

A Cross-cultural Comparative Study of  
Dark Triad and Five-Factor Personality  
Models in Relation to Prejudice and  
Aggression

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A Cross-cultural Comparative Study of Dark Triad and  
Five-Factor Personality Models in Relation to Prejudice  
and Aggression

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## Declaration

I hereby declare that:

- a) This dissertation was my own composition,
- b) It contained no material previously submitted for the award of any other degree,
- c) The work reported in this dissertation was executed by me except where due acknowledgement was made in the text, and
- d) The included publications were my own work.

Signed,

Elena Hill-Artamonova

## List of abbreviations

SD3 Short Dark Triad 3

DTDD-T Dark Triad Dirty Dozen

BFI-2 Big Five Inventory scale 2

BFI Big Five Inventory

HEXACO Honesty - Humility, emotionality, extraversion, agreeableness, conscientiousness, and openness to experience model

MMU Manchester Metropolitan University

DT Dark Triad

B5 Big Five

AMOS Analysis of Moment Structures

SEM Structural Equation Modelling

CFA Confirmatory Factor Analysis

SDO Social Dominance Orientation

MDS Moral Disengagement scale

MCAR Missing Completely At Random

BPAQ Buss-Perry Aggression Questionnaire

GAM General Aggression Model

BDHI Buss-Durkee Hostility Inventory

BAQ Brief Aggression Questionnaire

DAIS Driver Aggression Indicators Scale

DBQ Driver Behaviour Questionnaire

ANOVA Analysis of Variance

ANCOVA Analysis of Covariance

DSM-IV-TR Diagnosis Statistical Manual edition five

MCMI-III Millon Clinical Multiaxial Inventory III

PCL-R Hare Psychopathy Checklist-Revised

## SRP Self-report Psychopathy scales

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## Abstract

When examining socially malevolent outcomes in the form of prejudice and aggression, previous research on the Dark Triad and five-factor personality models has failed to consider potential cross-cultural differences. A deeper understanding of cross-cultural variations is necessary because these factors represent important social problems and risks. Prior investigation has so far only established preliminary relationships between the Dark Triad and the Big Five model and these outlined associations influence prejudice and aggression. Accordingly, this thesis consisted of two phases. The first examined interrelationships between Dark Triad traits (psychopathy, narcissism, and Machiavellianism) and Big Five personality dimensions (extraversion, neuroticism, agreeableness, openness, conscientiousness) in UK and Russian samples. The second used the results from the initial phase to inform the baseline of a predictive model, which was extended. Both phases used cross-sectional designs, correlation-based methods of analysis (*e.g.*, confirmatory factor analysis, structural equation modelling with mediation, path analysis and invariance analysis), and large samples, comprising a range of backgrounds and ages. The analysis identified the strongest and weakest relationships between personality traits and prejudice and aggression. This research made an original contribution to existing literature by identifying novel relationships.

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### **Thesis statement**

This thesis, via cross-cultural comparison, examined the extent to which Dark Triad traits and the Big Five personality model explain prejudice and aggression. Selection of these behavioural outcomes derived from the observation that extant literature has identified prejudice and aggression, as significant negative and malevolent social outcomes. Although differing conceptualisations exist, the researcher operationalised prejudice and aggression before investigation. Prejudice represents a bias that devalues groups and individuals, because of their perceived membership of another social group (Ekehammar & Akrami, 2003). Aggression denotes actions that result in personal injury or purposeful destruction of property (Kytle & Bandura, 1978). Relatedly, aggression encompasses attack, explicitly the intention to harm another of the same or different species (Atkins & Stoff, 1993).

To gain a deeper understanding of these malicious behaviours, it is important to consider the role of personality, as it identifies preferences and values, and allows psychologists to predict how people will respond in certain situations (Berry, Breugelmans, Poortinga, Chasiotis, & Sam, 2011). Although prejudice and aggression have been studied extensively in psychology (*e.g.*, Baughman, Jonason, & Vernon, 2016; Costello & Hodson, 2012; Dinić & Wertag, 2018; Erzi, 2020; Furnham, Richards, & Paulhus, 2013; Hodson, Gordon, & Skorska, 2014; Hodson, Gordon, Hogg, & MacInnis, 2009; Jones & Neria, 2015), previous literature has considered the constructs independently, and ignored the role of culture and mediators such as, Social Dominance Orientation and moral disengagement. Additionally, to determine the generalisability of findings, the researcher compared outcomes from the United Kingdom and the Russian Federation. The importance of these countries is long rooted in history. The bilateral relationship between the United Kingdom and Russia has been of interest to psychology scholars since the end of the Cold War. This is due to the two cultures that have

fundamentally different perceptions of recent history, and current international order (Sakwa, 2018).

## General introduction

This chapter considers literature on the origins of prejudice and aggression. This includes the Big Five personality model and Dark Triad traits in a cross-cultural setting, the nature of the investigation, the research questions and associated hypotheses. Furthermore, this includes sections on the rationale, theoretical framework, scope, and significance of the study.

Following from an extensive literature review, chapters on methodology and subsequent studies are presented with its individual rationale, theoretical framework, scope, and significance. Methodology section takes a deep dive into theoretical underpinnings of research within personality and individual differences psychology with justifications for the chosen methods. Study one looks at in-depth relationships between individual personality traits of the Dark Triad and the Big Five. Study two and three takes a similar approach to study one, however it expands and looks at the relationships between personality traits, prejudice and aggression with the presence of mediators such as moral disengagement and Social Dominance Orientation. The last chapter of this thesis outlines the results, limitations, and the future of this work.

On the 40th anniversary of Enoch Powell's 'Rivers of Blood' speech, in which he predicted an increase in animosity and hostility among races living in the UK, the warning still rings true. Considering current political situations, for example, the United Kingdom exiting the European Union, Russia electing President Putin for another term, and Brazilian President Jair Bolsonaro's (populist) homophobic policies, we, as a society, have failed to protect minority groups against prejudice and aggression (Hudson-Sharp & Metcalf, 2016). Prejudice and aggression have been undoubtedly part of our society for generations. Ethically, morally, and socially malevolent behaviour is part of everyday life, and cases of ruthless and selfish behaviour can easily be found across history and cultures (Moshagen, Hilbig, & Zettler, 2018). However, even with increased understanding and tolerance, people still often encounter one form or another of prejudice and aggression.

Accordingly, this thesis explored cross-cultural relationships between Dark Triad traits and Big Five personality dimensions in relation to socially malevolent outcomes in the form of prejudice and aggression. This consideration may provide a deeper understanding of the role personality plays in prejudice and aggression. The key theoretical question is the extent to which personality factors further our understanding of prejudice and aggression across cultures, in particular the United Kingdom and Russia.

To address this theoretical question, a thorough cross-cultural assessment of relationships between personality traits and behaviours was conducted, thereby extending the findings of earlier studies (*e.g.*, Furnham et al., 2013; Hodson et al., 2009; Jones & Neria, 2015).

## **Chapter One: Literature Review**

### **1.1.1: The Dark Triad**

The Dark Triad comprises Machiavellianism, psychopathy, and narcissism (Paulhus & Williams, 2002). Despite diverse origins, these traits share numerous features. To some extent, they all entail socially malevolent aspects with behaviour tendencies toward manipulation, emotional coldness, duality, and aggressiveness (Paulhus & Williams, 2002). In the clinical psychological literature, researchers have noted links among the traits (Hart & Hare, 1996). The development of non-clinical measures has permitted the evaluations of the Dark Triad in normal populations. These provide empirical evidence for the overlap of Machiavellianism with psychopathy (Black, Woodworth, & Porter, 2014; McHoskey, Worzel, & Szyarto, 1998; Paulhus & Paulhus, 1992), narcissism with psychopathy (Gustafson & Ritzer, 1995), and Machiavellianism with narcissism (McHoskey et al., 1998). A fair few researchers contend that Machiavellianism and psychopathy are closely related and correspondingly advocate treating the two facets as one construct (Rogoza & Ciecuch, 2018). This view has found support in various research studies. These have excluded narcissism from models based on criterion validity,

explicitly, the observation that narcissism was weakly correlated with Machiavellianism and psychopathy (Rogoza & Ciecuch, 2018).

One explanation for the close links between Machiavellianism and psychopathy is that psychopathy is a broader construct that includes Machiavellianism, impulsivity, and risk-taking behaviours (Glenn & Sellbom, 2015). However, theorists contend that there are more than three dark traits, and that sadism should count as one of them (Buckels, Trapnell, & Paulhus, 2014; Meere & Egan, 2017; Visser, DeBow, Pozzebon, Bogaert, & Book, 2016; Visser & Schueler, 2016). Paulhus, Curtis, and Jones (2018) postulate that the shared element between the Dark Triad traits and sadism is callousness; therefore, sadism should not be included. It is vital to note that even though all three constructs correlate, theoretically they remain distinct. Other researchers, such as Marcus and Zeigler-Hill (2015), advocate the need to develop the view of dark personality and insisted on investigating three traits as one. For this thesis it was important to consider how the Dark Triad concept arose and why it gained popularity among researchers.

