12.003>.

Banks, G.C. *et al.* (2018) 'Construct redundancy in leader behaviors : A review and agenda for the future', *The Leadership Quarterly*, 29(1), pp. 236–251. Available at: <https://doi.org/10.1016/j.leaqua.2017.12.005>.

Barbot, B. (2008) *BB5 – Brief Big Five: Un outil pour l'évaluation de la personnalité chez l'adolescente*. Laboratoire de Psychologie et Neurosciences Cognitives, Université Paris Descartes.

Barling, J., Weber, T. and Kelloway, E.K. (1996) 'Effects of transformational leadership training on attitudinal and financial outcomes: A field experiment', *Journal of Applied Psychology*, 81(6), pp. 827–832. Available at: <https://doi.org/10.1037//0021-9010.81.6.827>.

Barrick, M.R. and Mount, M.K. (1991a) 'The Big Five Personality Dimensions and Job Performance : A Meta Analysis', *Personnel Psychology*, 44(1), pp. 1–26. Available at: <https://doi.org/10.1111/j.1744-6570.1991.tb00688.x>.

Barrick, M.R. and Mount, M.K. (1991b) 'The Big Five personality dimensions and job performance: A meta-analysis', *Personnel Psychology*, 44(1).

Bartlettii, J. (2007) 'Advances in coaching practices: A humanistic approach to coach and client roles', *Journal of Business Research*, 60(1).

Bass, B. (1985) 'conceptualization of transactional and transformational leadership.', *Journal of Applied Psychology*, 80(4).

Bass, B. and Seltzer, J. (1990) 'Transformational Leader: Beyond Initiation and Consideration', *Journal of Management*, 16(4), pp. 693–703.

Bass, B.M. (1997) 'Does the Transactional-Transformational Leadership Paradigm Transcend Organizational and National Boundaries?', 52(2).

Bass, B.M. and Avolio, B.J. (1990) 'Transformational leadership: 1992 and beyond', *International Journal of Learning and Intellectual Capital*, 14(5).

Baumert, A. *et al.* (2017) 'Integrating Personality Structure, Personality Process, and Personality Development', *European Journal of Personality*, 31(5), pp. 503–528. Available at: <https://doi.org/10.1002/per.2115>.

- Baumgartner, H., Weijters, B. and Pieters, R. (2021) 'The biasing effect of common method variance: some clarifications', *Journal of the Academy of Marketing Science*, 49(2), pp. 221–235. Available at: <https://doi.org/10.1007/s11747-020-00766-8>.
- Bayne, H.B., Fields, K.G. and Nesbit, L. (2021) 'The Enneagram as a Tool for Fostering Empathic Connection in Counseling', *The Journal of Humanistic Counseling*, 60(2), pp. 80–100. Available at: <https://doi.org/10.1002/johc.12158>.
- Beehr, T.A. *et al.* (2001) 'Evaluation of 360-degree feedback ratings: Relationships with each other and with performance and selection predictors', *Journal of Organizational Behavior*, 22(7), pp. 775–788. Available at: <https://doi.org/10.1002/job.113>.
- Benjafield, J.G. (2010) *A History of Psychology*. 3rd. Edited by D. Mills. Oxford University Press .
- Benoliel, P. and Somech, A. (2015) 'The Role of Leader Boundary Activities in Enhancing Interdisciplinary Team Effectiveness', *Small Group Research*, 46(1). Available at: <https://doi.org/10.1177/1046496414560028>.
- Benson, M.J. and Hogan, R. (2008) 'How Dark Side Leadership Personality Destroys Trust and Degrades Organisational Effectiveness', *e-Organisations & People*, 15(3).
- Bergen, N. and Labonté, R. (2020) "'Everything Is Perfect, and We Have No Problems": Detecting and Limiting Social Desirability Bias in Qualitative Research', *Qualitative Health Research*, 30(5). Available at: <https://doi.org/10.1177/1049732319889354>.
- Bergman, D. *et al.* (2014) 'Leader personality and 360-degree assessments of leader behavior', *Scandinavian Journal of Psychology*, 55(4), pp. 389–397. Available at: <https://doi.org/10.1111/sjop.12130>.
- Bhaskar, R. (1998) 'Philosophy and Scientific Realism', *Critical Realism: Essential Readings*, pp. 16–47. Available at: <https://doi.org/10.1163/156920601794750701>.
- Biswas-Diener, R. (2020) 'The practice of positive psychology coaching', *Journal of Positive Psychology* [Preprint]. Available at: <https://doi.org/10.1080/17439760.2020.1789705>.
- Blaikie, N. (2007) *Approaches to social enquiry: Advancing knowledge, Contemporary Sociology*. Available at: <https://doi.org/10.2307/2076918>.
- Blair, C.A., Hoffman, B.J. and Helland, K.R. (2008) 'Narcissism in organizations: A multisource appraisal reflects different perspectives', *Human Performance*, 21(3). Available at: <https://doi.org/10.1080/08959280802137705>.
- Blake, R. and Mouton, J. (1964) 'The managerial grid: The key to leadership excellence', *Houston: Gulf Publishing Company* [Preprint].
- Block, J. (1957) 'A comparison between ipsative and normative ratings of personality', *Journal of Abnormal and Social Psychology*, 54(1). Available at: <https://doi.org/10.1037/h0044466>.

Block, J. (1965) *The challenge of response sets: Unconfounding meaning, acquiescence, and social desirability in the MMPI.*, *The challenge of response sets: Unconfounding meaning, acquiescence, and social desirability in the MMPI*. East Norwalk, CT, US: Appleton-Century-Crofts.

Block, J. (1995) 'A Contrarian View of the Five-Factor Approach to Personality Description', *Psychological Bulletin*, 117(2), pp. 187–215.

Block, J. and Block, J.H. (2006) 'Nursery school personality and political orientation two decades later', *Journal of Research in Personality*, 40(5). Available at: <https://doi.org/10.1016/j.jrp.2005.09.005>.

Blose, T.M. et al. (2023) 'The Enneagram and its application in medical education', *Baylor University Medical Center Proceedings*, 36(1), pp. 54–58. Available at: <https://doi.org/10.1080/08998280.2022.2132591>.

Boeree, C.G. (1998) 'Seven Perspectives'. Available at: <https://www.psicopolis.com/Psycosphere/boxpdf/sevenp.pdf> (Accessed: 12 April 2023).

Boeree, C.G. (2006) 'Personality Theories: An Introduction', in *Personality theories: An introduction*. Available at: <http://webpace.ship.edu/cgboer/Introduction.pdf> (Accessed: 12 April 2023).

Bolden, R. (2004) 'What is leadership? Leadership Southwest Research Report 1', *Advances in Global Leadership*, 7.

Bolger, N. (1990) 'Coping as a Personality Process: A Prospective Study', *Journal of Personality and Social Psychology*, 59(3). Available at: <https://doi.org/10.1037/0022-3514.59.3.525>.

Bollich, K.L., Rogers, K.H. and Vazire, S. (2015) 'Knowing more than we can tell: People are aware of their biased self-perceptions', *Personality and Social Psychology Bulletin*, 41(7), pp. 918–929. Available at: <https://doi.org/10.1177/0146167215583993>.

Bono, J.E. and Judge, T.A. (2004) 'Personality and Transformational and Transactional Leadership: A Meta-Analysis', *Journal of Applied Psychology*, 89(5), pp. 901–910. Available at: <https://doi.org/10.1037/0021-9010.89.5.901>.

Boonyachai, Y. (2011) *An investigation of the leadership styles of middle managers in the Thai hotel industry using the MLQ (5X-Short Form) and Hofstede's Cultural Dimensions*. Southern Cross University.

Bordacconi, M.J. and Larsen, M.V. (2014) 'Regression to causality: Regression-style presentation influences causal attribution', *Research and Politics*, 1(2). Available at: <https://doi.org/10.1177/2053168014548092>.

- Bornstein, R.F. (1996) 'Face validity in psychological assessment: Implications for a unified model of validity.', *American Psychologist*, 51(9). Available at: <https://doi.org/10.1037/0003-066x.51.9.983>.
- Bornstein, R.F. (2019) 'The Trait – Type Dialectic: Construct Validity , Clinical Utility, and the Diagnostic Process', *Personality Disorders: Theory, Research, and Treatment*, 10(3), pp. 199–209.
- Boson, K., Brändström, S. and Sigvardsson, S. (2018) 'The junior temperament and character inventory (JTCl): Psychometric properties of multi-informant ratings', *Psychological Assessment*, 30(4). Available at: <https://doi.org/10.1037/pas0000513>.
- Bowlby, J. (1951) 'Maternal care and mental health.', *Bulletin of the World Health Organization*, 3(3). Available at: <https://doi.org/10.1542/peds.39.5.801a>.
- Boyle, G.J. et al. (2016) 'Hans J. Eysenck and Raymond B. Cattell on intelligence and personality', *Personality and Individual Differences* [Preprint]. Available at: <https://doi.org/10.1016/j.paid.2016.04.029>.
- Bracken, B. and Howell, K. (2004) *Clinical Assessment of Depression: Professional manual, 2004*. Lutz, FL: Psychological Assessment Resources.
- Bracken, D.W., Rose, D.S. and Church, A.H. (2016) 'The evolution and devolution of 360° feedback', *Industrial and Organizational Psychology*, 9(4), pp. 761–794. Available at: <https://doi.org/10.1017/iop.2016.93>.
- Brass, D.J. (2001) 'Social capital and organizational leadership.', in *The nature of organizational leadership: Understanding the performance imperatives confronting today's leaders*.
- Briñol, P. and Petty, R.E. (2005) 'Individual Differences in Attitude Change.', in *The handbook of attitudes*. Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers, pp. 575–615.
- Brooke, R. (2015) *Jung and Phenomenology, Jung and Phenomenology*. Available at: <https://doi.org/10.4324/9781315766690>.
- Brown, A. and Bartram, D. (2005) 'Relationships between OPQ and Enneagram Types', (June), p. 34.
- Brown, A. and Maydeu-Olivares, A. (2013) 'How irt can solve problems of ipsative data in forced-choice questionnaires', *Psychological Methods*, 18(1). Available at: <https://doi.org/10.1037/a0030641>.
- Brown, F.W. and Reilly, M.D. (2009) 'The Myers-Briggs type indicator and transformational leadership', *Journal of Management Development*, 28(10). Available at: <https://doi.org/10.1108/02621710911000677>.

Brugha, C.M. (1998) 'The structure of development decision-making', *European Journal of Operational Research*, 104(1), pp. 77–92. Available at: [https://doi.org/10.1016/S0377-2217\(97\)00248-8](https://doi.org/10.1016/S0377-2217(97)00248-8).

Brunswik, E., Hammond, K.R. and Stewart, T.R. (2001) *The essential Brunswik : beginnings, explications, applications*, Oxford University Press.

Brutus, S., Fleenor, J.W. and Mccauley, C.D. (1999) 'Demographic and personality predictors of congruence in multi-source ratings', *Journal of Management Development*, 18(5), pp. 417–435. Available at: <https://doi.org/10.1108/02621719910273569>.

Buchanan, R. and Finch, S. (2005) 'History of Psychometrics', in. Available at: <https://doi.org/10.1002/0470013192.bsa282>.

Buchanan, T., Johnson, J.A. and Goldberg, L.R. (2005) 'Implementing a five-factor personality inventory for use on the Internet', *European Journal of Psychological Assessment*, 21(2). Available at: <https://doi.org/10.1027/1015-5759.21.2.115>.

Burke, M.J. and Day, R.R. (1986) 'A Cumulative Study of the Effectiveness of Managerial Training', *Journal of Applied Psychology*, 71(2), pp. 232–245.

Burns, J.M. (1978) *Leadership*. New York: Harper & Row.

Burrell, G. and Morgan, G. (1979) 'Sociological Paradigms and Organizational Analysis', *The Journal Of The British Sociological Association*, 3(4).

Cable, D.M. and Judge, T.A. (2003) 'Managers' upward influence tactic strategies: The role of manager personality and supervisor leadership style', *Journal of Organizational Behavior*, 24(2). Available at: <https://doi.org/10.1002/job.183>.

Calderwood, C., Meyer, R.D. and Minnen, M.E. (2023) 'Situational Strength as a Lens to Understand the Strain Implications of Extra-Normative Work', *Journal of Business and Psychology*, 38(3), pp. 637–655. Available at: <https://doi.org/10.1007/s10869-022-09846-8>.

Campbell, D.T. and Fiske, D.W. (1959) 'Convergent and discriminant validation by the multitrait-multimethod matrix', *Psychological Bulletin*, 56(2). Available at: <https://doi.org/10.1037/h0046016>.

Camps, J., Stouten, J. and Euwema, M. (2016) 'The Relation Between Supervisors' Big Five Personality Traits and Employees' Experiences of Abusive Supervision', *Frontiers in Psychology*, 7. Available at: <https://doi.org/10.3389/fpsyg.2016.00112>.

Carbonell, P. and Rodríguez Escudero, A.I. (2019) 'The Dark Side of Team Social Cohesion in NPD Team Boundary Spanning', *Journal of Product Innovation Management*, 36(2). Available at: <https://doi.org/10.1111/jpim.12473>.

Carmine, E. and Zeller, R. (2012) *Reliability and Validity Assessment, Reliability and Validity Assessment*. Available at: <https://doi.org/10.4135/9781412985642>.

Carter, D.R. *et al.* (2020) 'Functional leadership in interteam contexts: Understanding "what" in the context of why? where? when? and who?', *Leadership Quarterly*, 31(1), p. 101378. Available at: <https://doi.org/10.1016/j.leaqua.2019.101378>.

Caspi, A. and Silva, P.A. (1995) 'Temperamental Qualities at Age Three Predict Personality Traits in Young Adulthood: Longitudinal Evidence from a Birth Cohort', *Wiley on behalf of the Society for Research in Child Development*, 66(2), pp. 486–498.

Casula, M., Rangarajan, N. and Shields, P. (2021) 'The potential of working hypotheses for deductive exploratory research', *Quality and Quantity*, 55(5), pp. 1703–1725. Available at: <https://doi.org/10.1007/s11135-020-01072-9>.

Cattell, H.E.P. and Mead, A.D. (2008) 'The Sixteen Personality Factor Questionnaire (16PF).', in *The SAGE handbook of personality theory and assessment, Vol 2: Personality measurement and testing*. Thousand Oaks, CA, US: Sage Publications, Inc, pp. 135–159. Available at: <https://doi.org/10.4135/9781849200479.n7>.

Cattell, R.B. (1956) 'Validation and intensification of the sixteen personality factor questionnaire', *Journal of Clinical Psychology*, 12(3). Available at: [https://doi.org/10.1002/1097-4679\(195607\)12:3<205::AID-JCLP2270120302>3.0.CO;2-0](https://doi.org/10.1002/1097-4679(195607)12:3<205::AID-JCLP2270120302>3.0.CO;2-0).

CCL (2001) 'The Promise and Pitfalls of Retaking 360-Degree Instruments'.

Chalmers, A.F. (1999) *What is this thing called science?, What is this thing called science?* Available at: <https://doi.org/10.1097/00132586-196404000-00001>.

Chammas, C.B. and Hernandez, J.M. da C. (2019) 'Comparing transformational and instrumental leadership', *Innovation & Management Review*, 16(2), pp. 143–160. Available at: <https://doi.org/10.1108/inmr-08-2018-0064>.

Chan, T.Y., Li, J. and Pierce, L. (2014) 'Compensation and peer effects in competing sales teams', *Management Science*, 60(8). Available at: <https://doi.org/10.1287/mnsc.2013.1840>.

Charan, R., Drotter, S. and Noel, J.L. (2001) *Chapter 1: Six Leadership Passages, The Leadership Pipeline: How to Build the Leadership Powered Company*.

Charness, G., Maslet, D. and Villeval, M.C. (2014) 'The dark side of competition for status', *Management Science*, 60(1). Available at: <https://doi.org/10.1287/mnsc.2013.1747>.

Chatterjee, A. and Hambrick, D.C. (2007) 'It's all about me: Narcissistic chief executive officers and their effects on company strategy and performance', *Administrative Science Quarterly*, 52(3). Available at: <https://doi.org/10.2189/asqu.52.3.351>.