Machiavellianism is defined by theorists as a person who is pragmatic, tactical, and strategic, but can also be immoral, manipulative, and cynical (Geis, 1970; Jones & Paulhus, 2013; Moss, 2005; Paulhus, 2014). Machiavellians also tend to use manipulative strategies in social situations that do not necessarily lead to success, in comparison to psychopathy and narcissism (Wilson, Near, & Miller, 1996). Furthermore, there is no conclusive link between Machiavellianism and intelligence (Gómez-Leal et al., 2019). Manipulation is one of the core elements of a Machiavellianism and has been widely acknowledged in an array of literature concerning malevolent personality traits (Rauthmann, 2011; Rauthmann & Kolar, 2012; Rauthmann & Will, 2011). Machiavellians tend to deliberately engage in amoral and purposely exploitative behaviour, exercise manipulative control in a variety of situations, distrust others, and seek a high socio-economic achievement (Dahling, Whitaker, & Levy, 2009).



From a practical standpoint, Machiavellianism is heavily dependent on lies, deceit, cheating, and sabotage in the pursuit of personal objectives and goals (Dahling et al., 2009). The general structure of Machiavellianism includes the following facets: cynical worldview, manipulation, amorality, and lack of empathy (Geis, 1970; Jones & Paulhus, 2013). Machiavellianism has attracted growing academic interest, especially in recent years (Jones & Paulhus, 2013; Mirkovic & Bianchi, 2019; Mirkovic & Bianchi, 2020). Kowalski, Vernon, and Schermer (2016) stated that an example of such a character was Theodore Kaczynski (aka the Unabomber), a mathematical genius who bombed and used threats of future violence to coerce the American press to publish his manifesto, with the goal of starting a revolution. Owing to his strategic skills and long-term planning, he remained invisible to the FBI for nearly twenty years.

Narcissism and psychopathy both originated in clinical literature and practice (see Furnham & Crump, 2005), but with the recent development of estimates, both traits can be assessed as normal personality traits within Dark Triad structure (Furnham et al., 2013; Paulhus & Williams, 2002; Paulhus et al., 2018). Narcissism can be defined as a personality trait that is portrayed by dominant, manipulative, and self-centred features (Emmons, 1987; Sedikides, Campbell, Reeder, Elliot, & Gregg, 2002). Raskin and Hall (1979), similarly view narcissism as a trait involving proclivities towards dominance, grandiosity, and superiority. As stated by Kowalski et al. (2016), the most popular example of narcissism is Johnny Bravo, a self-absorbed cartoon character, who presented himself to women as perfect, and remained entitled and arrogant to his friends. Facets retained from clinical narcissism include grandiosity, entitlement, dominance, and superiority.

The successful move to non-clinical narcissism is supported by a variety of empirical work and literature (Morf & Rhodewalt, 2001). Narcissism was originally conceptualised as a unidimensional construct (Raskin & Hall, 1979), however more recently scholars contend that it is multidimensional. Two alternative models are a three-

dimensional model proposed by Ackerman, Nocera, and Bargh (2010a) and a two-dimensional model proposed by Back et al. (2013). Ackerman et al. (2010a) model proposes the existence of adaptive and maladaptive aspects. Back et al. (2013) explored two dimensions of narcissism: admiration and rivalry. Researchers proposed that the goal of maintaining a grandiose self is pursued by two pathways, with distinct cognitive, motivational, and behavioural processes (Back et al., 2013).

It is widely recognised that there are at least two forms of narcissism, grandiose narcissism, and vulnerable narcissism (*e.g.*, Besser & Priel, 2010; Dickinson & Pincus, 2003). Grandiose is defined by dominance, aggression, self-assurance, arrogant attitudes, inflated self-esteem, exploitativeness, entitlement, and a strong need for admiration from others (O'Reilly & Nicholas Hall, 2021). In contrast, vulnerable is delineated by fragile self-esteem, emotional instability, hostility, need for recognition, entitlement, egocentricity, preoccupation with grandiose fantasies, and oscillation between feelings of superiority and inferiority (Hendin & Cheek, 1997; Miller, Hyatt, Maples-Keller, Carter, & Lynam, 2017). Both forms of narcissism share the core traits, such as grandiose fantasies about the self, feelings of entitlement, and a willingness to exploit others/manipulate (Dickinson & Pincus, 2003; Pincus et al., 2009).

There is a consensus among investigators regarding the definition of psychopathy. This personality trait denotes high impulsivity, thrill seeking, along with low empathy and anxiety (Paulhus & Williams, 2002). Psychopathy overall tends to be positively linked with reduced levels of compassion towards others (Lee & Gibbons, 2017). Both psychopathy and narcissism predict an increase in risk-taking behaviour (Jones, 2013; Malesza & Ostaszewski, 2016). The adaptation of psychopathy to the non-clinical sphere is the most recent of the dark traits (Hare & Neumann, 2008). Hare and Neumann (2008) distinguished four primary dimensions of psychopathy: interpersonal, affective, antisocial, and lifestyle. Although this operationalisation was initially developed for clinical purposes, this model was successfully adapted into the assessment of psychopathy

in non-clinical settings (Glenn & Sellbom, 2015; Paulhus et al., 2018) and this was validated in different cultures via the use of Hare Psychopathy Checklist-Revised (PCL-R) (e.g., Atari & Chegeni, 2016).

Additional research indicates that psychopathy comprises two general types, primary and secondary (Anderson & Kiehl, 2014). Primary is identified as callous, manipulative, selfish, and untruthful, whereas secondary is antisocial behaviour under the influence of an emotional disorder, manifested by impulsivity (Levenson, Kiehl, & Fitzpatrick, 1995). These types share manipulation, selfishness, callousness. The gold standard measuring instrument is the Psychopathy Checklist Revised (PCL-R; Hart & Hare, 1996). Extensive research attests to the reliability and validity of the PCL-R (Hare & Neumann, 2008). Concomitantly, the two-factor model (Harpur, Hare, & Hakstian, 1989) has dominated the literature for a prolonged period.

Zwets, Hornsveld, Neumann, Muris, and van Marle (2015) based on factor analysis, item response theory and multidimensional scaling, proposed model with four correlated factors. This model comprises interpersonal, affective (lack of remorse or guilt), lifestyle (need for stimulation), and antisocial (early behaviour problems) (Hare & Neumann, 2008). Given that each factor is split into two separate factors, this structure is comparable with the traditional two-factor model. For example, Factor 1 is divided into an interpersonal and an affective, and factor two comprises lifestyle and antisocial behaviour. Based on an extensive review of the literature of psychopathy and the four-factor model, Hare and Neumann (2008) proposed that “the presence of early and persistent antisocial behaviour is an essential feature of the psychopathy construct” (p. 62). Importantly, authors (Hare & Neumann, 2008; Swogger, Walsh, & Kosson, 2007; Zwets et al., 2015) suggested that psychopathy and its specific features could also be viewed in terms of normal personality traits and responses.

The structure of psychopathy is closely related to Machiavellianism due to overlap (Glenn & Sellbom, 2015; Miller et al., 2017; Rogoza & Ciecuch, 2018; Vize & Lynam,

2021). Specifically, both share specific manipulation tactics (Glenn & Sellbom, 2015; Hare & Neumann, 2008; Levenson et al., 1995; Rauthmann & Will, 2011). One of the first proposed self-report psychopathy scales (the SRP) was assembled from items that differentiated clinical and non-clinical psychopaths in criminal contexts (Hare et al., 1990; Newman, Le, North-Samardzic, & Cohen, 2019). It was later validated in non-criminal samples (Hart & Hare, 1996). Recent work by Paulhus and Williams (2002) confirmed that the SRP has the same four-factor solution as the PCL-R (Hare, 1985). Moreover, SRP scores predict antisocial actions in both criminal and non-criminal populations (Williams, Paulhus, & Hare, 2007).

Although often perceived as socially malevolent, recent investigations have outlined positive outcomes (*e.g.*, Jonason, Li, Webster, & Schmitt, 2009; Jonason & Sherman, 2020; Onley, Veselka, Schermer, & Vernon, 2013; Papageorgiou, Wong, & Clough, 2017; Young & Pinsky, 2006). In addition, Paulhus and Williams (2002) examined the notion that the Dark Triad construct is a constellation of malignant traits. This included well-known self-report measures for each trait and a consideration of reported associations (Paulhus & Williams, 2002). Results revealed that Dark Triad traits were moderately intercorrelated. From the Big Five, only agreeableness correlated with all three traits. Psychopathy was distinguished by low neuroticism; Machiavellianism and psychopathy were low in conscientiousness, and narcissism showed small positive associations with cognitive ability (OCQ accuracy index, IQ test and verbal-nonverbal discrepancy). Based on these outcomes, Paulhus and Williams (2002) concluded that traits were overlapping but distinct. This was the first study outlining and identifying the Dark Triad as a single construct.

Furnham, Richards, Rangel, and Jones (2014a) published an overview of the concept, which outlined the statistical approaches and discussed future directions. Research suggested that traits differentially predicted workplace behaviour (Boyle, Wongsri, Bahr, Macayan, & Bentler, 2020), aggression (Baughman, Dearing,

Giammarco, & Vernon, 2012; Giammarco, & Vernon, 2014; Kerig & Stellwagen, 2010), sociosexuality (Jonason et al., 2009), and financial misbehaviour (Jonason, 2015). Furnham et al. (2013) stated that the Dark Triad is negatively related to the Big Five personality dimensions, specifically agreeableness. This notion is supported by numerous publications (Jakobwitz & Egan, 2006; Jonason et al., 2017; Lee & Ashton, 2004; Miller et al., 2017; Paulhus & Williams, 2002). It is important to understand that individuals who are high in agreeableness are interested in social positivity and consensus, whereas those that are low in agreeableness manifest characteristics that are highly antisocial; characteristics inherent within the construct (Furnham et al., 2014a).