Chemers, M. (2014) *An integrative theory of leadership*. Edited by N.Erlbaum. Mahwah.

Cheng, W. *et al.* (2023) 'The Mechanism of Leader-Expressed Humility on a Physical Education Teacher's Work Engagement—Exploring the Chain Mediation Effect of

Teacher Efficacy and Felt Obligation', *Sustainability (Switzerland)*, 15(12). Available at: <https://doi.org/10.3390/su15129297>.

Chestnut, B. (2008) *Understanding the development of personality type: Integrating object relations theory and the enneagram system*, *The Enneagram Journal*.

Chestnut, B. (2017) *The 9 types of leadership: mastering the art of people in the 21st century workplace*. Simon and Schuster.

Chiesa, M. (1994) 'Radical behaviorism: The philosophy and the science.', *Radical behaviorism: The philosophy and the science*. [Preprint].

Choucroun, P.M. (2012) *An exploratory study of the enneagram typology in couple counseling: A qualitative analysis*. University of Texas at San Antonio.

Cicchetti, D. V (1994) *Guidelines, Criteria, and Rules of Thumb for Evaluating Normed and Standardized Assessment Instruments in Psychology*, *Psychological Assessment*.

Clay, R.A. (2002) *A renaissance for humanistic psychology The field explores new niches while building on its past*. Available at: <http://www.apa.org/monitor/sep02/renaissance.html>.

Cloninger, C.R. *et al.* (2019) 'The complex genetics and biology of human temperament: a review of traditional concepts in relation to new molecular findings', *Translational Psychiatry*. Available at: <https://doi.org/10.1038/s41398-019-0621-4>.

Cloninger, C.R. (1994) *The temperament and character inventory (TCI) : a guide to its development and use*. Center for Psychobiology of Personality, Washington University.

Cloninger, R.C. and Zwir, I. (2018) 'What is the natural measurement unit of temperament: Single traits or profiles?', *Philosophical Transactions of the Royal Society B: Biological Sciences*, 373(1744). Available at: <https://doi.org/10.1098/rstb.2017.0163>.

Cobb-Clark, D.A. (2015) 'Locus of control and the labor market', *IZA Journal of Labor Economics*. Available at: <https://doi.org/10.1186/s40172-014-0017-x>.

Cohen, J.W. (1988) *Statistical Power Analysis for the Behavioural Science (2nd Edition)*, *Statistical Power Analysis for the Behavioral Sciences*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Coker, C. and Mihai, F. (2017) 'Personality Traits and Second Language Acquisition: The Influence of the Enneagram on Adult ESOL Students', *TESOL Journal*, 8(2), pp. 432–449. Available at: <https://doi.org/10.1002/tesj.281>.

Colbert, A.E. *et al.* (2012) 'Assessing the trait theory of leadership using self and observer ratings of personality: The mediating role of contributions to group success', *Leadership Quarterly*, 23(4). Available at: <https://doi.org/10.1016/j.leaqua.2012.03.004>.

Colbert, A.E., Barrick, M.R. and Bradley, B.H. (2014) 'Personality and leadership composition in top management teams: Implications for organizational effectiveness', *Personnel Psychology*, 67(2), pp. 351–387. Available at: <https://doi.org/10.1111/peps.12036>.

Coleman, M.D. (2011) 'Emotion and the Self-Serving Bias', *Current Psychology*, 30(4). Available at: <https://doi.org/10.1007/s12144-011-9121-2>.

Collis, J. and Hussey, R. (2003) *Business Research: A Practical Guide for Undergraduate and Postgraduate Students*, Palgrave Macmillan, Houndmills, Basingstoke, Hampshire, Palgrave Macmillan (UK).

Conway, J.M. and Huffcutt, A.I. (1997) 'Psychometric properties of multisource performance ratings: A meta-analysis of subordinate, supervisor, peer, and self-ratings', *Human Performance*, 10(4). Available at: https://doi.org/10.1207/s15327043hup1004_2.

Conway, J.M., Lombardo, K. and Sanders, K.C. (2001) 'A Meta-Analysis of Incremental Validity and Nomological Networks for Subordinate and Peer Ratings', *Human Performance*, 14(4), pp. 267–303. Available at: https://doi.org/10.1207/S15327043HUP1404_1.

Cook-Greuter, S. (2000) 'Mature Ego Development: A Gateway to Ego Transcendence?', *Journal of Adult Development*, 7(4), pp. 227–240. Available at: <https://doi.org/10.1023/A:1009511411421>.

Cook-Greuter, S.R. (2004) 'Making the case for a developmental perspective', *Industrial and Commercial Training*, 36(7), pp. 275–281. Available at: <https://doi.org/10.1108/00197850410563902>.

Cooper, C. (2019) 'Pitfalls of personality theory', *Personality and Individual Differences*, 151(January), p. 109551. Available at: <https://doi.org/10.1016/j.paid.2019.109551>.

Cortina, J.M. (1993) 'What Is Coefficient Alpha? An Examination of Theory and Applications', *Journal of Applied Psychology*, 78(1). Available at: <https://doi.org/10.1037/0021-9010.78.1.98>.

Costa, P. and McCrae, R. (1996) 'Towards a New Generation of Personality Theories: Theoretical contexts for the five-factor model', in J. Wiggins (ed.) *The five-factor model of personality: Theoretical perspectives*. New York: Guilford, pp. 51–87.

Costa, Paul T., Jr. and McCrae, R.R. (2002) 'Looking Backward: Changes in the Mean Levels of Personality Traits from 80 to 12', in *Advances in Personality Science*.

Costa, P.T.Jr. and McCrae, R.R. (1992) 'NEO-PI-R professional manual: Revised NEO personality and NEO Five-Factor Inventory (NEO-FFI)', *Psychological Assessment*, 4, pp. 5–13. Available at: <https://doi.org/10.1037//1040-3590.4.1.5>.

- Cox, D.R. (1992) 'Causality: Some Statistical Aspects', *Journal of the Royal Statistical Society. Series A (Statistics in Society)*, 155(2). Available at: <https://doi.org/10.2307/2982962>.
- Crawford, J.A. and Kelder, J.A. (2019) 'Do we measure leadership effectively? Articulating and evaluating scale development psychometrics for best practice', *Leadership Quarterly*, 30(1), pp. 133–144. Available at: <https://doi.org/10.1016/j.leaqua.2018.07.001>.
- Creswell, J.W. (2014) *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, Research design Qualitative quantitative and mixed methods approaches*. Available at: <https://doi.org/10.1007/s13398-014-0173-7.2>.
- Cristofaro, M. and Giardino, P.L. (2020) 'Core self-evaluations, self-leadership, and the self-serving bias in managerial decision making: A laboratory experiment', *Administrative Sciences*, 10(3). Available at: <https://doi.org/10.3390/admsci10030064>.
- Cronbach, L.J. and Meehl, P.E. (1955) 'Construct validity in psychological tests', *Psychological Bulletin*, 52(4). Available at: <https://doi.org/10.1037/h0040957>.
- Cummings, J.N. and Kiesler, S. (2005) 'Collaborative research across disciplinary and organizational boundaries', *Social Studies of Science*. Available at: <https://doi.org/10.1177/0306312705055535>.
- Cutting, B. and Kouzmin, A. (2004) 'A synthesis of knowing and governance: making sense of organizational and governance polemics', *Corporate Governance: The international journal of business in society*, 4(1), pp. 76–114. Available at: <https://doi.org/10.1108/14720700410521989>.
- Dameyer, J.Jarrot. (2001) *Psychometric evaluation of the Riso-Hudson Enneagram type indicator*.
- Daniels, D. *et al.* (2018) 'Advancing Ego Development in Adulthood Through Study of the Enneagram System of Personality', *Journal of Adult Development*, 0(25), pp. 229–241. Available at: <https://doi.org/10.1007/s10804-018-9289-x>.
- von Davier, M., Naemi, B. and Roberts, R.D. (2012) 'Factorial Versus Typological Models: A Comparison of Methods for Personality Data', *Measurement*, 10(4). Available at: <https://doi.org/10.1080/15366367.2012.732798>.
- Davison, R.B. *et al.* (2012) 'Coordinated Action in Multiteam Systems', *Journal of Applied Psychology*, 97(4). Available at: <https://doi.org/10.1037/a0026682>.
- Dawes, R.M., Faust, D. and Meehl, P.E. (1989) 'Clinical versus actuarial judgment', *Science*, 243(4899). Available at: <https://doi.org/10.1126/science.2648573>.
- Dawes, R.M., Faust, D. and Meehl, P.E. (2012) 'Clinical versus Actuarial Judgment', in *Heuristics and Biases*. Available at: <https://doi.org/10.1017/cbo9780511808098.042>.

- Deffains, B., Espinosa, R. and Thöni, C. (2016) 'Political self-serving bias and redistribution', *Journal of Public Economics*, 134. Available at: <https://doi.org/10.1016/j.jpubeco.2016.01.002>.
- Deinert, A. *et al.* (2015) 'Transformational leadership sub-dimensions and their link to leaders' personality and performance', *Leadership Quarterly*, 26(6), pp. 1095–1120. Available at: <https://doi.org/10.1016/j.leaqua.2015.08.001>.
- Delobbe, N., Halin, P., Prémont, J., *et al.* (2009) 'Measuring personality at work: development and validation of a new instrument based on the Enneagram', in *XIVth Congress of the European Association of Work and Organizational Psychology*.
- Delobbe, N., Halin, P. and Prémont, J. (2012) *HPEI Enneagramme Evolutif*. Edited by Presses universitaires de Louvain. Louvain-la-Neuve: Presses universitaires de Louvain.
- DeNeve, K.M. and Cooper, H. (1998) 'The Happy Personality: A Meta-Analysis of 137 Personality Traits and Subjective Well-Being', *Psychological Bulletin*, 124(2). Available at: <https://doi.org/10.1037/0033-2909.124.2.197>.
- Denollet, J., Sys, S.U. and Brutsaert, D.L. (1995) 'Personality and mortality after myocardial infarction', *Psychosomatic Medicine*, 57(6). Available at: <https://doi.org/10.1097/00006842-199511000-00011>.
- Derue, D.S. *et al.* (2011) 'Trait and behavioral theories of leadership: An integration and meta-analytic test of their relative validity', *Personnel Psychology*, 64(1), pp. 7–52. Available at: <https://doi.org/10.1111/j.1744-6570.2010.01201.x>.
- DeShong, H.L. *et al.* (2016) 'Development of a Short Form of the Five-Factor Borderline Inventory', *Assessment*, 23(3). Available at: <https://doi.org/10.1177/1073191115581475>.
- Devaney, R.L. and Gleick, J. (1989) 'Chaos: Making a New Science', *The College Mathematics Journal* [Preprint]. Available at: <https://doi.org/10.2307/2686940>.
- DeYoung, C.G. (2015) 'Cybernetic Big Five Theory', *Journal of Research in Personality*, 56, pp. 33–58. Available at: <https://doi.org/10.1016/j.jrp.2014.07.004>.
- DeYoung, C.G. *et al.* (2016) 'Ten Aspects of the Big Five in the Personality Inventory for DSM-5', *Personality Disorders: Theory, Research, and Treatment*, 7(2), pp. 113–123. Available at: <https://doi.org/10.1037/per0000170>.
- DeYoung, C.G. and Krueger, R.F. (2018) 'A Cybernetic Theory of Psychopathology', *Psychological Inquiry*, 29(3), pp. 117–138. Available at: <https://doi.org/10.1080/1047840X.2018.1513680>.
- DeYoung, C.G. and Tiberius, V. (2023) 'Value Fulfillment from a Cybernetic Perspective: A New Psychological Theory of Well-Being', *Personality and Social Psychology Review*, 27(1). Available at: <https://doi.org/10.1177/10888683221083777>.

Diener, E. *et al.* (2009) 'Assessing Well-Being', *The science of wellbeing The collected works of Ed Diener*, 39.

Digman, J.M. (1997) 'Higher-order factors of the Big Five', *Journal of Personality and Social Psychology*, 73(6), pp. 1246–1256.

Van Dijk, E. and De Cremer, D. (2006) 'Self-benefiting in the allocation of scarce resources: Leader-follower effects and the moderating effect of social value orientations', *Personality and Social Psychology Bulletin*, 32(10). Available at: <https://doi.org/10.1177/0146167206290338>.

Dinh, J.E. *et al.* (2014) 'Leadership theory and research in the new millennium: Current theoretical trends and changing perspectives', *Leadership Quarterly*, 25(1), pp. 36–62. Available at: <https://doi.org/10.1016/j.leaqua.2013.11.005>.

Dinh, J.E. and Lord, R.G. (2012) 'Implications of dispositional and process views of traits for individual difference research in leadership', *Leadership Quarterly*, 23(4), pp. 651–669. Available at: <https://doi.org/10.1016/j.leaqua.2012.03.003>.

Do, M.H. and Minbashian, A. (2014) 'A meta-analytic examination of the effects of the agentic and affiliative aspects of extraversion on leadership outcomes', *Leadership Quarterly*, 25(5), pp. 1040–1053. Available at: <https://doi.org/10.1016/j.leaqua.2014.04.004>.

Dokko, G., Kane, A.A. and Tortoriello, M. (2014) 'One of Us or One of My Friends: How Social Identity and Tie Strength Shape the Creative Generativity of Boundary-Spanning Ties', *Organization Studies*, 35(5). Available at: <https://doi.org/10.1177/0170840613508397>.

Drath, W.H. *et al.* (2008) 'Direction, alignment, commitment: Toward a more integrative ontology of leadership', *Leadership Quarterly*, 19(6), pp. 635–653. Available at: <https://doi.org/10.1016/j.leaqua.2008.09.003>.

Dudley, N.M. *et al.* (2006) 'A meta-analytic investigation of conscientiousness in the prediction of job performance: Examining the intercorrelations and the incremental validity of narrow traits', *Journal of Applied Psychology*, 91(1). Available at: <https://doi.org/10.1037/0021-9010.91.1.40>.

Dunning, D., Meyerowitz, J.A. and Holzberg, A.D. (1989) 'Ambiguity and self-evaluation: The role of idiosyncratic trait definitions in self-serving assessments of ability.', *Journal of Personality and Social Psychology*, 57(6). Available at: <https://doi.org/10.1037/0022-3514.57.6.1082>.

Dunning, D., Meyerowitz, J.A. and Holzberg, A.D. (2012) 'Ambiguity and Self-Evaluation: The Role of Idiosyncratic Trait Definitions in Self-Serving Assessments of Ability', in *Heuristics and Biases*. Available at: <https://doi.org/10.1017/cbo9780511808098.020>.

Dweck, C.S. (2015) 'Growth mindset, Revisited', *Education Week*, 35(05).

- Ebert, C. (2023) *How Your Enneagram Type Changes Under Pressure and Relaxation*. Available at: <https://personalitypath.com/blog/enneagram-theory-series-part-5/> (Accessed: 1 February 2024).
- Eden, D. and Leviatan, U. (1975) 'Implicit leadership theory as a determinant of the factor structure underlying supervisory behavior scales', *Journal of Applied Psychology*, 60(6). Available at: <https://doi.org/10.1037/0021-9010.60.6.736>.
- Edmans, A., Fang, V.W. and Huang, A.H. (2022) 'The Long-Term Consequences of Short-Term Incentives', *Journal of Accounting Research*, 60(3), pp. 1007–1046. Available at: <https://doi.org/10.1111/1475-679X.12410>.
- Edwards, J.A., Lanning, K. and Hooker, K. (2002) 'The MBTI and social information processing: An incremental validity study', *Journal of Personality Assessment*, 78(3). Available at: https://doi.org/10.1207/S15327752JPA7803_04.
- Edwards, L.C. *et al.* (2018) "'Measuring" Physical Literacy and Related Constructs: A Systematic Review of Empirical Findings', *Sports Medicine*. Springer International Publishing, pp. 659–682. Available at: <https://doi.org/10.1007/s40279-017-0817-9>.
- Eigel, K.M. and Kuhnert, K.W. (2005) 'Authentic development: Leadership development level and executive effectiveness', *Leadership and Management*, 3, p. pp.357-385.
- Engler, B. (2013) *Personality theories*. Nelson Education.
- Erdheim, J., Wang, M. and Zickar, M.J. (2006) 'Linking the Big Five personality constructs to organizational commitment', *Personality and Individual Differences*, 41(5). Available at: <https://doi.org/10.1016/j.paid.2006.04.005>.
- Ernst, C. and Yip, J. (2009) 'Boundary-spanning leadership: Tactics to bridge social identity groups in organizations', *Crossing the Divide: Intergroup Leadership in a World of Difference* [Preprint].
- Espinoza-Romero, J.L. *et al.* (2022) 'Behavioral Activation System and Early Life Parental Abuse Are Associated with Antisocial Behaviors in Mexican Adolescents', *International Journal of Environmental Research and Public Health*, 19(3). Available at: <https://doi.org/10.3390/ijerph19031584>.
- Evans, B.J., Coman, G.J. and Stanley, R.O. (1992) 'The police personality: Type A behavior and trait anxiety', *Journal of Criminal Justice*, 20(5). Available at: [https://doi.org/10.1016/0047-2352\(92\)90078-N](https://doi.org/10.1016/0047-2352(92)90078-N).
- Evered, R., Louis, M.R. and Louis, M.R. (1981) 'Alternative Perspectives in the Organizational Sciences : " Inquiry from the Inside "', 6(3), pp. 385–395.
- Ewen B, R. and Ewen, R.B. (2020) 'Introduction Theories of Personality', in *An Introduction to Theories of Personality*. Psychology Press, pp. 21–28. Available at: <https://doi.org/10.4324/9781315793177-7>.

- Eysenck, H.J. (1965) 'Personality and social psychology', *Behaviour Research and Therapy* [Preprint]. Available at: [https://doi.org/10.1016/0005-7967\(65\)90022-7](https://doi.org/10.1016/0005-7967(65)90022-7).
- Farmer, S.M. and Aguinis, H. (2005) 'Accounting for subordinate perceptions of supervisor power: An identity-dependence model', *Journal of Applied Psychology*. Available at: <https://doi.org/10.1037/0021-9010.90.6.1069>.
- Favini, A. *et al.* (2018) 'Personality profiles and adolescents' maladjustment: A longitudinal study', *Personality and Individual Differences*, 129. Available at: <https://doi.org/10.1016/j.paid.2018.03.016>.
- Fernandez Christlieb, F. (2017) *De donde demonios salio el Eneagrama*. Mexico: Editorial Pax.
- Fiedler, F.E. (1964) 'A Contingency Model of Leadership Effectiveness', *Advances in Experimental Social Psychology*, 1(C). Available at: [https://doi.org/10.1016/S0065-2601\(08\)60051-9](https://doi.org/10.1016/S0065-2601(08)60051-9).
- Field, A. (2013) *Discovering statistics using IBM SPSS statistics, Statistics*.
- Fischer, T., Dietz, J. and Antonakis, J. (2017) 'Leadership Process Models: A Review and Synthesis', *Journal of Management*, 43(6), pp. 1726–1753. Available at: <https://doi.org/10.1177/0149206316682830>.
- Fiske, S.T. and Macrae, C.N. (2012) *The SAGE handbook of social cognition, The SAGE Handbook of Social Cognition*. Available at: <https://doi.org/10.4135/9781446247631>.
- Fleenor, J.W. *et al.* (2010) 'Self-other rating agreement in leadership: A review', *Leadership Quarterly*, 21(6), pp. 1005–1034. Available at: <https://doi.org/10.1016/j.leaqua.2010.10.006>.
- Fleenor, J.W. and Taylor, S. (1994) 'Construct Validity of Three Self-Report Measures of Creativity', *Educational and Psychological Measurement*, 54(2). Available at: <https://doi.org/10.1177/0013164494054002021>.
- Fleishman, E.A. (1953) 'The description of supervisory behavior', *Journal of Applied Psychology*, 37(1). Available at: <https://doi.org/10.1037/h0056314>.
- Franco, Z., Friedman, H. and Arons, M. (2008) 'Are qualitative methods always best for humanistic psychology research? a conversation on the epistemological divide between humanistic and positive psychology', *Humanistic Psychologist*, 36(2). Available at: <https://doi.org/10.1080/08873260802111242>.
- Frankl, V.E. (1959) *Man's Search for Meaning: an introduction to logotherapy, Language*.
- French, R.M. and Rezler, A.G. (1976) 'Personality and job satisfaction of medical technologists.', *The American journal of medical technology*, 42(3).
- Fromm, E. (2013) *The Revision of Psychoanalysis*. Edited by Open Road Media.

Fuller, C.M. *et al.* (2016) 'Common methods variance detection in business research', *Journal of Business Research*, 69(8), pp. 3192–3198. Available at: <https://doi.org/10.1016/j.jbusres.2015.12.008>.

Funder, D.C. (1994) 'Explaining Traits', *Psychological Inquiry* [Preprint].

Funder, D.C. (2001) 'Personality', *Annual Review of Psychology*, pp. 197–221.

Funder, D.C. (2010) 'Some final lessons from Jack block', *Psychological Inquiry*, 21(1), pp. 40–43. Available at: <https://doi.org/10.1080/10478401003648708>.

Funder, D.C. (2012) 'Accurate Personality Judgment', *Current Directions in Psychological Science*, 21(3), pp. 177–182. Available at: <https://doi.org/10.1177/0963721412445309>.

Furnham, A. (1996) 'The big five versus the big four: The relationship between the Myers-Briggs Type Indicator (MBTI) and NEO-PI five factor model of personality', *Personality and Individual Differences*, 21(2). Available at: [https://doi.org/10.1016/0191-8869\(96\)00033-5](https://doi.org/10.1016/0191-8869(96)00033-5).

Gaddis, B.H. and Foster, J.L. (2013) 'Meta-Analysis of Dark Side Personality Characteristics and Critical Work Behaviors among Leaders across the Globe: Findings and Implications for Leadership Development and Executive Coaching', *Applied Psychology*, 64(1), pp. 25–54. Available at: <https://doi.org/10.1111/apps.12017>.

Galvin, B.M. *et al.* (2018) 'Changing the focus of locus (of control): A targeted review of the locus of control literature and agenda for future research', *Journal of Organizational Behavior*. Available at: <https://doi.org/10.1002/job.2275>.

Gamard, W.S. (1986) 'Interrater Reliability and Validity of Judgments of Enneagram Personality Types', in *Typology, Transpersonal, Protoanalysis*. California Institute of Integral Studies.

Gana, K. and Trouillet, R. (2003) 'Structure invariance of the Temperament and Character Inventory (TCI)', *Personality and Individual Differences*, 35(7). Available at: [https://doi.org/10.1016/S0191-8869\(02\)00364-1](https://doi.org/10.1016/S0191-8869(02)00364-1).

Gardner, W.L. *et al.* (2020) 'The leadership trilogy : A review of the third decade of The Leadership Quarterly', *The Leadership Quarterly*, 31(1), p. 101379. Available at: <https://doi.org/10.1016/j.leaqua.2019.101379>.

Garrad, L. and Chamorro-Premuzic, T. (2016) 'The dark side of high employee engagement.', *Harvard Business Review*, 94(9).

Garrety, K. *et al.* (2003) 'The use of personality typing in organizational change: Discourse, emotions and the reflexive subject', *Human Relations*, 56(2). Available at: <https://doi.org/10.1177/0018726703056002892>.

Geller, E.S. (2003) 'Leadership to Overcome Resistance to Change: It Takes More Than Consequence Control', *Journal of Organizational Behavior Management*, 22(3). Available at: https://doi.org/10.1300/J075v22n03_04.

Geller, E.S. (2005) 'Behavior-based safety and occupational risk management', *Behavior Modification*, 29(3). Available at: <https://doi.org/10.1177/0145445504273287>.

George, D. and Mallery, P. (2009) 'SPSS for Windows Step by Step: A Simple Study Guide and Reference, 17.0 Update', *GEN, Boston, MA: Pearson Education, Inc* [Preprint].

George, J.M. and Zhou, J. (2001) 'When openness to experience and conscientiousness are related to creative behavior: An interactional approach', *Journal of Applied Psychology*, 86(3). Available at: <https://doi.org/10.1037/0021-9010.86.3.513>.

Van Ginkel, J.R. *et al.* (2010) 'Incidence of missing item scores in personality measurement, and simple item-score imputation', *Methodology*, 6(1), pp. 17–30. Available at: <https://doi.org/10.1027/1614-2241/a000003>.

Giordano, M.A.E. (2008) *A Psychometric Evaluation of the Riso-Hudson Type Indicator (RHETI), Version 2.5: Comparison of Ipsative and Non-ipsative Versions and Correlations with Spiritual Outcomes*.

Giordano, M.A.E. (2010) *A psychometric evaluation of the Riso-Hudson Type Indicator (RHETI), version 2.5: Comparison of ipsative and non-ipsative versions and correlations with spiritual outcomes, Dissertation Abstracts International*.

Glaser, B.G. and Strauss, A.L. (2017) *Discovery of grounded theory: Strategies for qualitative research, Discovery of Grounded Theory: Strategies for Qualitative Research*. Available at: <https://doi.org/10.4324/9780203793206>.

Glover, N. *et al.* (2012) 'The five-factor narcissism inventory: A five-factor measure of narcissistic personality traits', *Journal of Personality Assessment*, 94(5). Available at: <https://doi.org/10.1080/00223891.2012.670680>.

Gockel, C. and Werth, L. (2010) 'Measuring and Modeling Shared Leadership', *Journal of Personnel Psychology*, 9(4). Available at: <https://doi.org/10.1027/1866-5888/a000023>.

Goetz, M.L. *et al.* (2020) 'An examination of myers-briggs type indicator personality, gender, and career interests of ontario veterinary college students', *Journal of Veterinary Medical Education*, 47(4). Available at: <https://doi.org/10.3138/JVME.0418-044R>.

Goldberg, L.R. (1992) 'The Development of Markers for the Big-Five Factor Structure', *Psychological Assessment* [Preprint]. Available at: <https://doi.org/10.1037/1040-3590.4.1.26>.

Goldberg, L.R. (1999) 'A broad-bandwidth, public domain, personality inventory measuring the lower-level facets of several five-factor models.', *Personality psychology in Europe*, 7.

Goldberg, M.J. (1999) *The 9 ways of working: How to use the Enneagram to discover your natural strengths and work more effectively*. Da Capo Press.

Gonzalez, O., MacKinnon, D.P. and Muniz, F.B. (2021) 'Extrinsic Convergent Validity Evidence to Prevent Jingle and Jangle Fallacies', *Multivariate Behavioral Research*, 56(1), pp. 3–19. Available at: <https://doi.org/10.1080/00273171.2019.1707061>.

Gottlieb, T. and Gøtzsche-Astrup, O. (2020) 'Personality and work-related outcomes through the prism of socioanalytic theory: A review of meta-analyses', *Nordic Psychology*, 72(4), pp. 346–362. Available at: <https://doi.org/10.1080/19012276.2020.1756902>.

Gough, H.G. and Heilbrun, A.B. (1983) *The adjective checklist Manual*. Palo Alto, CA: Consulting Psychologists Press.

Grant, A.M. (2013) 'Rethinking the Extraverted Sales Ideal: The Ambivert Advantage', *Psychological Science*, 24(6). Available at: <https://doi.org/10.1177/0956797612463706>.

Grant, A.M. and Atad, O.I. (2022) 'Coaching psychology interventions vs. positive psychology interventions: The measurable benefits of a coaching relationship', *Journal of Positive Psychology*, 17(4). Available at: <https://doi.org/10.1080/17439760.2021.1871944>.

Grant, S. and Langan-Fox, J. (2006) 'Occupational stress, coping and strain: The combined/interactive effect of the Big Five traits', *Personality and Individual Differences*, 41(4). Available at: <https://doi.org/10.1016/j.paid.2006.03.008>.

Graziano, W.G. and Eisenberg, N.H. (1997) 'Agreeableness: a dimension of personality', *Handbook of personality psychology* [Preprint].

Graziano, W.G., Jensen-Campbell, L.A. and Hair, E.C. (1996) 'Perceiving Interpersonal Conflict and Reacting to It: The Case for Agreeableness', *Journal of Personality and Social Psychology*, 70(4). Available at: <https://doi.org/10.1037/0022-3514.70.4.820>.

Griffin, D. and Stacey, R. (2005) *Complexity and the experience of leading organizations*, *Complexity and the Experience of Leading Organizations*. Available at: <https://doi.org/10.4324/9780203019627>.

Guenole, N. (2014) 'Maladaptive Personality at Work: Exploring the Darkness', *Industrial and Organizational Psychology*, 7(1). Available at: <https://doi.org/10.1111/iops.12114>.

Hall, A.T., Frink, D.D. and Buckley, M.R. (2017) 'An accountability account: A review and synthesis of the theoretical and empirical research on felt accountability', *Journal of Organizational Behavior*, 38(2). Available at: <https://doi.org/10.1002/job.2052>.

Hallinger, P. (2003) 'Leading educational change: Reflections on the practice of instructional and transformational leadership', *Cambridge Journal of Education*, 33(3). Available at: <https://doi.org/10.1080/0305764032000122005>.

Halliwell, P., Mitchell, R. and Boyle, B. (2022) 'Interrelations between enhanced emotional intelligence, leadership self-efficacy and task-oriented leadership behaviour—a leadership coaching study', *Leadership and Organization Development Journal*, 43(1). Available at: <https://doi.org/10.1108/LODJ-01-2021-0036>.

Halverson, S.K. *et al.* (2002) 'Self-other agreement on a 360-degree leadership evaluation', *Annual Conference of the Society for Industrial and Organizational Psychology* [Preprint].

Hansenne, M., Delhez, M. and Cloninger, C.R. (1986) *Psychometric Properties of the Temperament and Character Inventory-Revised (TCI-R) in a Belgian Sample*. Svrakic.

Hansenne, M., Delhez, M. and Robert Cloninger, C. (2005) 'Psychometric properties of the Temperament and Character Inventory-revised (TCI-R) in a Belgian sample', *Journal of Personality Assessment*, 85(1). Available at: https://doi.org/10.1207/s15327752jpa8501_04.

Hare, R.D. (2003) *Manual for the Revised Psychopathy Checklist*. Toronto, ON: Multi-Health Systems.

Harman, D. (1967) 'A single factor test of common method variance', *Journal of Psychology*, 35(1967).

Den Hartog, D.N., Van Muijen, J.J. and Koopman, P.L. (1997) 'Transactional versus transformational leadership: An analysis of the MLQ', *Journal of Occupational and Organizational Psychology*, 70(1), pp. 19–34. Available at: <https://doi.org/10.1111/j.2044-8325.1997.tb00628.x>.

Haslam, N. and Fiske, A.P. (1992) 'Implicit relationship prototypes: Investigating five theories of the cognitive organization of social relationships', *Journal of Experimental Social Psychology*, 28(5). Available at: [https://doi.org/10.1016/0022-1031\(92\)90041-H](https://doi.org/10.1016/0022-1031(92)90041-H).

Haslam, S.A., Reicher, S.D. and Platow, M.J. (2010) *The new psychology of leadership: Identity, influence, and power*, *The New Psychology of Leadership: Identity, Influence and Power*. Available at: <https://doi.org/10.4324/9780203833896>.

Helle, A.C. and Mullins-Sweatt, S.N. (2019) 'Maladaptive Personality Trait Models: Validating the Five-Factor Model Maladaptive Trait Measures With the Personality Inventory for DSM-5 and NEO Personality Inventory', *Assessment*, 26(3). Available at: <https://doi.org/10.1177/1073191117709071>.

Hemdan, J.T., Taha, D.S. and Cherif, I.A. (2023) 'Relationship between personality types and creativity: A study on novice architecture students', *Alexandria Engineering Journal*, 65. Available at: <https://doi.org/10.1016/j.aej.2022.09.041>.

Herrmann, P. and Nadkarni, S. (2014) 'Managing strategic change: The duality of CEO personality', *Strategic Management Journal*, 35(9). Available at: <https://doi.org/10.1002/smj.2156>.

Hiller, N.J. et al. (2011) 'Searching for outcomes of leadership: A 25-year review', *Journal of Management*, 37(4), pp. 1137–1177. Available at: <https://doi.org/10.1177/0149206310393520>.

Hines, T. (2009) *Categories, contexts and research design choices*.