Relatedly, Szabó and Jones (2019) looked at separate relationships between impulsivity and the Dark Triad based on gender and observed different inter-relationships with impulsivity. From existing literature, it is evident that psychopathy is reliably associated with poor impulse control. Nonetheless, the relationship between other traits and impulsivity is highly inconsistent (Jonason, 2015; Jones & Paulhus, 2013). As previously mentioned, Machiavellianism is a trait strongly defined by caution and strategic thinking and manipulation (Dahling et al., 2009). Thus, positive correlations with impulsivity would go against the core of Machiavellianism. Furthermore, research in the area indicated that gender influences the underlying relationship. Szabó and Jones (2019) asked participants to fill in a self-report measure of the short Dark Triad scale (SD3). Results showed a moderate relationship between impulsivity and the SD3 operationalisation of Machiavellianism. Men high in Machiavellianism exhibited less impulsivity (Szabó & Jones, 2019). This outcome added not only to the understanding of the concept, but also supported the SD3 measure of the dimensions. Especially Machiavellianism, as it established a direct relationship between the trait, gender, and impulsivity.

Furnham and Treglown (2021) focused on understanding the relationship between bright-side, High Potential and Dark Triad traits, as well as work engagement on

judgements of perceived success. The data from the study showed that the three traits were systematically and significantly correlated with High Potential traits adjustment/neuroticism, tolerance of ambiguity and conscientiousness (Furnham & Treglown, 2021). Three HPTI traits, were positively correlated with all three engagement measures, as well as narcissism was strongly related to all measures of engagement. Males with higher scores on adjustment, courage, and narcissism rated their success highest, however, job engagement mediated high-flier, dark-side traits, and success ratings (Furnham & Treglown, 2021).

Kowalski et al. (2016) further assessed the uniqueness of the Dark Triad traits, by investigating the relationship between the traits and fluid intelligence. Their samples completed the Polish translation of the SD3 and Raven's standard progressive matrices (RSPM) (Kowalski et al., 2016). Structural equation modelling indicated only Machiavellianism was significantly predicted by fluid intelligence (Kowalski et al., 2016), in addition, narcissism, corroborated with previous research (Gabriel, Critelli, & Ee, 1994; Zajenkowski & Czarna, 2015; Zajenkowski & Szymaniak, 2021) and indicated that narcissism was unrelated to fluid intelligence (Kowalski et al., 2016). As for psychopathy, it was not significantly related to fluid intelligence. However, the correlation coefficient did reach  $r = -0.18$ , which is suggestive of a weak relationship. The authors suggested interpreting results with caution given the possibility that such a result could arise as an artefact of psychopaths' impulsivity (Kowalski et al., 2016).

Jonason (2015) examined the Dark Triad traits and geographical preferences, for example study one used population density and size; study two asked participants where they lived; and study three assessed where people wish they lived based on location and environment. There was a robust bias towards living in the city for high scoring respondents, especially psychopathy. Study three suggested that effects were consistent with life-history theory (Jonason, 2015).

From the research above, it is evident that the Dark Triad has become an instrumental concept in a variety of fields, including personality and the psychology of individual differences. It is important to state what can be determined preceding academic work. First, despite researchers arguing that traits are indistinguishable, much previous research determines that each trait has its unique qualities. For example, Kowalski et al. (2016) stated that Machiavellianism is the only trait that predicted fluid intelligence. Similarly, Szabó and Jones (2019) established a direct relationship between gender and impulsivity in the context of Machiavellianism. Paulhus and Williams (2002) showed that narcissism had small positive associations with cognitive ability (OCQ accuracy index, IQ test and verbal-nonverbal discrepancy). Paulhus and Williams (2002) stated that psychopathy was distinguished by low neuroticism, which was not necessarily the case for the other dark traits.

### **1.1.2: The Big Five Personality model**

Big Five trait theorists believe that people possess five underlying dimensions of personality that are trans-contextual (Costa, McCrae, & Holland, 1984), resistant to change over time, situations, and social roles (Sheldon, Ryan, Rawsthorne, & Ilardi, 1997). This core set of personality traits consists of extraversion, neuroticism, agreeableness, conscientiousness, and openness to experience (McCrae & John, 1992). Over the past decades, researchers have made substantial progress in understanding personality traits by using hierarchical models. These group behavioural measures into higher-order clusters, with the Big Five representing the most well-known cluster. Extraversion relates to activity and dominance, agreeableness concerns maintaining positive and reciprocal relationships, conscientiousness comprises organised and responsible behavioural tendencies, neuroticism relates to the ability to deal with negative emotions, and openness typifies curiosity and creativity (Costa et al., 1984; Digman, 1990; Douglas & Craig, 2007; Goldberg, 1990).

These basic dimensions explain and predict individual differences over across a range of settings, including mental health, job satisfaction, work performance and relationships (Judge, Heller, & Mount, 2002). Supportive evidence has grown over time (see Costa et al., 1984; Fiske, 2017; Goldberg, 1990). Accordingly, many researchers advocate that Big Five dimensions are universal (Costa et al., 1984) for both adults and adolescents (De Fruyt et al., 2009), although others dispute this assertion (De Loof, Ergo, Naert, Janssens, & Talsma, 2018; Peabody & De Raad, 2002).

In recent decades, the research around the Big Five model has expanded, to understand the underlying theory, it is necessary to consider individual components that make up the model. Extraversion has consistently appeared within personality models, and was part of the original PEN (psychoticism, extraversion, and neuroticism) model that Eysenck (1970) described over 40 years ago. Extraversion can be defined by excitability, sociability, talkativeness, assertiveness, and significant amounts of emotional expressiveness (Duckitt, Wagner, du Plessis, & Birum, 2002). People who are high in extraversion are like to be outgoing and tend to receive satisfaction and energy in social situations (Cherry, 2019). This personality dimension includes attributes such as assertiveness, excitement seeking, gregariousness, positive emotions, warmth (Altemeyer, 1996; Altemeyer, 2004), and the opposite of such traits.

Agreeableness reflects a tendency to be more cooperative; those low in this trait tend to be more competitive and sometimes even manipulative (Cherry, 2019). The term agreeableness, however, to scholars such as Digman (1990), Guilford and Zimmerman (1948) seemed not broad enough for a dimension that involves more humane aspects of the individual. Agreeableness has an array of characteristics such as caring and emotionally supportive at one end of the dimension, with hostility, indifference to others, self-centredness, spitefulness, and jealousy at the other. Guilford and Zimmerman (1948) proposed friendliness as a primary trait dimension. Fiske (2017) offered conformity (to social norms), reflecting both the agreeableness and docility inherent in the dimension



(Digman, 1990). Digman (1990) argued for friendly compliance versus hostile non-compliance as a more adequate interpretation. However, these delineations were not widely accepted.

The essence of conscientiousness has proved difficult to capture. For example, Digman and Inouye (1986) argued that the term, both as a scale in research and its definition, is too ambiguous. In addition, several studies have linked this dimension to educational achievement (Digman, 1990; Smith, 1967; Wiggins, Blackburn, & Hackman, 1969). Digman and Takemoto-Chock (1981) suggested either 'will to achieve' or simply 'will' would be best to describe this dimension. This interpretation has a historical association with the early work of Webb (1915), who explored thirty-nine qualities of character, using Spearman's method of factoring. Webb (1915) noted that beyond the general intelligence factor, a second general factor could be observed, so-called volition or will. Conscientiousness, however, seemed to become the interpretation of choice by most researchers. Features of conscientiousness include elevated levels of thoughtfulness, good impulse control, and goal-orientated behaviours (Altemeyer, 1996; Duckitt et al., 2002). Highly conscientious people tend to have an increased level of organising skills and are mindful of details.

The trait of openness to experience has been variously interpreted as intellect (Digman & Inouye, 1986; Goldberg, 1990; Hogan, 1986), intelligence (Borgatta, 1964), and acceptance (Costa et al., 1984). In recent times, researchers agreed that it is a combination of all three. Costa et al. (1984) attributed to 'openness' several characteristics (*e.g.*, openness to feelings and new ideas, flexibility, and fantasy indulgence). Hogan (1986) suggested that other characteristics can be part of openness. For example, cultural interests, educational aptitude, and creative interests. Moreover, openness features characteristics such as imagination and insight. People who are high in this trait tend to have a broad range of interests (Zhao & Seibert, 2006). Openness is positively correlated

with intelligence, as research suggests, especially aspects related to creativity, such as divergent thinking (McCrae & Costa, 1987; McCrae & Costa, 2008).