Hirschmüller, S. et al. (2013) 'The dual lens model: A comprehensive framework for understanding self-other agreement of personality judgments at zero acquaintance', *Journal of Personality and Social Psychology*, 104(2). Available at: <https://doi.org/10.1037/a0030383>.

Hisam, A. et al. (2014) 'Type A and type B personality among undergraduate medical students: Need for psychosocial rehabilitation', *Pakistan Journal of Medical Sciences*, 30(6). Available at: <https://doi.org/10.12669/pjms.306.5541>.

Hitt, M.A., Haynes, K.T. and Serpa, R. (2010) 'Strategic leadership for the 21st century', *Business Horizons*, 53(5), pp. 437–444.

Ho, G. (2019) *The box is where we began: Evaluating enneagram-based leadership development for Catholic school leaders in Indonesia, Dissertation Abstracts International Section A: Humanities and Social Sciences*.

Hoch, J.E., Bommer, W.H. and Dulebohn, J.H. (2018) 'Do Ethical, Authentic, and Servant Leadership Explain Variance Above and Beyond Transformational Leadership? A Meta-Analysis', *Journal of Management*, 44(2), pp. 501–529. Available at: <https://doi.org/10.1177/0149206316665461>.

Hochwälder, J. (2009) 'Burnout among torgersen's eight personality types', *Social Behavior and Personality*, 37(4). Available at: <https://doi.org/10.2224/sbp.2009.37.4.467>.

Hoffman, B.J. et al. (2011) 'Great man or great myth? A quantitative review of the relationship between individual differences and leader effectiveness', *Journal of Occupational and Organizational Psychology*, 84(2), pp. 347–381. Available at: <https://doi.org/10.1348/096317909X485207>.

Hofstee, W.K.B. (2002) 'Types and Variables: Towards a Congenial Procedure for Handling Personality Data', *European Journal of Personality*, 16(1 SPEC ISS.). Available at: <https://doi.org/10.1002/per.447>.

Hofstee, W.K.B., De Raad, B. and Goldberg, L.R. (1992) 'Integration of the Big Five and Circumplex Approaches to Trait Structure', *Journal of Personality and Social Psychology*, 63(1). Available at: <https://doi.org/10.1037/0022-3514.63.1.146>.

Hogan, J. and Holland, B. (2003) 'Using theory to evaluate personality and job-performance relations: A socioanalytic perspective', *Journal of Applied Psychology*, 88(1), pp. 100–112. Available at: <https://doi.org/10.1037/0021-9010.88.1.100>.

Hogan, J. and Ones, D.S. (1997) 'Conscientiousness and Integrity at Work', in *Handbook of Personality Psychology*. Available at: <https://doi.org/10.1016/b978-012134645-4/50033-0>.

Hogan, R., Curphy, G.J. and Hogan, J. (1994) 'What We Know About Leadership', *American Psychologist*, 49(6), pp. 493–504.

Hogan, R. and Hogan, J. (2001) 'Assessing Leadership : A View from the Dark Side', *International Journal of Selection and Assessment*, 9(June), pp. 40–51.

Hogan, R. and Shelton, D. (1998) 'A socioanalytic perspective on job performance', *Human Performance*, 11(2–3). Available at: https://doi.org/10.1207/s15327043hup1102&3_2.

Hogan, R. and Sherman, R.A. (2020b) 'Personality theory and the nature of human nature', *Personality and Individual Differences*, 152(January 2019), p. 109561. Available at: <https://doi.org/10.1016/j.paid.2019.109561>.

Hooijberg, R. and Choi, J. (2000) 'Which leadership roles matter to whom? An examination of rater effects on perceptions of effectiveness', *Leadership Quarterly*, 11(3). Available at: [https://doi.org/10.1016/S1048-9843\(00\)00044-8](https://doi.org/10.1016/S1048-9843(00)00044-8).

Hook, J.N. *et al.* (2021) 'The Enneagram: A systematic review of the literature and directions for future research', *Journal of Clinical Psychology*, 77(4), pp. 865–883. Available at: <https://doi.org/10.1002/jclp.23097>.

Horwood, L.J. (1987) 'Vulnerability to life events exposure', *Psychological Medicine*, 17(3). Available at: <https://doi.org/10.1017/S0033291700025976>.

Hough, L.M., Oswald, F.L. and Ock, J. (2015) 'Beyond the Big Five: New Directions for Personality Research and Practice in Organizations', *Annual Review of Organizational Psychology and Organizational Behavior*. Annual Reviews Inc., pp. 183–209. Available at: <https://doi.org/10.1146/annurev-orgpsych-032414-111441>.

House, R. *et al.* (2004) *Leadership, culture and organizations: The GLOBE study of 62 societies*. San Francisco, CA.: SAGE.

House, R.J. and Aditya, R.M. (1997) 'The social scientific study of leadership: Quo vadis?', *Journal of Management*, 23(3). Available at: [https://doi.org/10.1016/s0149-2063\(97\)90037-4](https://doi.org/10.1016/s0149-2063(97)90037-4).

Hu, J. *et al.* (2019) 'Getting Ahead, Getting Along, and Getting Prosocial: Examining Extraversion Facets, Peer Reactions, and Leadership Emergence', *Journal of Applied Psychology*, 104(11), pp. 1369–1386. Available at: <https://doi.org/10.1037/apl0000413>.

- Huprich, S.K. (2011) 'Reclaiming the value of assessing unconscious and subjective psychological experience', *Journal of Personality Assessment*, 93(2). Available at: <https://doi.org/10.1080/00223891.2010.542531>.
- Hurtz, G.M. and Donovan, J.J. (2000) 'Personality and job performance: The big five revisited', *Journal of Applied Psychology*. Available at: <https://doi.org/10.1037/0021-9010.85.6.869>.
- Hy, L.X. and Loevinger, J. (1996) *Measuring Ego Development*. 2nd edn, *Measuring ego development*. 2nd edn. Lawrence Erlbaum Associates, Inc, .
- Ioannidis, J.P.A. (2016) 'The Mass Production of Redundant, Misleading, and Conflicted Systematic Reviews and Meta-analyses', *Milbank Quarterly*. Available at: <https://doi.org/10.1111/1468-0009.12210>.
- Isler, L. *et al.* (2017) 'Validation of the four-profile configuration of personality types within the Five-Factor Model', *Personality and Individual Differences*, 106. Available at: <https://doi.org/10.1016/j.paid.2016.10.058>.
- Itzkovich, Y., Heilbrunn, S. and Aleksic, A. (2020) 'Full range indeed? The forgotten dark side of leadership', *Journal of Management Development*, 39(7–8). Available at: <https://doi.org/10.1108/JMD-09-2019-0401>.
- Jelinek, J. and Morf, M.E. (1995) 'Accounting for variance shared by measures of personality and stress-related variables: a canonical correlation analysis.', *Psychological reports*, 76(3 Pt 1). Available at: <https://doi.org/10.2466/pr0.1995.76.3.959>.
- Johnson, D.A. and Ferguson, R. (2023) 'On Terms within Organizational Behavior Management', *Journal of Organizational Behavior Management*, 43(2), pp. 162–188. Available at: <https://doi.org/10.1080/01608061.2022.2099504>.
- Judge, T.A. *et al.* (1999) 'Managerial coping with organizational change: A dispositional perspective.', *Journal of Applied Psychology*, 84(1). Available at: <https://doi.org/10.1037//0021-9010.84.1.107>.
- Judge, T.A. *et al.* (2002) 'Personality and leadership: A qualitative and quantitative review', *Journal of Applied Psychology*, 87(4), pp. 765–780. Available at: <https://doi.org/10.1037//0021-9010.87.4.765>.
- Judge, T.A. *et al.* (2013) 'Hierarchical representations of the five-factor model of personality in predicting job performance: Integrating three organizing frameworks with two theoretical perspectives', *Journal of Applied Psychology*, 98(6), pp. 875–925. Available at: <https://doi.org/10.1037/a0033901>.
- Judge, T.A. and LePine, J.A. (2007) 'The bright and dark sides of personality: Implications for personnel selection in individual and team contexts', in *Research Companion to the Dysfunctional Workplace: Management Challenges and Symptoms*. Available at: <https://doi.org/10.4337/9781847207081.00028>.

Judge, T.A., LePine, J.A. and Rich, B.L. (2006) 'Loving yourself abundantly: Relationship of the narcissistic personality to self- and other perceptions of workplace deviance, leadership, and task and contextual performance', *Journal of Applied Psychology*, 91(4). Available at: <https://doi.org/10.1037/0021-9010.91.4.762>.

Judge, T.A. and Piccolo, R.F. (2004) 'Transformational and transactional leadership: A meta-analytic test of their relative validity', *Journal of Applied Psychology*, 89(5), pp. 755–768. Available at: <https://doi.org/10.1037/0021-9010.89.5.755>.

Judge, T.A., Piccolo, R.F. and Kosalka, T. (2009) 'The bright and dark sides of leader traits: A review and theoretical extension of the leader trait paradigm', *Leadership Quarterly*, 20(6), pp. 855–875. Available at: <https://doi.org/10.1016/j.leaqua.2009.09.004>.

Kacperczyk, A., Beckman, C.M. and Moliterno, T.P. (2015) 'Disentangling Risk and Change: Internal and External Social Comparison in the Mutual Fund Industry', *Administrative Science Quarterly*, 60(2). Available at: <https://doi.org/10.1177/0001839214566297>.

Kagan, J. (1998) *Three seductive ideas*. Harvard University Press.

Kahneman, D. (2011) *Thinking, Fast and Slow*. New York: Farrar, Straus and Giroux.

Kaiser, R.B., Hogan, R. and Craig, S.B. (2008) 'Leadership and the Fate of Organizations', *American Psychologist*, 63(2). Available at: <https://doi.org/10.1037/0003-066X.63.2.96>.

Kale, S.H. and Shrivastava, S. (2003) 'The enneagram system for enhancing workplace spirituality', *Journal of Management Development*, 22(4), pp. 308–328. Available at: <https://doi.org/10.1108/02621710310467596>.

Kam, C. (2022) 'Enhancing Enneagram Therapy with Contemporary Research on the Conscious and Unconscious Mind', *Integrative Psychological and Behavioral Science* [Preprint]. Available at: <https://doi.org/10.1007/s12124-022-09685-5>.

Kamineni, R. (2005) 'The Next Stage of Psychographic Segmentation : Usage of Enneagram', *Journal Of American Academy Of Business*, 6(1), pp. 315–320.

Kane, M. (1992) 'An argument-based approach to validity', *Psychological Bulletin*, 112(3). Available at: <https://doi.org/10.1037/0033-2909.112.3.527>.

Kane, M. (2013) 'The argument-based approach to validation', *School Psychology Review*, 42(4). Available at: <https://doi.org/10.1080/02796015.2013.12087465>.

Karr, G.T. (2020) 'A multiple case study of the dark side of leadership: The downfall of executives in organizations.', *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 81(5-A).

Kegan, R. (1980) 'Making Meaning: The Constructive-Developmental Approach to Persons and Practice', *The Personnel and Guidance Journal* [Preprint]. Available at: <https://doi.org/10.1002/j.2164-4918.1980.tb00416.x>.

- Kegan, R. (1999) 'The Evolving Self', *sage social science collections*, 33(10), pp. 928–940. Available at: <https://doi.org/0803973233>.
- Kelly George, A. (1955) 'The psychology of personal constructs', *New York: Norton. Implication et méthodes d'identification de critères de choix d'un produit*, 59, pp. 485–490.
- Kelso, J.A.S. (2016) 'On the Self-Organizing Origins of Agency', *Trends in Cognitive Sciences*, 20(7), pp. 490–499. Available at: <https://doi.org/10.1016/j.tics.2016.04.004>.
- Kenrick, D.T. and Funder, D.C. (1988) 'Profiting From Controversy: Lessons From the Person-Situation Debate', *American Psychologist*, 43(1). Available at: <https://doi.org/10.1037/0003-066X.43.1.23>.
- Kerber, A., Roth, M. and Herzberg, P.Y. (2021) 'Personality types revisited—a literature-informed and data-driven approach to an integration of prototypical and dimensional constructs of personality description', *PLoS ONE*, 16(1 January). Available at: <https://doi.org/10.1371/journal.pone.0244849>.
- Kernberg, O.F. (2016) 'What is personality?', *Journal of Personality Disorders*, 30(2), pp. 145–156.
- Kilduff, G., Elfenbein, H. and Staw, B. (2010) 'The psychology of rivalry: A relationally dependent analysis of competition', *Academy of Management Journal*, 53(5). Available at: <https://doi.org/10.5465/amj.2010.54533171>.
- Kilduff, G.J. (2014) 'Driven to Win: Rivalry, Motivation, and Performance', *Social Psychological and Personality Science*, 5(8). Available at: <https://doi.org/10.1177/1948550614539770>.
- Kim, S., Jeong, I.-J. and Kim, B. (2019) 'Effects of the enneagram group counseling program on interpersonal relationship, self-esteem and stress coping strategy in nursing students', *Journal of the Korea Convergence Society*, 10(10), pp. 347–355.
- Kinnunen, M.L. *et al.* (2012) 'Personality profiles and health: Longitudinal evidence among Finnish adults', *Scandinavian Journal of Psychology*, 53(6). Available at: <https://doi.org/10.1111/j.1467-9450.2012.00969.x>.
- Kirkcaldy, B.D., Shephard, R.J. and Furnham, A.F. (2002) 'The influence of type A behaviour and locus of control upon job satisfaction and occupational health', *Personality and Individual Differences*, 33(8). Available at: [https://doi.org/10.1016/S0191-8869\(02\)00018-1](https://doi.org/10.1016/S0191-8869(02)00018-1).
- Kirkman, B.L. and Harris, T.B. (2017) *3D Team Leadership: A New Approach for Complex Teams*, *3D Team Leadership*.
- Klimstra, T.A. *et al.* (2010) 'A developmental typology of adolescent personality', *European Journal of Personality*, 24(4). Available at: <https://doi.org/10.1002/per.744>.

- Knight, N.M. *et al.* (2018) 'The HEXACO model of personality and Dark Triad in relational aggression', *Personality and Individual Differences*, 122(October 2017), pp. 109–114. Available at: <https://doi.org/10.1016/j.paid.2017.10.016>.
- Komasi, S. *et al.* (2016) 'Enneagram of Personality as an Effective Model in the Prediction of the Risk of Cardiovascular Diseases: A Case- Control study', *Journal of Cardio-Thoracic Medicine*, 4, pp. 468–473.
- Komasi, S. *et al.* (2019) 'Is enneagram personality system able to predict perceived risk of heart disease and readiness to lifestyle modification?', *Annals of Cardiac Anaesthesia*, 22(4), pp. 394–399. Available at: <https://doi.org/10.4103/aca.ACA-115-18>.
- Kono, Y., Uji, M. and Matsushima, E. (2015) 'Presenteeism among Japanese IT Employees: Personality, Temperament and Character, Job Strain and Workplace Support, and Mental Disturbance', *Psychology*, 06(15). Available at: <https://doi.org/10.4236/psych.2015.615195>.
- Kose, S. *et al.* (2019) 'Normative data and factorial structure of the Turkish version of the temperament and character inventory-revised (Turkish TCI-R)', *Psychiatry and Clinical Psychopharmacology*, 29(2). Available at: <https://doi.org/10.1080/24750573.2019.1610144>.
- Kouzes, J.M. and Posner, B.Z. (2014) *Credibility: How leaders gain and lose it why people demand it, Credibility: How Leaders Gain and Lose It, Why People Demand It*. Available at: <https://doi.org/10.1002/9781118983867>.
- Krishnaveni, R. and Deepa, R. (2013) 'Controlling Common Method Variance while Measuring the Impact of Emotional Intelligence on Well-being', *Vikalpa*, 38, pp. 41–47. Available at: <http://www.eiindia.org>.
- Kuhn, T.S. (1976) 'The Structure of Scientific Revolutions (Chicago, 1962)', *KuhnThe Structure of Scientific Revolutions1962*, 31(7), p. 554. Available at: <https://doi.org/10.1119/1.1969660>.
- Kuhn, T.S. (1997) *The structure of scientific revolutions*. University of Chicago press Chicago.
- Kuhnert, K.W. and Lewis, P. (1987) 'Transactional and Transformational Leadership : A Constructive / Developmental Analysis', *Academy of Management Review*, 12(4), pp. 648–657.
- Kuipers, B.S. and Higgs, M.J. (2009) 'The Influence of Myers-Briggs Type Indicator Profiles on Team Development Processes', pp. 436–464.
- Kuit, W. (2018) *Development and Evaluation of the Coach-athlete Relationship Enhancement Intervention*. Nelson Mandela University.