Neuroticism is a trait identified by sadness, moodiness, and emotional instability. Also, neuroticism, according to Shi et al., (2018) can refer to the vulnerability to emotional instability and self-consciousness. Individuals who are high in this trait incline to mood swings, anxiety, irritability, and sadness (Duckitt et al., 2002). Those low in this trait tend to be more stable. Some theorists observe that people with schizophrenia demonstrate higher levels of neuroticism (Lysaker & Wilt, 2003). This construct has a strong predictive effect on the level of positive symptoms in psychosis research (Lysaker & Wilt, 2003). Neuroticism characteristics may contribute to developing psychosis disorders (Shi et al., 2018). In addition, prominent levels of neuroticism reflect an increased level of anxiety and distress. This trait was found to be a risk factor for the development of psychiatric disorders (Goodwin, Pope, Mort, & Smith, 2003; Jones, 2001).

There has been a vast amount of cross-cultural evidence in support of the Big Five model. For example, a study by Klimstra, Crocetti, Hale III, Fermani, and Meeus (2011) looked at Big Five personality dimensions in Italian and Dutch adolescents. This investigation was the first to provide a large-scale cross-cultural comparison of adolescents self-reported personality traits (Klimstra et al., 2011). It also noted that traits might have different meanings to the Dutch and Italian respondents (Klimstra et al., 2011). Accompanying analyses showed that sex differences were largest among Italian adolescents, and further comparison revealed subtle cross-national differences in personality–psychopathology relationships, with stronger associations of emotional stability and depression for Italian participants (Klimstra et al., 2011). Arterberry, Martens, Cadigan, and Rohrer (2014) examined the Big Five personality inventory score reliability (John, Donahue, & Kentle, 1991) using generalisability theory analyses. Participants, who provided data on three different occasions, were recruited from a Midwestern university with an overall score of 264 (Klimstra, Sijtsma, Henrichs, &

Cima, 2014). Reliability was acceptable, demonstrating the advantages of generalisability theory.

A development that challenges the established Big Five model approach, is the HEXACO (Honesty - Humility, emotionality, extraversion, agreeableness, conscientiousness, and openness to experience) model proposed by Lee and Ashton (2004). This includes a factor called 'Honesty - Humility' alongside other dimensions. This factor can be defined by traits such as sincerity and modesty versus greed and deceit and demonstrates consistent links with the Dark Triad (Lee & Ashton, 2014). To certain extent, HEXACO with inclusion of Honesty - Humility, advances understanding of personality (Lee & Ashton, 2004; Shu, McAbee, & Ayman, 2017; Veselka, Schermer, & Vernon, 2012). For this research, the Big Five model was used, as it is an established model with a vast array of supporting literature behind it, including validation studies. Conversely, the HEXACO model is a newer approach, which does not possess the same empirical basis. Thus, although it is important to acknowledge the potential of HEXACO, the model remains the subject of debate.

While several lexical studies have broadly supported the HEXACO model, the support is far from universal (Anglim & O'Connor, 2019). Saucier and Ostendorf (1999) have argued that any broad trait in addition to the Big Five will correlate highly with one of the existing Big Five, and Honesty - Humility correlates highly with agreeableness ( $r = .67$  in Gaughan, Miller, and Lynam, 2012). Honesty - Humility also correlates well with right-wing authoritarianism (RWA) and modesty facets of agreeableness in the NEO-PI-R, suggesting that a comprehensive facet-level model may provide similar predictive benefits (Costa et al., 1984; Gaughan, Miller, & Lynam, 2012; Michalski & Shackelford, 2010; de Vries, de Vries, de Hoogh, & Feij, 2009). Honesty - Humility inhabited a similar location to the politeness part of agreeableness, according to Barford, Zhao, and Smillie (2015), who mapped the Big Five and HEXACO qualities to a shared space provided by the interpersonal circumplex. The Hogan personality inventory (Hogan & Hogan, 1992),

the six-factor personality assessment (Jackson, Paunonen, & Tremblay, 2000), and Saucier's big six (Saucier, 2009) have not all agreed on the same sixth factor (De Raad et al., 2010).

Finally, Condon (2017) examined the covariance structure of about 700 statement-based personality test items culled from the most widely used public-domain personality assessments (including an approximately equal representation of items from prominent five - and six-factor measures). While he discovered evidence for a number of specific traits, component analysis revealed five broad traits, and when six factors were retrieved, the sixth factor did not correspond to Honesty - Humility. It is also important to mention that researchers (Anglim & O'Connor, 2019; DeYoung, 2015; Viswesvaran & Ones, 2016) previously stated that Honesty - Humility is not much more than a facet of agreeableness. Conclusion can be drawn that the despite certain drawback, Big Five is the most widely used model in assessing personality dimensions, and commonly used in cross-cultural research.

### **1.1.3: The Dark Triad and Big Five personality research**

At the core of the relationship between the Dark Triad and the Big Five personality model is agreeableness. Specifically, research consistently indicates that agreeableness is negatively correlated with the construct (Jakobwitz & Egan, 2006; Jonason, Koenig, & Tost, 2010; Jonason et al., 2009; Lee & Ashton, 2004; Miller et al., 2010; Nathanson, Paulhus, & Williams, 2006; Paulhus & Williams, 2002; Williams, Nathanson, & Paulhus, 2010; Williams, Nathanson, & Paulhus, 2003). Individuals who score high on agreeableness, by nature, are predisposed to social harmony, whereas those who are disagreeable manifest characteristics that are antisocial, and even in some cases malevolent, which is why this personality trait relates negatively to the Dark Triad constructs (Garcia, Adrianson, Archer, & Rosenberg, 2015). All of the sub-facets of agreeableness (trust, altruism, compliance, modesty, tender-mindedness) correlate negatively with psychopathy and narcissism at the clinical and sub-clinical levels

(Widiger et al., 2002). Those scoring low on agreeableness, can be described in an array of characteristics such as: charming, autocratic, selfish, stubborn, headstrong, impatient, intolerant, outspoken, hard-hearted, assertive, argumentative, self-confident, aggressive, and unstable (Costa & McCrae, 1992).

Throughout the literature both Dark Triad and Big Five personality traits have been examined thoroughly, however, few researchers have investigated associations between the two constructs. Research by Paulhus and Williams (2002), using a sample of 245 students, explored dark traits with standard measures and examined a variety of laboratory and self-report measures. The results found that the factors were moderately intercorrelated but were not equivalent. The only common factor was disagreeableness (Paulhus & Williams, 2002). Psychopathy was distinguished by low neuroticism with both Machiavellianism and psychopathy characterised by low conscientiousness. Narcissism demonstrated small positive associations with cognitive ability, and to a lesser extent, psychopathy exhibited self-enhancement on two objectively scored indexes (accuracy and bias) (Paulhus & Williams, 2002).

Hodson et al. (2009) investigated the role of 'dark personalities', Big Five personality factors, and ideology in explaining prejudice. Their results indicated that a latent dark personality factor predicted Social Dominance Orientation (SDO), whereas openness to experience negatively predicted RWA. These 'ideological' variables predicted prejudice directly and indirectly through intergroup threat (Hodson et al., 2009). Their dual-route structural equation model extended existing prejudice models (Duckitt et al., 2002; Ekehammar, Akrami, Gylje, & Zakrisson, 2004), by incorporating non-clinical dimensions and intergroup threat as a proximal prejudice predictor (Duckitt et al., 2002).

Jonason, Li, and Czarna (2013) looked at measure called the 'dirty dozen', and its relationship with the Big Five. Outcomes indicated that each of the Dark Triad traits was associated with unique aspects of the Big Five, providing evidence that each trait measures something different (Jonason et al., 2013). For example, psychopathy was linked to

agreeableness through limited compassion, but Machiavellianism was linked through limited politeness. Findings supported multifaceted definitions of each aspect of the dirty dozen and evidence of its structural properties (Jonason, Lyons, Bethell, & Ross, 2013).

Lee and Ashton (2004) researched psychopathy, Machiavellianism, and narcissism in the five - factor model and the HEXACO model of personality structure. They observed that in the case of both Big Five model and HEXACO there were negative correlations between Dark Triad traits and agreeableness. However, narcissism correlated positively with Big Five extraversion ( $r = 0.46$ ) and with HEXACO extraversion ( $r = 0.49$ ) (Lee & Ashton, 2004). It is important to note that correlations among the traits were significantly explained by the HEXACO model, but not by the five - factor personality model.

Research has shown that personality traits are related to traditional bullying and cyber-bullying in adolescents and in adults (van Geel, Goemans, Toprak, & Vedder, 2017a). Increasingly, researchers call for sadism to be added as an additional trait to the Dark Triad in the study of antisocial and delinquent behaviours. Analysis revealed that agreeableness, Machiavellianism, psychopathy, and sadism were significantly related to traditional bullying, and agreeableness and sadism to cyber-bullying (van Geel et al., 2017a). This study shows that together, the results firmly establish that sadism could be a predictor of antisocial attitudes.

Balakrishnan, Khan, Fernandez, and Arabnia (2019) evaluated a cyber-bullying detection model based on users' personalities determined by the Big Five and Dark Triad models. Twitter was the social media platform of choice for this study. Knowledge of each user trait was used as a help to distinguish between individuals with tendencies to engage in cyber-bullying and those who do not. This enables a more effective detection mechanism as opposed to identifying them solely based on the use of abusive words, or platform features (Balakrishnan et al., 2019). Findings indicated that factoring in the user's personality improves cyber-bullying detection mechanisms. Specifically,

extraversion, agreeableness and neuroticism, and psychopathy were found to be significant in detecting bullies, achieving up to 96% (precision) and 95% (recall) (Balakrishnan et al., 2019).

Muris, Meesters, and Timmermans (2013) conducted a cross-sectional study examining the Dark Triad personality traits and their correlation in non-clinical youths aged 12–18 years. Child - and parent-report data were obtained on Machiavellianism, narcissism, psychopathy, on Big Five personality factors and symptoms of aggression and delinquency (Muris, et al., 2013). Results indicated that especially Machiavellianism and psychopathy were related to the Big Five factors: that is, both traits were associated with lower levels of agreeableness, conscientiousness, and openness, and higher levels of emotional instability. Furthermore, Machiavellianism and psychopathy emerged as significant and unique symptoms of aggression and delinquency, which further underlined the importance of the personality traits in explaining disruptive behaviour in youths.

Göncü-Köse and Ekren (2020) examined whether self-selection based on Big Five and Dark Triad personality characteristics predicted career choices. Researchers collected data from newly enrolled students, from Turkey, in seven academic majors i.e., psychology, law, economics/business, engineering, political science, medicine, and education. According to the findings, economics/business and engineering students scored much higher on Machiavellianism than psychology students, as well as engineering, economics, and political science students had greater psychopathy ratings than psychology students (Göncü-Köse & Ekren, 2020). In addition, those in psychology departments scored higher on neuroticism than students in engineering, economics/business, and political science, and neuroticism ratings of law and education students were higher than those of engineering and economics students.

Kennedy et al., (2021) assessed motivation to lead as mediator of relations between the Dark Triad, Big Five, and leadership intention. The study focused on distal-proximal modelling of personality trait–leader emergence interactions by analysing how the traits

contribute to the Big Five personality factors in predicting three motivations to lead factors and leadership intents. In contrast to studies of leader emergence, where the influence of narcissism disappears once extraversion is controlled, the results showed that narcissism explains variance in leadership intentions above and above that explained by extraversion (Kennedy et al., 2021).

Jakobwitz and Egan (2006) conducted a study on the Dark Triad and normal personality traits and examined the degree to which these constructs could be identified in 82 people recruited from the general population. Predictions were that the Dark Triad would emerge as a single dimension denoting the cardinal interpersonal elements of primary psychopathy (Jakobwitz & Egan, 2006). A negative correlation was found between primary psychopathy and agreeableness, but not with conscientiousness. While a predicted correlation between secondary psychopathy and neuroticism was found, neuroticism was also positively associated with primary psychopathy and Machiavellianism (Jakobwitz & Egan, 2006). Factor analysis revealed that all measures of the construct loaded positively on the same factor, upon which agreeableness loaded negatively.

As evidenced in the section above, the relationship between the Dark Triad and the Big Five models has been studied extensively. This conjunction of normal range personality variables with dark traits has added a vast amount of explanation to a variety of issues within social, personality and individual differences psychology.

#### **1.1.4: Conclusion**

It is important to understand that there has been a vast number of studies examining the relationships between the Dark Triad and the Big Five personality models. This research, on the other hand, has added to the existing literature by offering a deeper understanding of personality-related dimensions, both malevolent and normal range.

Nonetheless, this examination of the previous literature concluded that several criticisms exist. Firstly, there is a notable lack of cross-cultural comparison for both



dimensions; this is based on the observation from the available literature. Specifically, the literature lacks a substantial body of research comparing traits in diverse cultures and countries. On their own both personality traits have been examined, however, they have not been compared cross-culturally. An important question arises from this observation, because both models were discovered by Western researchers in Western samples using instruments based on English-language trait terms, are they strictly Western dimensions of personality, or can they characterise non-Western samples too.

McCrae and Allik (2002) used examples from previous studies on the five - factor model (FFM), including his own (Cheung & Leung, 1998; Guthrie & Bennett, 1971; McCrae & Allik, 2002; Saucier & Goldberg, 1998) to suggest that the FFM is to an extent a universal structure, and thus should be useful in cross-cultural research, however, he also emphasised that in other cultures the order of importance for each dimension can differ. Like the FFM, Dark Triad traits have been proved to be universal. Nonetheless, the lack of studies comparing both personality traits across various cultures, especially comparing Western vs non-Western cultures, indicates a missed opportunity to understand personality traits from a variety of perspectives (*e.g.*, capturing cultural similarities/differences in the traits, assessing whether similar associations exist between the personality models, comparing the predictive capacity of the models in relation to important outcomes). This is where the current research comes into play, in the sense that it focuses on comparing Western and non-Western countries in relation to the Big Five and Dark Triad models.

## **1.2: Prejudice**

Over the past century prejudice has remained essential topic in the field of social psychology. Early theories and research in social psychology supported the notion that prejudice is the result of society and societal norms (Lewin, 1952; Marrow & French, 1945). Prejudice, according to Allport (1954), is a hostile attitude or sentiment toward a person only because he or she is a member of a group to which one has assigned

unacceptable characteristics. In addition, Allport (1954) emphasises that this antagonistic attitude is not only a hasty presumption based on incomplete information, but it's a decision that rejects facts, while ignoring truth and honesty.

Explanations of prejudice revolve around four main theories: authoritarian personality, realistic conflict theory in Robbers Cave experiment (Sherif, 1956), stereotyping and social identity theory. The common denominator between all four theories of prejudice is the assumption that in-group values can lead to a rejection of the out-group (Allport, 1954; Gaertner & Dovidio, 1986; Hodson et al., 2014; Katz & Hass, 1988; Kinder & Sears, 1981). Specifically, this occurs due to the perception of dissimilarities between the in-group and out-group (Greenhalgh & Watt, 2015; Jackson & Gaertner, 2010; Ramsay, Pang, Shen, & Rowatt, 2014).

Camino, Silva, Machado, and Pereira (2001) suggest that the process of associating certain values to groups can be used as a resource to mark fundamental differences between the in-group and the out-group, becoming a prominent factor in understanding the reality of prejudice. Prejudice undoubtedly can affect people's opportunities, their social resources, self-worth, motivation, and their mental health status. Consequently, the establishment and promotion of equality depend on understanding and research on how individuals perceive and apply the concept of prejudice in everyday life (Duriez & Van Hiel, 2002). Indeed, even considering political examples, new social categorisations arise from politicians and the media that regularly identify new threats from immigrants, religions, or threats to establishments such as traditional marriage. Thus, prejudice is a fast adapting and moving concept that changes its targets daily (Abrams, 2010; Abrams et al., 2010).

Prejudice manifests itself in society in a variety of ways. The idea that personality influences prejudice has been widely examined in psychology. The earliest theory that incorporated personality and its effect on prejudice was related to authoritarian personality (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950; Bunzel et al., 1950). Allport

(1954) devoted several chapters of his seminal book (*The Nature of Prejudice*) to the influence of an authoritarian personality on prejudice. Prejudice can be defined as a negative evaluation of a social group, or a negative evaluation of an individual, that is significantly based on the individual's belonging to a specific group, which could be racial, religious, or biological groups (Crandall, Hackett, Tobet, Kosofsky, & Bhide, 2004). Campbell and Brown (1997, p. 8) defined prejudice as “the holding of derogatory social attitudes or cognitive beliefs, the expression of negative affect or the display of hostile or discriminatory behaviours towards members of an opposition group.”

Adorno et al. (1950) stated that prejudice was something hidden deep within and ingrained in all our personalities. Adorno put forward ideas that there were certain types of people with personality traits such as aggression, intolerance and conservatism that predisposed them to hold prejudiced views potentially resulting in hostility towards ethnic, religious, or other social groups. While such explanations were particularly important in highlighting prejudice as a social issue, this approach has been criticised for suggesting that prejudice is an instinctual or biological reaction only (Rose & Platzer, 1993). Pettigrew's (1958) study demonstrated that this theory could not account for social group differences in prejudice. Hence, during the 1960s, the emphasis in research on explaining prejudice and intergroup attitudes moved to the role of social and intergroup influences (Sibley & Duckitt, 2008; Sibley & Duckitt, 2010).

Over the last two decades of the 20th century, the most influential approaches have primarily focused on how people cognitively categorise and process perceived group differences (Duckitt, 1992). The role of personality as an influence on prejudice was relatively neglected for the second half of the 20th century, nonetheless, several important developments have begun to signal new interest in the issue. A pioneer in personality approach was proposed by Altemeyer (1998), who showed a direct link between personality and prejudice that was amplified by two individual difference dimensions of right-wing authoritarianism (RWA) and social dominance orientation (SDO). Right-wing

authoritarianism describes a personality type that has traits of submissiveness to authority figures, aggression and conform in thoughts and behaviors, in addition, it comprises three covarying clusters: authoritarian submission, authoritarian aggression, and conventionalism (Altemeyer, 1998). Social Dominance Orientation measures how much individual has support for social hierarchy and desire for their group to be superior (Pratto, Sidanius, Stallworth & Malle, 1994). In addition, social learning theory had a profound impact on the understanding of why we are prejudiced and what we can do to reduce prejudice in society. Social learning theory (Bandura, 1996) accepts that individual bigotry is only one part of the explanation and suggests that other factors influence our behaviour towards people. This theory places an emphasis on our socialisation, or on how we are brought up; the values of our parents and friends that we absorb, where we live, and what culture we belong to (Bandura, 1977; Bandura, 1978).