Lanaj, K. *et al.* (2013) 'The double-edged sword of decentralized planning in multiteam systems', *Academy of Management Journal*, 56(3). Available at: <https://doi.org/10.5465/amj.2011.0350>.

Lance, C.E. *et al.* (2010) 'Method effects, measurement error, and substantive conclusions', *Organizational Research Methods*, 13(3). Available at: <https://doi.org/10.1177/1094428109352528>.

Lance, C.E., Baxter, D. and Mahan, R.P. (2014) 'Evaluation of alternative perspectives on source effects in multisource performance measures', in *Performance Measurement: Current Perspectives and Future Challenges*. Available at: <https://doi.org/10.4324/9781315820996>.

Langan-Fox, J. and Cooper, C.L. (2013) *Boundary-spanning in organizations: Network, influence, and conflict*, *Boundary-Spanning in Organizations: Network, Influence, and Conflict*. Available at: <https://doi.org/10.4324/9780203488058>.

Lanz, L., Thielmann, I. and Gerpott, F.H. (2022) 'Are social desirability scales desirable? A meta-analytic test of the validity of social desirability scales in the context of prosocial behavior', *Journal of Personality*, 90(2). Available at: <https://doi.org/10.1111/jopy.12662>.

Lapid-Bogda, G. (2004) *Bringing out the best in yourself at work: how to use the enneagram system for success*. McGraw-Hill.

Larson, R.B. (2019) 'Controlling social desirability bias', *International Journal of Market Research*, 61(5). Available at: <https://doi.org/10.1177/1470785318805305>.

Lau, B. *et al.* (2006) 'Personality types, coping, and stress in the Norwegian police service', *Personality and Individual Differences*, 41(5). Available at: <https://doi.org/10.1016/j.paid.2006.04.006>.

Lawson, K.M. and Robins, R.W. (2021) 'Sibling Constructs: What Are They, Why Do They Matter, and How Should You Handle Them?', *Personality and Social Psychology Review*, 25(4). Available at: <https://doi.org/10.1177/10888683211047101>.

Leanne E. Atwater, Shelley D. Dionne, Bruce Avolio, John F. Camobreco, A.W.L. (1999) 'A Longitudinal Study of the Leadership Development Process: Individual Differences Predicting Leader Effectiveness'. The Tavistock Institute.

Lee, E.A. (2021) 'Determinism', *ACM Transactions on Embedded Computing Systems*, 20(5). Available at: <https://doi.org/10.1145/3453652>.

Lee, G. and Kim, S. (2016) 'The Effects of an Enneagram Program on Codependency, Anger, and Interpersonal Relationship in Wives of Alcoholics', *Journal of Korean Academy of Psychiatric and Mental Health Nursing*, 25(3). Available at: <https://doi.org/10.12934/jkpmhn.2016.25.3.166>.

Lee, J.S., Yoon, J.A. and Do, K.J. (2013) 'Effectiveness of enneagram group counseling for self-identification and depression in nursing college students', *Journal of Korean Academy of Nursing*, 43(5), pp. 649–657. Available at: <https://doi.org/10.4040/jkan.2013.43.5.649>.

Lepoutre, T. *et al.* (2020) 'The Psychoanalytical Boundaries of the Ego: Freud, Klein, Winnicott, Lacan', *Evolution Psychiatrique*, 85(4). Available at: <https://doi.org/10.1016/j.evopsy.2020.08.003>.

Lilienfeld, S.O., Lynn, S.J. and Lohr, J.M. (2015) 'Science and Pseudoscience in clinical Psychology Initial Thoughts, Reflections, and Considerations', in *Science and Pseudoscience in clinical Psychology*, pp. 1–16. Available at: www.guilford.com/p/lilienfeld.

Lim, W.M. (2012) 'Organisational Strategic Human Resource Management – The Case of Lehman Brothers', *Journal of Management Research*, 4(2). Available at: <https://doi.org/10.5296/jmr.v4i2.1368>.

Linarez-Placencia, G. and Espinoza-Castelo, L.M. (2019) 'Neurociencia y eneagrama: Reconfigurando los equipos de trabajo', *Revista de Pedagogía Crítica* [Preprint]. Available at: <https://doi.org/10.35429/jcp.2019.8.3.6.16>.

Locke, E.A. *et al.* (1984) 'Effect of self-efficacy, goals, and task strategies on task performance', *Journal of Applied Psychology*, 69(2). Available at: <https://doi.org/10.1037/0021-9010.69.2.241>.

Loevinger, J. (1966) 'The meaning and measurement of ego development.', *American Psychologist* [Preprint]. Available at: <https://doi.org/10.1037/h0023376>.

Loevinger, J. (1985) 'Revision of the Sentence Completion Test for ego development.', *Journal of Personality and Social Psychology*, 48(2). Available at: <https://doi.org/10.1037//0022-3514.48.2.420>.

Lord, R.G. *et al.* (2017) 'Leadership in Applied Psychology: Three Waves of Theory and Research', *Journal of Applied Psychology*, 102(3), pp. 434–451. Available at: <https://doi.org/10.1037/apl0000089.supp>.

Lord, R.G., Foti, R.J. and de Vader, C.L. (1984) 'A test of leadership categorization theory: Internal structure, information processing, and leadership perceptions', *Organizational Behavior and Human Performance* [Preprint]. Available at: [https://doi.org/10.1016/0030-5073\(84\)90043-6](https://doi.org/10.1016/0030-5073(84)90043-6).

Lowe, K.B. and Gardner, W.L. (2000) 'Ten years of The leadership quarterly: Contributions and challenges for the future', *Leadership Quarterly*, 11(4). Available at: [https://doi.org/10.1016/s1048-9843\(00\)00059-x](https://doi.org/10.1016/s1048-9843(00)00059-x).

Lowe, K.B., Kroeck, K.G. and Sivasubramaniam, N. (1996) 'Effectiveness correlates of transformational and transactional leadership: A meta-analytic review of the mlq

literature', *Leadership Quarterly*, 7(3). Available at: [https://doi.org/10.1016/S1048-9843\(96\)90027-2](https://doi.org/10.1016/S1048-9843(96)90027-2).

Luciano, M.M., DeChurch, L.A. and Mathieu, J.E. (2018) 'Multiteam Systems: A Structural Framework and Meso-Theory of System Functioning', *Journal of Management*, 44(3). Available at: <https://doi.org/10.1177/0149206315601184>.

Machiavelli (1469-1527), N. (1981) *The Prince*. Edited by E. Reprinted with revisions 1984. Harmondsworth. New York, N.Y.: Penguin Books. Available at: <https://search.library.wisc.edu/catalog/999715970702121>.

Magnus, K. *et al.* (1993) 'Extraversion and Neuroticism as Predictors of Objective Life Events: A Longitudinal Analysis', *Journal of Personality and Social Psychology*, 65(5). Available at: <https://doi.org/10.1037/0022-3514.65.5.1046>.

Malhotra, N.K., Kim, S.S. and Patil, A. (2006) 'Common method variance in IS research: A comparison of alternative approaches and a reanalysis of past research', *Management Science*, 52(12). Available at: <https://doi.org/10.1287/mnsc.1060.0597>.

Mandara, J. (2003) 'The typological approach in child and family psychology: A review of theory, methods, and research', *Clinical Child and Family Psychology Review* [Preprint]. Available at: <https://doi.org/10.1023/A:1023734627624>.

Mann, F.D. *et al.* (2021) 'Stability and well-being: Associations among the Big Five domains, metatraits, and three kinds of well-being in a large sample', *Journal of Personality*, 89(4), pp. 720–737. Available at: <https://doi.org/10.1111/jopy.12611>.

Mariotti, A., Robinson, S. and Esen, E. (2017) *2017 Talent Acquisition Benchmarking Report*.

Marks, M.A. *et al.* (2005) 'Teamwork in multiteam systems', *Journal of Applied Psychology*, 90(5). Available at: <https://doi.org/10.1037/0021-9010.90.5.964>.

Martínez, J. (2023) *Eneagrama y efecto Forer: cómo intentan colártela a través de afirmaciones generales sobre tu personalidad*. Available at: <https://maldita.es/malditaciencia/20240109/eneagrama-efecto-forer-nueve-tipos-personalidad-pseudociencia/> (Accessed: 31 January 2024).

Maslow, A.H. (1954) 'Motivation and Personality', in *Addison Wesley Longman, Inc.* 3rd edn.

Mathieu, C. (2013) 'Personality and job satisfaction: The role of narcissism', *Personality and Individual Differences*, 55(6). Available at: <https://doi.org/10.1016/j.paid.2013.05.012>.

Matise, M. (2019) 'The Enneagram: An Enhancement to Family Therapy', *Contemporary Family Therapy*, 41(1), pp. 68–78. Available at: <https://doi.org/10.1007/s10591-018-9471-0>.

Matsumoto, D. (2008) 'Cross-cultural Research', in *Handbook of Research Methods in Experimental Psychology*. Available at: <https://doi.org/10.1002/9780470756973.ch9>.

Mayer, D. *et al.* (2007) 'The precursors and products of justice climates: Group leader antecedents and employee attitudinal consequences', *Personnel Psychology*, 60(4). Available at: <https://doi.org/10.1111/j.1744-6570.2007.00096.x>.

Mayer, D.M., Bardes, M. and Piccolo, R.F. (2008) 'Do servant-leaders help satisfy follower needs? An organizational justice perspective', *European Journal of Work and Organizational Psychology*, 17(2). Available at: <https://doi.org/10.1080/13594320701743558>.

Mayer, J.D. (2015) 'The personality systems framework: Current theory and development', *Journal of Research in Personality*, 56, pp. 4–14. Available at: <https://doi.org/10.1016/j.jrp.2015.01.001>.

McAdams, D.P. (1992) 'The Five-Factor Model In Personality: A Critical Appraisal', *Journal of Personality* [Preprint]. Available at: <https://doi.org/10.1111/j.1467-6494.1992.tb00976.x>.

McAdams, D.P. and McLean, K.C. (2013) 'Narrative Identity', *Current Directions in Psychological Science*, 22(3). Available at: <https://doi.org/10.1177/0963721413475622>.

McAdams, D.P. and Walden, K. (2010) 'Jack block, the big five, and personality from the standpoints of actor, agent, and author', *Psychological Inquiry*, 21(1), pp. 50–56. Available at: <https://doi.org/10.1080/10478401003648740>.

McAdams and Pals, J.L. (2006) 'A New Big Five: Fundamental Principles for an Integrative Science of Personality', *American Psychologist*, 61(3), pp. 204–217. Available at: <https://doi.org/10.1037/0003-066X.61.3.204>.

Mccann, J. (2016) *Is mental illness socially constructed*, *Journal of Applied Psychology and Social Science*.

McCauley, C.D. *et al.* (2006) 'The use of constructive-developmental theory to advance the understanding of leadership', *Leadership Quarterly*, 17(6), pp. 634–653. Available at: <https://doi.org/10.1016/j.leaqua.2006.10.006>.

Mccauley, M.H. and Martin, C.R. (1995) 'Career Assessment and the Myers-Briggs Type Indicator', *Journal of Career Assessment*, 3(2). Available at: <https://doi.org/10.1177/106907279500300208>.

McClelland, D.C. *et al.* (1998) 'Identifying competencies with behavioral-event interviews', *Psychological Science*, 9(5). Available at: <https://doi.org/10.1111/1467-9280.00065>.

McCormack, L. and Mellor, D. (2002) 'The Role of Personality in Leadership: An Application of the Five-Factor Model in the Australian Military', *Military Psychology*, 14(3). Available at: https://doi.org/10.1207/S15327876MP1403_1.

- McCrae, R.R. and Costa, P.T. (1989) 'Reinterpreting the Myers-Briggs Type Indicator From the Perspective of the Five-Factor Model of Personality', *Journal of Personality*, 57(1). Available at: <https://doi.org/10.1111/j.1467-6494.1989.tb00759.x>.
- McCrae, R.R. and Costa, P.T. (2008) 'Empirical and theoretical status of the five-factor model of personality traits', in *The SAGE Handbook of Personality Theory and Assessment: Volume 1 - Personality Theories and Models*. SAGE Publications Inc., pp. 273–294. Available at: <https://doi.org/10.4135/9781849200462.n13>.
- McCrae, R.R. and Costa, P.T. (2021) 'Understanding persons: From Stern's personalistics to Five-Factor Theory', *Personality and Individual Differences*, 169. Available at: <https://doi.org/10.1016/j.paid.2020.109816>.
- McDonald, M.P. (2005) 'Encyclopedia of Social Measurement 3'. Elsevier.
- McKee, R.A. *et al.* (2018b) 'Effects of Personality and Gender on Self-Other Agreement In Ratings of Leadership', *Journal of Occupational and Organizational Psychology*, (February 2018), pp. 1–59.
- McKee, R.A. *et al.* (2018b) 'Supplement to Effects of personality and gender on self-other agreement in ratings of leadership', pp. 1–7.
- McKinsey & Company (2023) *Organizational Health Index*.
- Medina-Craven, M.N. *et al.* (2022) 'Personality research in the 21st century: new developments and directions for the field', *Journal of Management History* [Preprint]. Emerald Group Holdings Ltd. Available at: <https://doi.org/10.1108/JMH-06-2022-0021>.
- Meehl, P.E. (1992) 'Factors and taxa, traits and types, difference of degree and difference in kind', *Journal of Personality*, 60(March 1992), pp. 117–174.
- Meeus, W. *et al.* (2011) 'Personality Types in Adolescence: Change and Stability and Links With Adjustment and Relationships: A Five-Wave Longitudinal Study', *Developmental Psychology*, 47(4). Available at: <https://doi.org/10.1037/a0023816>.
- Meeusen, V.C.H. *et al.* (2010) 'Personality dimensions and their relationship with job satisfaction amongst dutch nurse anaesthetists', *Journal of Nursing Management*, 18(5). Available at: <https://doi.org/10.1111/j.1365-2834.2010.01066.x>.
- Menon, T. (2015) 'Roy Bhaskar: Obituary', *Social Scientist*, 43(1), pp. 83–86.
- Mertler, C. (2002) *Demonstrating the Potential for Web-based Survey Methodology with A Case Study*, Source.
- Methot, J.R., Rosado-Solomon, E.H. and Allen, D. (2018) 'The network architecture of human capital: A relational identity perspective', *Academy of Management Review*. Available at: <https://doi.org/10.5465/amr.2016.0338>.