The origins of prejudice have been studied extensively using multiple approaches, as suggested by Duckitt et al. (2002). Research around prejudice is based on two main approaches (Doise, 1986), either via identifying the cause of prejudice through personality variables (Ekehammar et al., 2004) or as prominent features of intergroup relationships (LeVine & Campbell, 1972; Tajfel, 1981). Tajfel (1981), have opposed the reliance on such different approaches to studying prejudice, whereas other researchers insisted that different approaches are complementary and can be useful in understanding prejudice and its mechanisms (Duckitt et al., 2002; Mackie & Smith, 1998).

### **1.2.1: Personality and Prejudice**

Prejudice has been a topic of interest in social and personality psychology for decades (Sherif, 1966). Social psychologists tend to focus on context-centred approaches, whereas personality psychologists tend to focus on person-centred approaches. The latter observe the importance of the Big Five model and the Dark Triad traits in explaining prejudicial attitudes (Hodson & Dhont, 2015). For example, Jones (2013) showed that psychopathy and Machiavellianism predict membership in white supremacy groups. Alternatively,

Jonason (2015) found that the Dark Triad traits predicted prejudice towards people of Middle Eastern ethnicity among those from a European ancestry in an Australian context. Lastly, Hodson et al. (2009) found that the Dark Triad traits and the Big Five characteristics were associated with prejudice, measured by the intergroup threat scale (Avery, Bird, Johnstone, Thalhammer, & Sullivan, 1992) and the modern racism scale (McConahay, Hardee, & Batts, 1981).

A substantial body of literature exists, which shows that personality influences how individuals relate to each other and their environment (*e.g.*, Pettigrew, 1958), and that personality can predict intergroup attitudes (Gallego & Pardos-Prado, 2013; Sibley & Duckitt, 2008). Yet little research has explored whether Dark Triad and Big Five models can add to an explanation of intergroup attitudes. A study by Hodson et al., (2009) ventured into attempting to understand how darker personalities contribute to prejudice. The study consisted of undergraduate students at a Canadian university. The authors proposed a two-stage structural equation model, assuming indirect personality effects on prejudice through ideology and group threat perceptions (Hodson et al., 2009). Hodson et al.'s (2009) research was the first to examine prejudice from a variety of angles in a single study.

Though this work is pioneering in its unique examination of prejudice, it only used one measure of prejudice. The drawback of using a single measure of prejudice is that the study tends to only focus on certain aspects of prejudice, such as social, or economic, or political or environmental, instead of looking at the complete picture of prejudice. All these indicators come from a very Western point of view. Importantly, Hodson et al. (2009) concluded that understanding 'prejudiced personalities' would benefit from considering a wider range of personality variations. Specifically, incorporating both personality traits, broader personality factors (especially openness to experience) and ideology, can aid the prediction of intergroup threat perceptions and prejudice, and most importantly, can achieve a deeper understanding of prejudice.

Flynn (2005) assessed normal range personality factors in relation to prejudice and found that openness negatively predicted prejudice, even after statistically controlling for the other Big Five factors. Research by Anderson and Cheers (2018) looked at the role of the Dark Triad in explaining negative attitudes toward asylum seekers. They recruited 173 Australian males and females, with most females (74%). Multiple hierarchical regression analyses indicated political conservatism and psychopathy predicted modern explicit attitudes (subtle and covert), while political conservatism and Machiavellianism predicted classical attitudes (overt and blatant) (Anderson & Cheers, 2018). Narcissism was unrelated to all attitudes, and none of the Dark Triad personality traits was related to implicit attitudes (Anderson & Cheers, 2018). This study revealed important aspects of the construct role in explaining prejudice.

Recent research has deep roots in the seminal work on authoritarian personality by Adorno et al. (1950), which proposed that the interplay among the superego, ego, and id predisposed individuals to malevolent behaviour. Millon, Simonsen, Birket-Smith, and Davis (1998) suggested in their book (*Psychopathy: Antisocial, Criminal and Violent Behaviour*) that poor ego development will result in aggressive drive and increased impulsivity. Yet, scholars have only very recently gone back to a personality explanation of prejudice. The predominant focus in personality psychology has been to explain determinants of prejudice, such as authoritarianism and social dominance, or more generalised prejudices (McFarland, 2010). Studies relating personality traits to more specific prejudices, such as racism or sexism, are scarce, and often assume that prejudice can be generalised across a variety of groups (Akrami, Ekehammar, & Bergh, 2011; Bergh, Akrami, Sidanius, & Sibley, 2016; Bergh, Robin, & Akrami, 2016; Dru, 2007).

Although useful as a baseline for deriving expectations for the relationship between personality and a tendency to stereotype, this approach, to generalise all aspects of prejudice as one, is somewhat limited in its treatment of prejudice as a homogeneous entity (Gallego & Pardos-Prado, 2013). The endorsement of social stereotypes varies, not

only by the group being considered but also by the social context of the evaluator. This focus on general prejudice, in previously mentioned literature, leaves a sizeable gap, a gap that this research seeks to fill. A drawback to the generalised treatment of prejudice in the literature is with respect to the derivation of theoretically motivated expectations. The most prudent approach, given the exploratory nature of the study at hand, is to base expectations on more general findings regarding the relationship of personality to prejudice.

As previously mentioned, there are only a handful of studies exploring relations between Big Five personality traits and prejudice. For example, Ekehammar and Akrami (2003) examined the relation of the Big Five model to generalised prejudice using a variable-centred (relating personality and prejudice through correlation and multiple regression analyses) and a person-centred approach (obtained by cluster analyses related to mean prejudice scores). The results showed that two factors (openness to experience and agreeableness) displayed rather strong ( $r = -.44$  to  $-.45$ ) negative zero-order correlations with prejudice. Further, openness to experience ( $r = .38$ ) and agreeableness ( $r = .33$ ) showed the largest correlations with generalised prejudice measures. Saucier and Goldberg (1998) used another approach, the lexical approach, to the measurement of prejudice, and they obtained only small correlations with this measure and the Big Five model. Agreeableness and openness to experience are the single factors most closely associated with prejudice.

As aforementioned, openness is a personality construct comprising characteristics of depth, originality, complexity, and open madness (Gerber, Huber, Doherty, & Dowling, 2011). This characteristic relates to a person's views of the world around them, as well as how open the individual is to learn and their general cognitive orientations. Politically, lower levels of this characteristic have been negatively linked with conservatism (McCrae, 1996), whereas higher levels predict a tendency toward liberalism (Alford & Hibbing, 2007). Openness is also negatively related to RWA and SDO (Akrami et al., 2011). In

addition, those higher in openness demonstrate a greater tolerance for diversity (John, Naumann, & Soto, 2008), a greater tendency to disconfirm negative social stereotypes (Flynn, 2005). Subsequently, from the research, potentially higher levels of openness should decrease general prejudicial orientations and support for specific social stereotypes for all groups.

Although openness to experience positively predicts democratic identification and liberalism, research suggests that the full explanatory weight of the personality trait rests with both political and group-centric beliefs. That is, when assessing policy proposals regarding social groups, open-minded individuals are likely to rely both on their political predispositions and their generalised (positive) outlook toward the affected social groups. In practice, this appears as a mediated personality effect through partisanship and group orientation.

Politically, conscientiousness is thought to act in an inverse manner to openness (Baptiste, 2018). For example, higher levels lead to beliefs in personal responsibility, tradition, virtue, and thus conservatism (Mondak, 2010). Those higher in conscientiousness preferred to vote for Bush rather than Kerry in the 2004 US election (Caprara, Barbaranelli, Bermúdez, Maslach, & Ruch, 2000). Nothing in the accepted definition of conscientiousness could be applied specifically to group stereotypes. It would also be imprudent to assume that a relationship between conscientiousness and opinions linked to social groups is indicative of a prejudicial orientation (Kinder & Sears, 1981; Sniderman & Piazza, 1993). However, a variety of research indicates that individuals with higher levels of conservatism have higher levels of predisposition to prejudice towards non-conservative group members.

The other three personality domains show weaker correlations with policy attitudes. Agreeableness, like openness, is a consistent predictor of liberal policy attitudes, with statistically significant relationships between agreeableness and capital punishment. The effects of extraversion are mixed, though it does predict more conservative capital



punishment attitudes (Colémont, Van Hiel, & Cornelis, 2011). For neuroticism, no significant effects are found, although the mediation analysis offers a potential answer for this lack of relationship (Verhulst, Eaves, & Hatemi, 2012).

Conscientiousness exhibits the strongest relationship with conservative attitudes, whereas openness to experience is less consistently predictive of liberal attitudes. These analyses, however, fail to consider whether the connection between conscientiousness, openness, and group-centric policy beliefs run through partisanship or stereotyping beliefs such as racial antipathy, authoritarianism, or SDO (Raabe & Beelmann, 2011). Furthermore, for neuroticism, the personality trait works in opposing directions on partisanship, authoritarianism, and racial animosity. Thus, for group-centric beliefs, no direct relationship can emerge between personality and policy attitudes because of conflicting considerations.

It is an ongoing debate whether personal characteristics make certain individuals more prone to prejudice than others. There are scholars who dismiss this notion altogether (*e.g.*, Reynolds, Turner, Haslam, & Ryan, 2001; Haslam, 2006), but this has not stopped others from compiling an extensive list of individual difference variables that are related to prejudice.

Perry and Sibley (2011) conducted research to understand whether the Big Five model is effective in predicting SDO and RWA. They examined the bidirectional effects of the Big Five, in a longitudinal study, over nine months in undergraduate students. As expected, SDO and RWA exhibited different personality biases. Low agreeableness predicted change in the motivational goal for group-based dominance and superiority (SDO), whereas openness predicted change in the motivational goal for social cohesion and collective security (RWA) (Perry & Sibley, 2011; Perry & Sibley, 2012). In a contrasting study by Kteily, Sidanius, and Levin (2011), this study indicated that the effects of the Big Five model on ideology are unidirectional, as RWA and SDO did not

predict a reciprocal perspective change in personality. These findings are consistent with a model in which personality traits shape ideological attitudes.

Hodson and Dhont (2015) published a long-awaited review of the person-based nature of prejudice. They concluded that person-based factors influence a range of important outcomes and have been implicated numerous times in explaining prejudice. In addition to demonstrating significant heritability, person-based factors were suggested to be significant in explaining the origins of generalised prejudice (*i.e.*, that some people consistently score higher in prejudice towards multiple out-groups). This review included personality factors, ideological orientations (authoritarianism and SDO), anxiety, threat, sensitivity, and cognitive abilities. Hodson and Dhont (2015) demonstrated via meta-analyses that such constructs consistently predict prejudice. They asserted that prejudice theories need to be better integrated with person-based factors, including personality, to capture the complexities of prejudice.

Research by Koehn, Jonason, and Davis (2019) looked at the person-centred approach to examining prejudice. They used a sample of American students and MTurk workers and assessed the correlations between personality traits and two forms of prejudice: cognitive and affective. Results showed that participants who were low in agreeableness and openness and high in neuroticism, psychopathy, Machiavellianism, and narcissism scored higher on overall prejudicial attitudes. Further, Dark Triad traits accounted for 2% additional variance towards explaining individual differences in prejudice, the same could be said for association with the Big Five factors for cognitive prejudice (Koehn et al., 2019). This research highlights the importance of the Dark Triad traits to be used in combination with the Big Five model.

Jonason, Underhill, and Navarrate (2020) examined prejudice in terms of approach tendencies, *i.e.*, assessing traits, sex differences, and political personality traits. This is one of a limited number of studies, apart from Hodson et al., (2009), that looked specifically at Dark Triad and prejudice. Jonason et al. (2020) investigated whether the

traits predict race and sex-based prejudice or just a generalised anti-sociality. Their sample consisted of American MTurk workers who reported their approach tendencies towards targets who were varied by sex (*i.e.*, same sex, other sex), race (*i.e.*, same race, different race) and responded to questionnaires capturing the traits *i.e.*, narcissism, psychopathy, and Machiavellianism, and political personality (*i.e.*, social dominance and authoritarianism).

Results showed that social dominance, narcissism, and psychopathy revealed a generalised pattern of prejudice towards members of both sexes and racial in-group and out-group members. In contrast, Machiavellianism and authoritarianism were only linked to prejudice towards racial out-group members. Furthermore, Dark Triad traits accounted for more variance in prejudice than SDO did, in same sex and different races approaches. This study indicates the importance of the construct in understanding and explaining prejudice, not only for specific groups but also as a general social problem.

### **1.2.2: Key variable related to Prejudice**

SDO is a central construct in relation to prejudice (Kteily et al., 2011). A number of researchers define it as a preference for group-based hierarchy (Fischer, Hanke, & Sibley, 2012). Sidanius and Pratto (1999) define it as an individual difference variable, focused on expressing a preference for unequal relationships in an array of social contexts. People who score highly on SDO tend to believe that group hierarchies are natural, unavoidable, and preferable. In addition, a socially dominant individual might endorse the inevitability of patriarchy, older-generation authority, white racial dominance, and upper-class preference (Cargile, 2017). For example, individuals scoring high in SDO would agree with statements from the scales such as “it is OK if some groups have more of a chance in life than others”, whereas people who score low on SDO would agree with statements such as “increased social equality is desirable” (Pratto, Sidanius, Stallworth, & Malle, 1994).

The concept of SDO (Pratto et al., 1994) as a causal variable with a general preference for hierarchical relationships, recently became the subject of heated debate among researchers (*e.g.*, Lehmler & Schmitt, 2007; Kreindler, 2005; Pratto et al., 1994; Schmitt, Branscombe, & Kappen, 2003; Sibley & Liu, 2010; Sidanius & Pratto, 2003; Turner & Reynolds, 2003; Wilson & Liu, 2003). Few would argue that SDO is a measure of out-group prejudice or bias only. However, other researchers found that a number of individuals endorsing SDO do not necessarily favour their group (Jost & Thompson, 2000; Levin, Federico, Sidanius, & Rabinowitz, 2002), hence much of the modern research recognises it as more than just a bias toward an out-group. Turner and Reynolds (2003), for example, always questioned the interpretation of SDO as just a ‘casual’ variable.

Social dominance theory proposes that social attitudes are influenced by the individual’s beliefs about the certain structure of social groups and their belonging to a particular social system. SDO focuses on the tendencies to favour hierarchy and supports group inequalities (Pratto, Stallworth, & Conway-Lanz, 1998). Pratto et al., (1994) argue that RWA and SDO are the most important predictors of prejudice. McFarland and Adelson (1996) followed by Altemeyer (1998) stated that no other individual variables can explain variance in prejudice more than RWA and SDO, to be exact both variables together accounted for more than 50% of the variance in prejudice. Nonetheless, some researchers stipulated that RWA and SDO are not personality dimensions (Sibley & Duckitt, 2010; Stone, Lederer, & Christie, 1993), but simply sets of social beliefs and attitudes.

Since its original discovery, SDO has consistently succeeded in predicting an array of intergroup attitudes and phenomena that contribute to the hierarchy between groups across a wide range of different background and countries. For example, SDO predicts racism, sexism, xenophobia, prejudice, political ideology, and a range of group relevant policies (Altemeyer, 1998; Altemeyer, 2004; Green, Thomsen, Sidanius, Staerklé, & Potanina, 2009; McFarland & Adelson, 1996; Navarrete et al., 2009). These are just a

small number of the outcomes SDO has predicted across a range of research studies. SDO is a well-established predictor of generalised and specific prejudice.

However, a few had voiced their concerns regarding generality, stability, and causes of SDO (Schmitt et al., 2003). Nonetheless, most of the research and literature on prejudice uses SDO as a standardised predictor. For example, people who experienced prejudice and discrimination suffer negative outcomes, including poorer mental and physical health (Landrine & Klonoff, 1996). These negative outcomes reinforce group-based inequality in society. Such acts of prejudice can thereby serve as the desired outcome of the individuals who score highly on SDO to maintain group-based inequality (Landrine & Klonoff, 1996).

As previously stated, SDO captures individuals' support for hierarchical relationships among groups. Those high in SDO want to establish and maintain power differences between groups; one way they may do so is by expressing prejudiced attitudes towards out-groups (Levin & Sidanius, 1999). Several researchers have attempted to provide links between RWA and SDO to prejudice from several different perspectives including ideological and world views (Duckitt et al., 2002), personality (Ekehammar et al., 2004), and group categorisation (Kreindler, 2005). According to Cohrs and Asbrock (2009) stated that different forms of prejudice result from different SDO - and right-wing authoritarianism-based motivational processes. This is important for current research as it justifies the use of SDO rather than RWA. According to the literature, RWA is associated with political ideologies and used in determining political prejudice. As for SDO, it is widely used for determining the social types of prejudice such as racism and stereotyping.

Passini and Morselli (2016) focused their research on the effects of the individual's SDO on the expression of prejudicial attitudes. Also, they examined the mediating effect of moral exclusion. Previous literature on the subject has shown a strong correlation between SDO and prejudice. However, Passini and Morselli (2016) hypothesised that the processes of moral exclusion should mediate the effect of SDO on the expression of

prejudice, particularly subtle forms of prejudice (Passini & Morselli, 2016). Their sample consisted of 276 Italian individuals. The results obtained support as far as the level of morality mediated the effects of SDO, and this effect was stronger for subtle prejudice than for blatant prejudice (Passini & Morselli, 2016). Most importantly, this study showed that prejudice is hidden by subtle forms of moral exclusion, which had not been directly assessed before.

Heaven, Organ, Supavadeeprasit, and Leeson (2006) examined the extent to which prejudice is best predicted by RWA, SDO, and social values. Researchers measured attitudes towards the Iraq war and people of Middle Eastern descent (Heaven et al., 2006). The sample consisted of Australian adults from a large population centre of New South Wales. Multivariate analyses revealed that attitudes to people from the Middle East were significantly affected by age and level of education (Heaven et al., 2006). Moreover, structural equation modelling (SEM) found that values predicted RWA and SDO and that these, in turn, predicted attitudes (Heaven et al., 2006). This study provided a path to examining how prejudicial attitudes can be studied from an individual difference perspective, and the importance of mediating variables such as RWA and SDO.