- Meuser, J.D. *et al.* (2016) 'A Network Analysis of Leadership Theory: The Infancy of Integration', *Journal of Management*, 42(5), pp. 1374–1403. Available at: <https://doi.org/10.1177/0149206316647099>.
- Michael, J. (2003) 'Using the Myers-Briggs Type Indicator as a Tool for Leadership Development? Apply With Caution', *Journal of Leadership & Organizational Studies*, 10(1), pp. 68–81. Available at: <https://doi.org/10.1177/107179190301000106>.
- Middleton, F. (2020) 'Types of reliability and how to measure them', *Scribbr* [Preprint].
- Millon, T. and Bloom, C. (2008) *The Millon inventories: A practitioner's guide to personalized clinical assessment (2nd ed.)*, *The Millon inventories: A practitioner's guide to personalized clinical assessment (2nd ed.)*.
- Mingers, J. (2006) 'A critique of statistical modelling in management science from a critical realist perspective: Its role within multimethodology', *Journal of the Operational Research Society*, 57(2), pp. 202–219. Available at: <https://doi.org/10.1057/palgrave.jors.2601980>.
- Mischel, W. (1977) 'The interaction of person and situation', in *Personality at the crossroads: Current issues in interactional psychology*.
- Mischel, W. (2009a) 'From Personality and Assessment (1968) to Personality Science, 2009', *Journal of Research in Personality*, 43(2), pp. 282–290. Available at: <https://doi.org/10.1016/j.jrp.2008.12.037>.
- Mischel, W. and Shoda, Y. (1998) 'Reconciling processing dynamics and personality dispositions', in *Annual Review of Psychology*, pp. 59–89. Available at: <https://doi.org/10.1146/annurev.psych.49.1.229>.
- Mojsa-Kaja, J., Golonka, K. and Marek, T. (2015) 'Job burnout and engagement among teachers - Worklife Areas and personality traits as predictors of relationships with work', *International Journal of Occupational Medicine and Environmental Health*, 28(1). Available at: <https://doi.org/10.13075/ijom.1896.00238>.
- Montag, C. and Panksepp, J. (2017) 'Primary emotional systems and personality: An evolutionary perspective', *Frontiers in Psychology*, 8(MAR). Available at: <https://doi.org/10.3389/fpsyg.2017.00464>.
- Moreno-Abril, O. *et al.* (2007) 'Factors associated with psychiatric morbidity in Spanish schoolteachers', *Occupational Medicine*, 57(3). Available at: <https://doi.org/10.1093/occmed/kqm013>.
- Morgeson, F.P. (2005) 'The external leadership of self-managing teams: Intervening in the context of novel and disruptive events', *Journal of Applied Psychology*, 90(3). Available at: <https://doi.org/10.1037/0021-9010.90.3.497>.
- Morrone-Strupinsky, J. v. and Depue, R.A. (2004) 'Differential relation of two distinct, film-induced positive emotional states to affiliative and agentic extraversion',

Personality and Individual Differences, 36(5). Available at:
[https://doi.org/10.1016/S0191-8869\(03\)00204-6](https://doi.org/10.1016/S0191-8869(03)00204-6).

Mount, M.K., Barrick, M.R. and Stewart, G.L. (1998) 'Five-factor model of personality and performance in jobs involving interpersonal interactions', *Human Performance*, 11(2–3). Available at: https://doi.org/10.1207/s15327043hup1102&3_3.

Muenjohn, N. and Armstrong, A. (2008) 'Evaluating the Structural Validity of the Multifactor Leadership Questionnaire (MLQ), Capturing the Leadership Factors of Transformational-Transactional Leadership', 4(1), pp. 3–14.

Müller, S. and Moshagen, M. (2019) 'Controlling for Response Bias in Self-Ratings of Personality: A Comparison of Impression Management Scales and the Overclaiming Technique', *Journal of Personality Assessment*, 101(3), pp. 229–236. Available at: <https://doi.org/10.1080/00223891.2018.1451870>.

Mumford, M.D. *et al.* (2008) 'Charismatic, ideological, and pragmatic leadership: Multi-level influences on emergence and performance', *Leadership Quarterly*, 19(2). Available at: <https://doi.org/10.1016/j.leaqua.2008.01.002>.

Myers, I.B. (1962) *The Myers-Briggs Type Indicator: Manual (1962).*, *The Myers-Briggs Type Indicator: Manual (1962)*. Palo Alto, CA, US: Consulting Psychologists Press. Available at: <https://doi.org/10.1037/14404-000>.

Myers, S. (2016) 'Myers-Briggs typology and Jungian individuation', *Journal of Analytical Psychology*, 61(3). Available at: <https://doi.org/10.1111/1468-5922.12233>.

Naranjo, C. (1994) *Character and Neurosis, an Integrative View*. Nevada City, CA: Gateways. Available at: <http://blog.healthenergycoaching.com/wp-content/uploads/2016/07/Caracter-y-neurosis.pdf>.

Newgent, R. *et al.* (2001) *An investigation of the Riso-Hudson Enneagram Type indicator constructs of personality as a unique estimate of personality when considering the Revised NEO Personality Inventory and the five-factor model of personality, Manuscript submitted for publication.*

Newgent, R.A. (2001) *An investigation of the reliability and validity of the Riso Hudson Enneagram Type Indicator.*

Newgent, R.A. *et al.* (2004a) 'The Riso-Hudson Enneagram Type Indicator: Estimates of reliability and validity', *Measurement and Evaluation in Counseling and Development*, 36, pp. 226–237. Available at: <https://doi.org/10.1080/07481756.2004.11909744>.

Newgent, R.A., Parr, P.E. and Newman, I. (2002) *The Enneagram: Trends in Validation.*

Neyer, F.J. and Asendorpf, J.B. (2001) 'Personality-relationship transaction in young adulthood.', *Journal of Personality and Social Psychology*, 81(6). Available at: <https://doi.org/10.1037//0022-3514.81.6.1190>.

Nicholson, I.A.M. (1998) 'Gordon Allport, Character, and the "Culture of Personality," 1897-1937', *History of Psychology*, 1(1). Available at: <https://doi.org/10.1037/1093-4510.1.1.52>.

Nickerson, J.A. and Zenger, T.R. (2008) 'Envy, comparison costs, and the economic theory of the firm', *Strategic Management Journal*, 29(13). Available at: <https://doi.org/10.1002/smj.718>.

Nicoll, M. (1996) *Psychological Commentaries on the Teaching of Gurdjieff and Ouspensky*, *Journal of Chemical Information and Modeling*.

Northouse, P. (2012) *Leadership: Theory and Practice (5th edition)*, *Journal of Educational Administration*.

Northouse, Peter.G. (1997) *Leadership theory and practice*. Organization Studies-Berlin-European Group for Organizational Studies.

O'Connor, P.J. and Jackson, C.J. (2010) 'Applying a Psychobiological Model of Personality to the Study of Leadership', *Journal of Individual Differences*, 31(4). Available at: <https://doi.org/10.1027/1614-0001/a000027>.

Oh, I.S. and Berry, C.M. (2009) 'The Five-Factor Model of Personality and Managerial Performance: Validity Gains Through the Use of 360 Degree Performance Ratings', *Journal of Applied Psychology*, 94(6), pp. 1498–1513. Available at: <https://doi.org/10.1037/a0017221>.

O'Neil, D.P. (2007) 'Predicting leader effectiveness: Personality traits and character strengths.', *Dissertation Abstracts International: Section B: The Sciences and Engineering*.

Ones, D.S., Viswesvaran, C. and Reiss, A.D. (1996) 'Role of social desirability in personality testing for personnel selection: The red herring', *Journal of Applied Psychology*, 81(6). Available at: <https://doi.org/10.1037/0021-9010.81.6.660>.

Oppenheim, A.N. (1992) 'Designing Attitude Statements & Attitude Scaling', *Questionnaire Design, Interviewing and Attitude Measurement* [Preprint].

Orlak, K. and Tylka, J. (2017) 'Temperament risk factor for mental health disturbances in the judiciary staff', *Medycyna Pracy* [Preprint]. Available at: <https://doi.org/10.13075/mp.5893.00522>.

Ormond, C.H. (2007) *The effects of emotional intelligence and team effectiveness of a newly formed corporate team learning the Enneagram*. Institute of Transpersonal Psychology.

Orne, M.T. (1973) 'Communication by the Total Experimental Situation: Why it is Important, How it is Evaluated, and its Significance for the Ecological Validity of Findings', in *Communication and Affect*. Available at: <https://doi.org/10.1016/b978-0-12-558250-6.50014-6>.

- Oshry, B. and Prewitt, V. (2001) 'Seeing systems: Unlocking the mysteries of organizational life', *Performance Improvement* [Preprint]. Available at: <https://doi.org/10.1002/pfi.4140400211>.
- Ozer, D.J. and Reise, S.P. (1994) 'Personality assessment', *Annual Review of Psychology*, 45(1), pp. 357–388. Available at: <https://doi.org/10.1146/annurev.ps.45.020194.002041>.
- Pallant, J. (2016) *SPSS survival manual: a step by step guide to data analysis using IBM SPSS (6th ed.)*, Allen & Unwin, 83 Alexander Street - Crows Nest NSW 2065 - Australia. Available at: <https://doi.org/10.1046/j.1365-2648.2001.2027c.x>.
- Palmer, H. (1995) *The enneagram in love & work: understanding your intimate & business relationships*. Edited by Harper Collins. San Francisco.
- Paris, J. (2017) 'Is Psychoanalysis Still Relevant to Psychiatry?', *Canadian Journal of Psychiatry*, 62(5), pp. 308–312. Available at: <https://doi.org/10.1177/0706743717692306>.
- Parker, G. *et al.* (2003) 'An Australian validation study of the temperament and character inventory', *Acta Psychiatrica Scandinavica*, 108(5). Available at: <https://doi.org/10.1034/j.1600-0447.2003.00149.x>.
- Parr, A.D., Hunter, S.T. and Ligon, G.S. (2013) 'Questioning universal applicability of transformational leadership: Examining employees with autism spectrum disorder', *Leadership Quarterly*, 24(4), pp. 608–622. Available at: <https://doi.org/10.1016/j.leaqua.2013.04.003>.
- Parr, Alissa D., Lanza, S.T. and Bernthal, P. (2016) 'Personality Profiles of Effective Leadership Performance in Assessment Centers', *Human Performance*, 29(2), pp. 143–157. Available at: <https://doi.org/10.1080/08959285.2016.1157596>.
- Parr, Alissa Denzin, Lanza, S.T. and Bernthal, P. (2016) 'Personality profiles of effective leadership performance in assessment centers', *Human Performance*, 29(2). Available at: <https://doi.org/10.1080/08959285.2016.1157596>.
- Paulhus, D.L. and Williams, K.M. (2002) 'The Dark Triad of personality: Narcissism, Machiavellianism, and psychopathy', *Journal of Research in Personality* [Preprint]. Available at: [https://doi.org/10.1016/S0092-6566\(02\)00505-6](https://doi.org/10.1016/S0092-6566(02)00505-6).
- Pedregon, C.A. *et al.* (2012) 'Social desirability, personality questionnaires, and the “better than average” effect', *Personality and Individual Differences*, 52(2). Available at: <https://doi.org/10.1016/j.paid.2011.10.022>.
- Penke, L., Denissen, J.J.A. and Miller, G.F. (2007) 'The Evolutionary Genetics of Personality', *European Journal of Personality*, 21(January), pp. 549–587. Available at: <https://doi.org/10.1002/per>.

Perryman, K., Popejoy, E. and Suarez, A. (2018) 'Using the Enneagram to Facilitate the Supervision Relationship: A Qualitative Study', *The Journal of Counseling Research and Practice (JCRP)*, 3(1), pp. 16–30.

Person, E.S. (2005) 'As the wheel turns: A centennial reflection on Freud's three essays on the theory of sexuality', *Journal of the American Psychoanalytic Association*, 53(4). Available at: <https://doi.org/10.1177/00030651050530041201>.

Pertsinidis, S. (2018) *Theophrastus' Characters*, *Theophrastus' Characters*. Available at: <https://doi.org/10.4324/9781315276922>.

Pervin, L.A. and Cervone, D. (2010) 'Assessing personality theory and research', in *Personality. Theory and research*.

Pešić, D. et al. (2023) 'Analysis of the Relationship between Higher-Order Factor Structure of Personality Disorders and the Five-Factor Model of Personality', *Brain Sciences*, 13(4). Available at: <https://doi.org/10.3390/brainsci13040605>.

Peters, L.H., Hartke, D.D. and Pohlmann, J.T. (1985) 'Fiedler's Contingency Theory of Leadership: An application of the meta-analysis procedures of Schmidt and Hunter.', *Psychological Bulletin*, 97(2). Available at: <https://doi.org/10.1037//0033-2909.97.2.274>.

Phillips, J.S. and Lord, R.G. (1986) 'Notes on the Practical and Theoretical Consequences of Implicit Leadership Theories for the Future of Leadership Measurement', *Journal of Management* [Preprint]. Available at: <https://doi.org/10.1177/014920638601200104>.

Piaget, J. (1955) *The Child's Construction of Reality*, *Routledge and Kegan Paul*. Available at: <https://doi.org/10.1037/11168-000>.

Pierce, J.R. and Aguinis, H. (2013) 'The Too-Much-of-a-Good-Thing Effect in Management', *Journal of Management*, 39(2). Available at: <https://doi.org/10.1177/0149206311410060>.

le Pine, J.A., Colquitt, J.A. and Erez, A. (2000) 'Adaptability to changing task contexts: Effects of general cognitive ability, conscientiousness, and openness to experience', *Personnel Psychology*, 53(3). Available at: <https://doi.org/10.1111/j.1744-6570.2000.tb00214.x>.

Pittenger, D.J. (2004) 'The limitations of extracting typologies from trait measures of personality', *Personality and Individual Differences*, 37(4), pp. 779–787. Available at: <https://doi.org/10.1016/j.paid.2003.10.006>.

Pittenger, D.J. (2005) 'Cautionary comments regarding the Myers-Briggs type indicator', *Consulting Psychology Journal*. Available at: <https://doi.org/10.1037/1065-9293.57.3.210>.

- Pittinsky, T.L. and Simon, S. (2007) 'Intergroup leadership', *Leadership Quarterly*, 18(6), pp. 586–605. Available at: <https://doi.org/10.1016/j.leaqua.2007.09.005>.
- Podsakoff, P.M. *et al.* (2003a) 'Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies', *Journal of Applied Psychology*. Available at: <https://doi.org/10.1037/0021-9010.88.5.879>.
- Podsakoff, P.M. *et al.* (2003b) 'Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies', *Journal of Applied Psychology*, pp. 879–903. Available at: <https://doi.org/10.1037/0021-9010.88.5.879>.
- Podsakoff, P.M. and Organ, D.W. (1986) 'Self-Reports in Organizational Research: Problems and Prospects', *Journal of Management*, 12(4). Available at: <https://doi.org/10.1177/014920638601200408>.
- Polley, R.B. and McGrath, J.E. (1984) 'Groups: Interaction and Performance.', *Administrative Science Quarterly*, 29(3). Available at: <https://doi.org/10.2307/2393041>.
- Popper, K.R. (1963) 'Science as falsification', *Conjectures and refutations*, 1(1963), pp. 33–39.
- Pratiwi, L.A. and Nawangsari, L.C. (2021) 'Organizational Citizenship Behavior while mediating Self-Efficacy, Servant Leadership and Organization Culture on Employee Performance', *European Journal of Business and Management Research*, 6(1). Available at: <https://doi.org/10.24018/ejbmr.2021.6.1.713>.
- Pronin, E. (2008) 'How we see ourselves and how we see others', *Science*. Available at: <https://doi.org/10.1126/science.1154199>.
- Pronin, E., Lin, D.Y. and Ross, L. (2002) 'The bias blind spot: Perceptions of bias in self versus others', *Personality and Social Psychology Bulletin*. Available at: <https://doi.org/10.1177/0146167202286008>.
- Punch, K.F. (2009) *Introduction to Research Methods in Education, Ta - Tt -*. Thousand Oaks, CA: Sage.
- Quirin, M. *et al.* (2020) 'The Dynamics of Personality Approach (DPA): 20 Tenets for Uncovering the Causal Mechanisms of Personality', *European Journal of Personality*, 34(6). Available at: <https://doi.org/10.1002/per.2295>.
- De Raad, B. *et al.* (2022) 'Integrated Reporting in Multidimensional Personality Questionnaires', *European Journal of Psychological Assessment* [Preprint]. Available at: <https://doi.org/10.1027/1015-5759/a000701>.
- Raj, K. (2000) '18th-Century pacific voyages of discovery, "big science", and the shaping of an European scientific and technological culture', *History and Technology*, 17(2). Available at: <https://doi.org/10.1080/07341510008581986>.

Rasta, M., Hosseinian, S. and Ahghar, G. (2012) 'A Survey on the Effectiveness of Nine-type Personality Training (Enneagram) on the Mental Health (Anxiety and Self-esteem) of School Girls', *J. Basic. Appl. Sci. Res*, 2(11), pp. 11845–11849. Available at: www.textroad.com.

Ratner, J. (2019) 'Rollo May and the Search for Being: Implications of May's Thought for Contemporary Existential-Humanistic Psychotherapy', *Journal of Humanistic Psychology*, 59(2). Available at: <https://doi.org/10.1177/0022167815613880>.

Reichard, R.J. *et al.* (2011a) 'A longitudinal analysis of relationships between adolescent personality and intelligence with adult leader emergence and transformational leadership', *Leadership Quarterly*, 22(3). Available at: <https://doi.org/10.1016/j.leaqua.2011.04.005>.

Reichard, R.J. *et al.* (2011b) 'A longitudinal analysis of relationships between adolescent personality and intelligence with adult leader emergence and transformational leadership', *Leadership Quarterly*, 22(3), pp. 471–481. Available at: <https://doi.org/10.1016/j.leaqua.2011.04.005>.

Reichard, R.J. *et al.* (2017) 'Believing Is Becoming: The Role of Leader Developmental Efficacy in Leader Self-Development', *Journal of Leadership and Organizational Studies*, 24(2), pp. 137–156. Available at: <https://doi.org/10.1177/1548051816657981>.

Richard, B.W., Holton, E.F. and Katsioloudes, V. (2014) 'The use of discrete computer simulation modeling to estimate return on leadership development investment', *Leadership Quarterly*, 25(5). Available at: <https://doi.org/10.1016/j.leaqua.2014.03.002>.

Riso, D.R. and Hudson, R. (1996) *Personality Types Using The Enneagram For Self-Discovery*, Houghton Mifflin Company. Boston: Houghton Mifflin.

Riso, D.R. and Hudson, R. (1999) *The Wisdom of the Enneagram*. New York: Bantam Books.

Riso, D.R. and Hudson, R. (2000a) *The Riso-Hudson Enneagram Type Indicator (RHETI, Version 2.5)*. New York.

Riso, D.R. and Hudson, R. (2000b) *Understanding the enneagram: The practical guide to personality types*. Houghton Mifflin Harcourt.

Roberts, B.W. and Yoon, H.J. (2021) 'Personality Psychology', *Annu. Rev. Psychol.* 2022, 73, pp. 489–516. Available at: <https://doi.org/10.1146/annurev-psych-020821>.

Robins, R.W. *et al.* (1996) 'Resilient, Overcontrolled, and Undercontrolled Boys: Three Replicable Personality Types', *Journal of Personality and Social Psychology*, 70(1), pp. 157–171. Available at: <https://doi.org/10.1037/0022-3514.70.1.157>.

Robson, C. and McCartan, K. (2016) *Real World Research*. 4th edn. London: Wiley.

- Robson, C.; McCartan and Kieran (2016) 'Real World Research', *Real World Research*, 4, pp. 58–63. Available at: <https://doi.org/10.1016/j.jclinepi.2010.08.001>.
- Rodríguez-Ardura, I. and Meseguer-Artola, A. (2020) 'Editorial: How to prevent, detect and control common method variance in electronic commerce research', *Journal of Theoretical and Applied Electronic Commerce Research*. Universidad de Talca, pp. I–V. Available at: <https://doi.org/10.4067/S0718-18762020000200101>.
- Rooke, D. and Torbert, W.R. (2005) 'Transformations of leadership', *Harvard Business Review* [Preprint].
- Rosenman, R.H. and Friedman, M. (1977) 'Modifying type a behavior pattern', *Journal of Psychosomatic Research*, 21(4). Available at: [https://doi.org/10.1016/0022-3999\(77\)90015-0](https://doi.org/10.1016/0022-3999(77)90015-0).
- Roth, M. and Altmann, T. (2019) 'A multi-informant study of the influence of targets' and perceivers' social desirability on self-other agreement in ratings of the HEXACO personality dimensions', *Journal of Research in Personality*, 78, pp. 138–147. Available at: <https://doi.org/10.1016/j.jrp.2018.11.008>.
- Roth, M. and von Collani, G. (2007) 'A Head-to-Head Comparison of Big-Five Types and Traits in the Prediction of Social Attitudes', *Journal of Individual Differences*, 28(3). Available at: <https://doi.org/10.1027/1614-0001.28.3.138>.
- Rothstein, B. (2007) 'How to get at Causality in the Social Sciences: Multiple Regressions Versus Case Studies', in *Comparative Social Research*. Available at: [https://doi.org/10.1016/S0195-6310\(06\)24011-0](https://doi.org/10.1016/S0195-6310(06)24011-0).
- Røvik, J.O. *et al.* (2007) 'Exploring the interplay between personality dimensions: A comparison of the typological and the dimensional approach in stress research', *Personality and Individual Differences*, 42(7), pp. 1255–1266. Available at: <https://doi.org/10.1016/j.paid.2006.10.004>.
- Rowold, J. (2014) 'Instrumental leadership: Extending the transformational-transactional leadership paradigm', *Zeitschrift für Personalforschung*, 28(3). Available at: <https://doi.org/10.1688/ZfP-2014-03-Rowold>.
- Rowold, J., Diebig, M. and Heinitz, K. (2017) 'The effects of transformational and instrumental leadership on followers' levels of cortisol', *German Journal of Human Resource Management: Zeitschrift für Personalforschung*, 31(3). Available at: <https://doi.org/10.1177/2397002216689240>.
- Ryan, A.M. *et al.* (2021) 'In the eye of the beholder: Considering culture in assessing the social desirability of personality.', *Journal of Applied Psychology*, 106(3). Available at: <https://doi.org/10.1037/apl0000514>.
- Ryff, C.D. (1995) 'Psychological Well-Being in Adult Life', *Current Directions in Psychological Science*, 4(4). Available at: <https://doi.org/10.1111/1467-8721.ep10772395>.

Sagiv, L. and Schwartz, S.H. (1995) 'Value priorities and readiness for out-group social contact.', *Journal of Personality and Social Psychology*, 69(3). Available at: <https://doi.org/10.1037//0022-3514.69.3.437>.

Sala, F. and Dwight, S.A. (2002) 'Predicting Executive Performance With Multirater Surveys: Whom You Ask Makes a Difference', *Consulting Psychology Journal*, 54(3). Available at: <https://doi.org/10.1037/1061-4087.54.3.166>.

Salgado, J.F. (2002) 'The Big Five personality dimensions and counterproductive behaviors', *International Journal of Selection and Assessment*, 10(1–2). Available at: <https://doi.org/10.1111/1468-2389.00198>.

Samuel, D. and Widiger, T.A. (2007) 'Describing Ted Bundy's personality and working towards DSM-V', *Independent Practitioner*, 27(27).

Samuel, D.B. and Widiger, T.A. (2008) 'A meta-analytic review of the relationships between the five-factor model and DSM-IV-TR personality disorders: A facet level analysis', *Clinical Psychology Review*. Available at: <https://doi.org/10.1016/j.cpr.2008.07.002>.

Sartori, R. (2010) 'Face validity in personality tests: Psychometric instruments and projective techniques in comparison', *Quality and Quantity*, 44(4). Available at: <https://doi.org/10.1007/s11135-009-9224-0>.

Saucier, G. (1994) 'Mini-Markers: A Brief Version of Goldberg's Unipolar Big-Five Markers', *Journal of Personality Assessment*, 63(3). Available at: https://doi.org/10.1207/s15327752jpa6303_8.

Saunders, M., Lewis, P. and Thornhill, A. (2019a) *Research Methods for Business Students*. 8th edn, *Research Methods For Business Students*. 8th edn.

Saunders, M., Lewis, P. and Thornhill, A. (2019b) *Research Methods for Business Students by Mark Saunders, Philip Lewis and Adrian Thornhill 8th edition.*, *Research Methods For Business Students*.

Sava, F.A. and Popa, R.I. (2011) 'Personality Types Based on the Big Five Model: A Cluster Analysis over the Romanian Population', *Cognition, Brain & Behavior*, 15(3).

Saville, P. *et al.* (1996) 'A Demonstration of the Validity of the Occupational Personality Questionnaire (OPQ) in the Measurement of Job Competencies Across Time and in Separate Organisations', *Applied Psychology*, 45(3). Available at: <https://doi.org/10.1080/026999496378639>.

Saville, P. and Willson, E. (1991) 'The reliability and validity of normative and ipsative approaches in the measurement of personality', *Journal of Occupational Psychology*, 64(3). Available at: <https://doi.org/10.1111/j.2044-8325.1991.tb00556.x>.

Schein, E.H. (1996) 'Career anchors revisited: Implications for career development in the 21st century.', *Academy of Management Perspectives*, 10(4), pp. 80–88. Available at: <https://doi.org/10.5465/AME.1996.3145321>.

Schilpzand, M.C., Herold, D.M. and Shalley, C.E. (2011) 'Members' openness to experience and teams' creative performance', *Small Group Research*, 42(1). Available at: <https://doi.org/10.1177/1046496410377509>.

Schotter, A.P.J. et al. (2017) 'Boundary Spanning in Global Organizations', *Journal of Management Studies*, 54(4). Available at: <https://doi.org/10.1111/joms.12256>.

Schwartz, S.H. (2021) 'A Repository of Schwartz Value Scales with Instructions and an Introduction', *Online Readings in Psychology and Culture*, 2(2). Available at: <https://doi.org/10.9707/2307-0919.1173>.

Schwartzman, K.C. and Collier, R.B. (2001) 'Paths toward Democracy: The Working Class and Elites in Western Europe and South America', *Contemporary Sociology*, 30(1). Available at: <https://doi.org/10.2307/2654360>.

Schyns, B. and Schilling, J. (2013) 'How bad are the effects of bad leaders? A meta-analysis of destructive leadership and its outcomes', *Leadership Quarterly*, 24(1), pp. 138–158. Available at: <https://doi.org/10.1016/j.leaqua.2012.09.001>.

Scott, S.A. (2011a) *An analysis of the validity of the Enneagram*. The College of William and Mary.

Sekaran, U. and Bougie, R. (2016) 'Research Method for Business Textbook (A Skill Building Appra)', *United States: John Wiley & Sons Inc.* [Preprint].

Seligman, M.E. et al. (1979) 'Depressive attributional style', *Journal of Abnormal Psychology*, 88(3). Available at: <https://doi.org/10.1037/0021-843X.88.3.242>.

Seligman, M.E. and Csikszentmihalyi, M. (2000) 'Positive psychology. An introduction.', *The American psychologist* [Preprint]. Available at: <https://doi.org/10.1037/0003-066X.55.1.5>.

Seppälä, T. et al. (2012) 'Change-oriented organizational citizenship behaviour: An interactive product of openness to change values, work unit identification, and sense of power', *Journal of Occupational and Organizational Psychology*, 85(1). Available at: <https://doi.org/10.1111/j.2044-8325.2010.02010.x>.

Sharp, P.M. (1994) 'A Factor Analytic Study of Three Enneagram Personality Inventories and the Vocational Preference Inventory', p. 215.

Sikora, M. and Munita, M.J. (2020) *Instinctual Leadership: Working with the 27 Subtypes of the Awareness to Action Enneagram*. Independently Published.

Sikora, M. and Tallon, R. (2006) *Awareness to Action: The Enneagram, Emotional Intelligence, and Change*. University of Scranton Press.

Sirgy, M.J. and Lee, D.J. (2018) 'Work-Life Balance: an Integrative Review', *Applied Research in Quality of Life*. Available at: <https://doi.org/10.1007/s11482-017-9509-8>.

Skodol, A.E. *et al.* (2005) 'Dimensional representations of DSM-IV personality disorders: Relationships to functional impairment', *American Journal of Psychiatry*, 162(10). Available at: <https://doi.org/10.1176/appi.ajp.162.10.1919>.

Smith, G.T. (2005) 'On construct validity: Issues of method and measurement', *Psychological Assessment*, pp. 396–408. Available at: <https://doi.org/10.1037/1040-3590.17.4.396>.

Snow, R.E., Federico, P.A. and Montague, W.E. (2021) *Aptitude, Learning, and Instruction: Volume 1: Cognitive Process Analyses of Aptitude, Aptitude, Learning, and Instruction: Volume 1: Cognitive Process Analyses of Aptitude*. Available at: <https://doi.org/10.4324/9781003162865>.

Sohn, H.K. and Lee, T.J. (2012) 'Relationship between HEXACO personality factors and emotional labour of service providers in the tourism industry', *Tourism Management*, 33(1), pp. 116–125. Available at: <https://doi.org/10.1016/j.tourman.2011.02.010>.

Sokolowski, K. *et al.* (2000) 'Assessing achievement, affiliation, and power motives all at once: The multi-motive grid (MMG)', *Journal of Personality Assessment*, 74(1), pp. 126–145. Available at: <https://doi.org/10.1207/S15327752JPA740109>.

Somer, O., Korkmaz, M. and Tatar, A. (2002) 'Beş Faktör Kişilik Envanteri'nin Geliştirilmesi-I: Ölçek ve Alt Ölçeklerin Oluşturulması', *Türk Psikoloji Dergisi*, 17(50).

Somville, F. *et al.* (2022) 'Burnout, stress and Type D personality amongst hospital/emergency physicians', *International Archives of Occupational and Environmental Health*, 95(2), pp. 389–398. Available at: <https://doi.org/10.1007/s00420-021-01766-z>.

Soniewicki, M. *et al.* (2022) 'Critical Components Affecting Organizational Performance', *Journal of Computer Information Systems*, 62(5). Available at: <https://doi.org/10.1080/08874417.2021.1954564>.

Sosik, J.J. and Megerian, L.E. (1999) 'Understanding Leader Emotional Intelligence and Performance: The Role of Self-Other Agreement on Transformational Leadership Perceptions', *Group and Organization Management*, 24(3), pp. 367–390. Available at: <https://doi.org/10.1177/1059601199243006>.

Sosnowska, J. *et al.* (2020) 'New Directions in the Conceptualization and Assessment of Personality—A Dynamic Systems Approach', *European Journal of Personality*, 34(6). Available at: <https://doi.org/10.1002/per.2233>.

Sperry, L. (2016) *Handbook of Diagnosis and Treatment of DSM-5 Personality Disorders, Handbook of Diagnosis and Treatment of DSM-5 Personality Disorders*. Available at: <https://doi.org/10.4324/9780203763728>.

Stebbins, R.A. (2001) *Exploratory Research in the Social Sciences (Qualitative Research Methods), Exploratory Research in the Social Sciences*. Sage Publication, Ltd.

Steca, P. et al. (2007) 'Being a successful adolescent at school and with peers. The discriminative power of a typological approach', *Emotional and Behavioural Difficulties*, 12(2). Available at: <https://doi.org/10.1080/13632750701315698>.

Steel, P., Schmidt, J. and Shultz, J. (2008) 'Refining the Relationship Between Personality and Subjective Well-Being', *Psychological Bulletin*, 134(1). Available at: <https://doi.org/10.1037/0033-2909.134.1.138>.

Stein, R. and Swan, A.B. (2019) 'Evaluating the validity of Myers-Briggs Type Indicator theory: A teaching tool and window into intuitive psychology', *Social and Personality Psychology Compass*, 13(2). Available at: <https://doi.org/10.1111/spc3.12434>.

Stevens, G., Burley, J. and Divine, R. (1999) 'Creativity + Business Discipline = Higher Profits Faster from New Product Development', *Journal of Product Innovation Management*, 16(5). Available at: <https://doi.org/10.1111/1540-5885.1650455>.

Stevens, K.L. (2011) *Comparisons of Enneagram Types and Five-Factor Model Traits of Graduate Psychology Students*. The Chicago School of Professional Psychology.

Stewart, W.H. and Roth, P.L. (2007) 'A meta-analysis of achievement motivation differences between entrepreneurs and managers', *Journal of Small Business Management*, 45(4). Available at: <https://doi.org/10.1111/j.1540-627X.2007.00220.x>.

Strang, S.E. and Kuhnert, K.W. (2009) 'Personality and Leadership Developmental Levels as predictors of leader performance', *Leadership Quarterly*, 20(3), pp. 421–433. Available at: <https://doi.org/10.1016/j.leaqua.2009.03.009>.

Suharyanto, A. and Lestari, R.D. (2020) 'The Fall and Rise of The Contingency Theory of Leadership', in *Iapa Proceedings Conference*. Iapa Proceedings Conference. Available at: <https://journal.iapa.or.id/proceedings/article/view/423> (Accessed: 9 August 2023).

Sutton, A. (2007) *Implicit and explicit personality in work settings : an application of Enneagram theory*. The University of Leeds.

Sutton, A. (2012) "'But Is It Real?'" a Review of Research on the Enneagram', *Enneagram Journal*, 5(1), pp. 5–19. Available at: <http://libweb.ben.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=85641962&site=ehost-live>.

Sutton, A., Allinson, C. and Williams, H. (2013) 'Personality type and work-related outcomes: An exploratory application of the Enneagram model', *European Management Journal*, 31(3), pp. 234–249. Available at: <https://doi.org/10.1016/j.emj.2012.12.004>.

Sutton, A., Williams, H.M. and Allinson, C.W. (2015) 'A longitudinal, mixed method evaluation of self-awareness training in the workplace', *European Journal of Training*

and Development, 39(7), pp. 610–627. Available at: <https://doi.org/10.1108/EJTD-04-2015-0031>.

Suzuki, T. *et al.* (2015) 'Alternative Personality Disorder Model Traits as Maladaptive Extreme Variants of the Five-Factor Model: An Item-Response Theory Analysis', *Journal of Abnormal Psychology* [Preprint]. Available at: <https://doi.org/10.1037/abn0000035.supp>.

Tabachnick, B.G. and Fidell, L.S. (2013) *Using Multivariate Statistics*. 6th edn.

Tannenbaum, R. and Schmidt, W. (1986) 'Excerpts from How to choose a leadership pattern', *Harvard Business Review*, 64(4).

Teddlie, C. and Tashakkori, A. (2009) *Foundations of Mixed Methods Research: Integrating Quantitative and Qualitative Approaches in the Social and Behavioral Sciences, Book*. Available at: <http://books.google.com/books?hl=en&lr=&id=XvMAYYvS1rEC&pgis=1>.

Tett, R.P. and Burnett, D.D. (2003) 'A personality trait-based interactionist model of job performance', *Journal of Applied Psychology*, 88(3), pp. 500–517. Available at: <https://doi.org/10.1037/0021-9010.88.3.500>.

Tett, R.P. and Guterman, H.A. (2000) 'Situation Trait Relevance, Trait Expression, and Cross-Situational Consistency: Testing a Principle of Trait Activation', *Journal of Research in Personality*, 34(4). Available at: <https://doi.org/10.1006/jrpe.2000.2292>.

Tett, R.P., Toich, M.J. and Ozkum, S.B. (2021) *Behavior Trait Activation Theory: A Review of the Literature and Applications to Five Lines of Personality Dynamics Research, Annual Review of Organizational Psychology and Organizational Behavior*. Available at: <https://doi.org/10.1146/annurev-orgpsych-012420>.

The Corporate Executive Board Company (2013) 'Stretch, Support and Sustain: The Three S's of High-Potential Employee Development'.

The Enneagram in Business (2022) *The Enneagram in organizations Global Survey*. Available at: <https://enneagram.wpenginepowered.com/wp-content/uploads/2023/01/2022-The-Enneagram-in-Organizations-Survey-Report.pdf> (Accessed: 25 March 2023).

Thomas, A., Buboltz, W.C. and Winkelspecht, C.S. (2004) 'Job Characteristics and Personality as Predictors of Job Satisfaction', *Organizational Analysis*. Available at: <https://doi.org/10.1108/eb028993>.

Thomas, T.M. (2002a) *A Neurotransmitter Theory of Personality Based on the Nine-Point Personality System*. Union Institute and University Graduate College.

Thrasher, Penelope. (1994) *The Enneagram: Movement between types, an inventory, and a criterion measure*. . Chicago: Loyola University.

Tischler, L. (1994) 'The MBTI factor structure', *Journal of Psychological Type*, 31.

- Tomaszewski, R. and MacDonald, K.I. (2016) 'A Study of Citations to Wikipedia in Scholarly Publications', *Science and Technology Libraries*, 35(3). Available at: <https://doi.org/10.1080/0194262X.2016.1206052>.
- Torche, F. (2014) 'Intergenerational mobility and inequality: The Latin American case', *Annual Review of Sociology*. Available at: <https://doi.org/10.1146/annurev-soc-071811-145521>.
- Trochim, W.M.K. (2006) *Research Methods Knowledge Base - Types of Reliability*, socialresearchmethods.net.
- Trull, T.J., Widiger, T.A. and Burr, R. (2001) 'A structured interview for the assessment of the five-factor model of personality: Facet-level relations to the axis II personality disorders', *Journal of Personality*, 69(2). Available at: <https://doi.org/10.1111/1467-6494.00141>.
- Tuncdogan, A., Acar, O.A. and Stam, D. (2017) 'Individual differences as antecedents of leader behavior: Towards an understanding of multi-level outcomes', *Leadership Quarterly*, 28(1), pp. 40–64. Available at: <https://doi.org/10.1016/j.leaqua.2016.10.011>.
- Tversky, A. and Kahneman, D. (1974) 'Judgment under Uncertainty - Heuristics and Biases Tversky Kahneman 1974', *Science*, 185(4157).
- Uher, J. (2018) 'Taxonomic models of individual differences: A guide to transdisciplinary approaches', *Philosophical Transactions of the Royal Society B: Biological Sciences*, 373(1744). Available at: <https://doi.org/10.1098/rstb.2017.0171>.
- University of York Department of Health Sciences (1973) 'Measuring health and disease. The validity of measurement methods.', *The Lancet*, 301(7815).
- Vagg, P.R. and Spielberger, C.D. (1998) 'Occupational stress: measuring job pressure and organizational support in the workplace.', *Journal of occupational health psychology*, 3(4). Available at: <https://doi.org/10.1037/1076-8998.3.4.294>.
- Vahip, S. *et al.* (2005) 'Affective temperaments in clinically-well subjects in Turkey: Initial psychometric data on the TEMPS-A', *Journal of Affective Disorders*, 85(1–2). Available at: <https://doi.org/10.1016/j.jad.2003.10.011>.
- Vaida, S. and Opre, A. (2014) 'Emotional intelligence versus emotional competence', *Journal of Psychological and Educational Research*, 22(1).
- Vansteelandt, K. and Van Mechelen, I. (1998) 'Individual Differences in Situation-Behavior Profiles: A Triple Typology Model', *Journal of Personality and Social Psychology*, 75(3), pp. 751–765. Available at: <https://doi.org/10.1037/0022-3514.75.3.751>.

Vasilaki, A. (2011) 'The relationship between transformational leadership and postacquisition performance', *International Studies of Management and Organization*, 41(3). Available at: <https://doi.org/10.2753/IMO0020-8825410303>.

Vazire, S. (2006) 'Informant reports: A cheap, fast, and easy method for personality assessment', *Journal of Research in Personality*, 40(5). Available at: <https://doi.org/10.1016/j.jrp.2005.03.003>.

Vazire, S. (2010) 'Who Knows What About a Person? The Self-Other Knowledge Asymmetry (SOKA) Model', *Journal of Personality and Social Psychology*, 98(2), pp. 281–300. Available at: <https://doi.org/10.1037/a0017908>.

Vollrath, M. and Torgersen, S. (2000) 'Personality types and coping', *Personality and Individual Differences*, 29, pp. 367–378. Available at: www.elsevier.com/locate/paid.

Vollrath, M., Torgersen, S. and Alnæs, R. (1995a) 'Personality as long-term predictor of coping', *Personality and Individual Differences*, 18(1). Available at: [https://doi.org/10.1016/0191-8869\(94\)00110-E](https://doi.org/10.1016/0191-8869(94)00110-E).

Vollrath, M., Torgersen, S. and Alnæs, R. (1995b) 'Personality as long-term predictor of coping', *Personality and Individual Differences*, 18, pp. 117–125.

Vollrath, M.E. and Torgersen, S. (2008) 'Personality types and risky health behaviors in Norwegian students: Health and disability', *Scandinavian Journal of Psychology*, 49(3), pp. 287–292. Available at: <https://doi.org/10.1111/j.1467-9450.2008.00631.x>.

de Vries, R.E. (2012) 'Personality predictors of leadership styles and the self-other agreement problem', *Leadership Quarterly*, 23(5), pp. 809–821. Available at: <https://doi.org/10.1016/j.leaqua.2012.03.002>.

Wadei, K.A., Wadei, B. and Asaah, J. (2021) 'Ethical Leadership, Self-Efficacy, and Creative Performance: A Moderated Mediation Examination', *Academy of Management Proceedings*, 2021(1). Available at: <https://doi.org/10.5465/ambpp.2021.11629abstract>.

Wagner, J. (2012) 'A Comparison of the Nine Enneagram Personality Styles and Theodore Millons' Eight Personality Patterns', *The Enneagram Journal*, 5(191), pp. 21–34.

Wagner, J.P. (1981) 'A descriptive, reliability, and validity study of the Enneagram Personality Typology.', p. 286.

Wagner, J.P. (1999) *WEPSS: Wagner Enneagram Personality Style Scales*. Western Psychological Services.

Wagner, J.P. (2008) *Enneagram styles and maladaptive schemas: A research inquiry*, *The Enneagram Journal*.

Wagner, J.P. (2010) *Nine Lenses on the World*. Enneagram Studies and Applications.

Wagner, J.P. and Walker (1983) 'Reliability and validity study of a Sufi personality typology: The enneagram', *Journal of Clinical Psychology*, 39(5), pp. 712–717. Available at: [https://doi.org/10.1002/1097-4679\(198309\)39:5<712::AID-JCLP2270390511>3.0.CO;2-3](https://doi.org/10.1002/1097-4679(198309)39:5<712::AID-JCLP2270390511>3.0.CO;2-3).

Wagner, J.P. and Walker, R.E. (1983) 'RELIABILITY AND VALIDITY STUDY OF A SUFI PERSONALITY TYPOLOGY : THE ENNEAGRAM', *Journal of clinical psychology*, 39(5), pp. 712–217.

Wang, G. *et al.* (2011) 'Transformational leadership and performance across criteria and levels: A meta-analytic review of 25 years of research', *Group and Organization Management*, 36(2), pp. 223–270. Available at: <https://doi.org/10.1177/1059601111401017>.

Wang, X. *et al.* (2017) 'Immune to situation: The self-serving bias in unambiguous contexts', *Frontiers in Psychology*, 8(MAY). Available at: <https://doi.org/10.3389/fpsyg.2017.00822>.

Warling, D.L. (1996) *An examination of the external validity of the Riso Hudson Enneagram Type Indicator (RHETI)*. University of Guelph.

Watson, D., Clark, L.A. and Tellegen, A. (1988) 'Development and Validation of Brief Measures of Positive and Negative Affect: The PANAS Scales', *Journal of Personality and Social Psychology*, 54(6). Available at: <https://doi.org/10.1037/0022-3514.54.6.1063>.

Watson, D. and Hubbard, B. (1996) 'Adaptational Style and Dispositional Structure: Coping in the Context of the Five-Factor Model', *Journal of Personality*, 64(4). Available at: <https://doi.org/10.1111/j.1467-6494.1996.tb00943.x>.

Westen, D. (1996) 'A model and a method for uncovering the nomothetic from the idiographic: An alternative to the five-factor model?', *Journal of Research in Personality* [Preprint]. Available at: <https://doi.org/10.1006/jrpe.1996.0028>.

Widiger, T.A. and Samuel, D.B. (2005) 'Diagnostic categories or dimensions? A question for the Diagnostic and Statistical Manual of Mental Disorders - Fifth Edition', *Journal of Abnormal Psychology*. Available at: <https://doi.org/10.1037/0021-843X.114.4.494>.

Wiggins, J.S. and Trapnell, P.D. (1997) 'Personality structure: The return of the big five', *Handbook of Personality Psychology* [Preprint].

Wijayati, D.T. *et al.* (2022) 'A study of artificial intelligence on employee performance and work engagement: the moderating role of change leadership', *International Journal of Manpower*, 43(2). Available at: <https://doi.org/10.1108/IJM-07-2021-0423>.

Wilkinson, P. and Downton, J. v. (1974) 'Rebel Leadership: Commitment and Charisma in the Revolutionary Process', *The British Journal of Sociology*, 25(3). Available at: <https://doi.org/10.2307/589409>.

- Winnicott, D.W. (2016) 'What About Father?', in *The Collected Works of D. W. Winnicott*. Available at:
<https://doi.org/10.1093/med:psych/9780190271343.003.0043>.
- Witt, L.A., Andrews, M.C. and Carlson, D.S. (2004) 'When conscientiousness isn't enough: Emotional exhaustion and performance among call center customer service representatives', *Journal of Management*, 30(1). Available at:
<https://doi.org/10.1016/j.jm.2003.01.007>.
- Wong, Y.H.P. and Lau, W.C.M. (2018) 'Perceived attributes of music teaching effectiveness among Kindergarten Teachers: Role of personality', *Australian Journal of Teacher Education*, 43(9). Available at: <https://doi.org/10.14221/ajte.2018v43n9.2>.
- Wyman, P. (1998) 'Integrating the MBTI and the Enneagram in Psychotherapy: The Core Self and the Defense System', *Journal of Psychological Type*, 46, pp. 28–40.
- Wynter-Palmer, J.E. (2012) 'Is the Use of Short-Term Incentives Good Organization Strategy?', *Compensation and Benefits Review*. Available at:
<https://doi.org/10.1177/0886368712471591>.
- Yang, J., McCrae, R.R. and Costa, P.T. (1998) 'Adult age differences in personality traits in the United States and the People's Republic of China', *Journals of Gerontology - Series B Psychological Sciences and Social Sciences*, 53(6). Available at:
<https://doi.org/10.1093/geronb/53B.6.P375>.
- Yilmaz, E.D. *et al.* (2014) 'Validity and reliability of nine types temperament scale', *Egitim ve Bilim*, 39(171).
- Yilmaz, E.D., Gencer, A.G., *et al.* (2016) 'Relation of the nine types of temperament model with personality disorders', *Dusunen Adam - The Journal of Psychiatry and Neurological Sciences*, 29(1), pp. 15–28. Available at:
<https://doi.org/10.5350/DAJPN2016290102>.
- Yilmaz, E.D., Unal, O., *et al.* (2016) 'The Relation between the Nine Types Temperament Model and the Five Factor Personality Model in a Turkish Sample Group', *British Journal of Medicine and Medical Research*, 11(4), pp. 1–11. Available at:
<https://journaljammr.com/index.php/JAMMR/article/view/2298/4610> (Accessed: 9 August 2023).
- Yukl, G., Gordon, A. and Taber, T. (2002) 'A Hierarchical Taxonomy of Leadership Behavior: Integrating a Half Century of Behavior Research', *Journal of Leadership & Organizational Behavior*, 9(1), pp. 15–32. Available at:
<https://doi.org/10.1177/107179190200900102>.
- Yukl, G. and Lepsinger, R. (2006) 'Leading change: Adapting and innovating in an uncertain world', *Leadership in Action*, 26(2), pp. 3–7. Available at:
<https://doi.org/10.1002/lia.1154>.

- Zaccaro, S.J. (2012) 'Individual differences and leadership: Contributions to a third tipping point', *Leadership Quarterly*, 23(4), pp. 718–728. Available at: <https://doi.org/10.1016/j.leaqua.2012.05.001>.
- Zaccaro, S.J. *et al.* (2018) 'Leader individual differences, situational parameters, and leadership outcomes: A comprehensive review and integration', *The Leadership Quarterly*, 29(October 2017), pp. 2–43. Available at: <https://doi.org/10.1016/j.leaqua.2017.10.003>.
- Zemke, R. (1992a) 'Second thoughts about the MBTI', *Training*, 29.
- Zemke, R. (1992b) 'Second thoughts about the MBTI', *Training*, 43(April).
- Zhang, J. *et al.* (2015) 'Personality profiles and frequent heavy drinking in young adulthood', *Personality and Individual Differences*, 80. Available at: <https://doi.org/10.1016/j.paid.2015.01.054>.
- Zhao, H. and Li, C. (2019) 'A computerized approach to understanding leadership research', *Leadership Quarterly*, 30(4), pp. 396–416. Available at: <https://doi.org/10.1016/j.leaqua.2019.06.001>.
- Zhu, J. *et al.* (2019) 'Visualizing the landscape and evolution of leadership research', *Leadership Quarterly*, 30(2), pp. 215–232. Available at: <https://doi.org/10.1016/j.leaqua.2018.06.003>.
- Zwir, I. *et al.* (2020) 'Uncovering the complex genetics of human temperament', *Molecular Psychiatry*, 25(10). Available at: <https://doi.org/10.1038/s41380-018-0264-5>.
- Zwir, I. *et al.* (2021) 'Three genetic–environmental networks for human personality', *Molecular Psychiatry*, 26(8). Available at: <https://doi.org/10.1038/s41380-019-0579-x>.