Further research by Miglietta, Gattino, and Esses (2014) explored lay beliefs and their relations with classical and modern prejudice and SDO. The researchers set out two main goals: firstly, to explore in Italy what non-experts think causes ethnic prejudice against immigrants; and secondly, to assess whether the lay perceptions of ethnic prejudice relationship are mediated by SDO, and whether such mediation depends on the form of ethnic prejudice (Miglietta et al., 2014). In particular, the authors hypothesised that lay beliefs about the causes of prejudice towards immigrants could mediate the relation between SDO and prejudice towards immigrants (Miglietta et al., 2014). The sample consisted of Italian high school students who participated in the study and completed a set of self-report questionnaires. The results of the study showed that Italian respondents were likely to attribute the causes of ethnic prejudice to ignorance and close-

mindedness (Miglietta et al., 2014). Further, as predicted, showed that beliefs about the causes of ethnic prejudice significantly mediated the relation between SDO and modern prejudice. The findings of this study have been widely discussed within the Italian community. Importantly, this research showed that there is an underlying context-specific nature of cognitive justifications explaining how people hold specific negative attitudes towards immigrants (Miglietta et al., 2014).

Nicol and De France (2016) examined the relation of the Big Five with the levels of RWA and SDO. The authors inspected the underlying personality structure of both RWA and SDO, by examining how RWA and SDO facets correlated with the Big Five personality model (Nicol & De France, 2016). Results suggested that openness and conscientiousness were the most important personality dimensions for all RWA facets. For the two SDO facets and SDO total, openness was the most important dimension, which was followed by the anticipated significant relation with agreeableness (Nicol & De France, 2016). In line with previous research, SDO and RWA facets correlated differently with the Big Five, suggesting that they may not have the same latent structure (Nicol & De France, 2016).

Ekehammar et al. (2004), in a novel study, combined personality variables, SDO, right-wing authoritarian and assessed their effects on generalised prejudice. This research had a sample of 183 non-psychology students. Generalised prejudice scores were obtained from a factor analysis of the scores on various prejudiced items such as racism, sexism, prejudice toward homosexuals, and mental disability (Ekehammar et al., 2004). The main results indicated that the Big Five personality model had no direct effect on generalised prejudice, however, an indirect effect was found through RWA and SDO, where RWA seemed to capture personality aspects more effectively than SDO (Ekehammar et al., 2004). Most importantly, generalised prejudice was affected indirectly by extraversion, openness, and conscientiousness through RWA, and by agreeableness through SDO.

It is vital to understand why SDO was a chosen predictor of prejudice over RWA for this project. Levin et al. (2012) state that SDO is the most powerful predictor of intergroup attitudes and behaviours. Several other authors and researchers have provided support that SDO is a stronger predictor for prejudice (Navarrete et al., 2009; Pratto et al., 1994). Such examples of studies give an overall better understanding of SDO as a concept and as a predictor of prejudice. Hence, taking into consideration literature around the SDO construct it is wise to consider that SDO is a better predictor of prejudice through intergroup attitudes and behaviour, and thus, such predictor is the best option for the current study.

### **1.2.3: Conclusion**

An important conclusion that can be drawn from the research above is that regardless of other predictors of prejudice, SDO be the strongest predictor. In contrast to RWA, SDO originated from between-group hierarchy (Thomsen, Frankenhuis, Ingold-Smith, & Carey, 2011). In addition, Sibley and Duckitt (2010) stated that SDO is primarily concerned with tough-mindedness and a competitive environment. In line with the current project, SDO as suggested by the literature above is the top predictor for prejudice, hence the most appropriate option for this project. Further, in terms of the Big Five, Dark Triad and prejudice relations, there has been a wide variety of research done, nonetheless, the literature review shows there is an apparent lack of cross-cultural based studies. Big Five, Dark Triad and prejudice have a strong predictive relationship that is supported by evidence from a series of studies that are described above in detail (Ekehammar et al., 2004; Miglietta et al., 2014; Nicol & De France, 2016).

Drawing on the points made above, conscientiousness exhibits the one strongest relationship with prejudice, whereas openness to experience is less consistently predictive. And, as mentioned by Jones (2013) that psychopathy and Machiavellianism predict membership of white supremacy groups. That overall Dark Triad traits predicted prejudice towards people of Middle Eastern ethnicity among those from European ancestry in an



Australian context. It is also important to mention that measures such as blatant and subtle scales by Pettigrew and Meertens (1995) have been successful in measuring prejudice over a prolonged period; nonetheless, modern researchers should aim at identifying newer, more concise, and non-culturally specific measures of prejudice. Prejudice exists across the globe, so the research should become cross-cultural and easily administered to a variety of societies and countries, not just countries with Western ideologies.

### **1.3: Aggression**

In recent years, some researchers would argue that aggression may be associated not just with dehumanising others, as has been previously suggested by Bandura (1999), but more with conceptualising others as less of a human in contrast to oneself. However, to date psychologists have not reached a consensus on a universal definition of aggression. Psychologists do agree that aggression represents a form of negative or malevolent behaviour (Bandura, 1999; Baron & Richardson, 1994; Card, Sawalani, Stucky, & Little, 2008; Parrott & Giancola, 2007). For this research, it is important to consider competing definitions. According to Buss and Perry (1992), aggression can be defined as a harmful stimuli response to another living organism. This definition leaves substantial room for interpretation and being purely behaviourist. One of the main limitations of using this definition of aggression is that it is too deterministic and is determined only by environmental effects such as classical conditioning and operant conditioning (Kompa, 2015). Baron and Richardson (1994, p. 7) defined aggression as “any behaviour directed towards the goal of harming or injuring another individual who is motivated to avoid such treatment”.

This view is the one most widely accepted in modern research (Parrott & Giancola, 2007). Over the past decade, there has been an increased interest in understanding non-physical and manipulative forms of aggression, including relational aggression (damaging or intent of harming others via purposeful manipulation or threat) (Card et al., 2008; Crick & Grotpeter, 1995). This form of aggression could be either proactive (*i.e.*, unprovoked,

goal-oriented, related to resource control, gaining in popularity and social status) or reactive (*i.e.*, displayed in response to threats, related to negative affect) (Crapanzano, Frick, & Terranova, 2010; Marsee & Frick, 2007; Marsee, Weems, & Taylor, 2008; Voulgaridou & Kokkinos, 2015). It could also be direct and confrontational or non-direct and non-confrontational (Archer, 2009; Voulgaridou & Kokkinos, 2015).

### **1.3.1: Personality and aggression**

The study of aggressive behaviour is guided by several theoretical perspectives. These perspectives range from the social context to biological predispositions. The general aggression model (GAM), proposed by Anderson et al. (2003), is the direct result of endeavours to integrate existing theories of aggression, such as social learning theory (Bandura, 1999; Berkowitz, 1993) and the social interaction theory of Tedeschi and Felson (1994) into one theory.

GAM includes personality variables and assumes that repeated interaction with aggression-related stimuli, and subsequent positively reinforced aggression is likely to increase one's aggressive personality through several learnt outcomes. Thus, depending on the specific Big Five model, GAM would suggest that the Big Five are related to aggression because they may either enhance or inhibit the development of aggressive emotions and aggressive attitudes. For example, if agreeableness is negatively associated with aggressive emotions/aggressive attitudes, then it should be negatively related to aggression (Anderson et al., 2003).

Aggression and personality theorists propose that personality variables are important predictors of aggression (Anderson et al., 2003). Indeed, several personality traits are highly related to aggression, including narcissism (Barlett, 2016b; Bushman & Baumeister, 1998), and impulsivity (Campbell & Muncer, 2009). Despite a wealth of literature examining the relations between Big Five personality model and aggression, it is unknown whether these effects are direct or indirect through aggressive attitudes and emotions, or a combination of both (Anderson et al., 2003). It is relatively unclear whether

various routes to aggressive behaviour are similar or different across all five personality traits. For instance, some personality traits, such as neuroticism, psychopathy and narcissism may only be directly related to aggression (Barlett & Anderson, 2012) while other traits, such as agreeableness, may be both indirectly and directly related to aggressive behaviour.

Furthermore, agreeableness and conscientiousness are both negatively related to vengefulness, whereas neuroticism is positively related to vengefulness (McCullough, Bellah, Kilpatrick, & Johnson, 2001). Sharpe and Desai (2001) showed that neuroticism is positively related to anger and hostility, whereas extraversion, agreeableness, and conscientiousness are negatively related to anger and hostility. Anderson et al. (2003) found that agreeableness and conscientiousness were negatively related to attitudes towards violence. Indeed, much of the literature suggests that the Big Five personality traits may be related to aggressive attitude directly and/or indirectly through aggressive emotions and aggressive attitudes. However, it is unclear whether the effects of the Big Five model differ as a function of aggressive behaviour types or if this is due to differences in personality types. For instance, Barlett and Anderson (2012) suggested in his research that the effects of agreeableness may be stronger for physical aggression than violence, partly because violence is harder to predict.

Although mediating relations between personality and cognitive factors are highly possible in relation to aggression, some researchers have found evidence that personality and cognition might also interact to predict aggression-based outcomes (Anderson & Ackerman, 2011; Fite, Goodnight, Bates, Dodge, & Pettit, 2008; Koolen, Poorthuis, & van Aken, 2012; Pettit & Mize, 2007). Kokkinos, Karagianni, and Voulgaridou (2017) integrated two theoretical models, the relational vulnerability model (Crick, Woods, Murray-Close, & Han, 2007) and the integrative cognitive model (Wilkowski, Robinson, & Troop-Gordon, 2010), to explain the moderating role of personality (FFM) in the relationship between social-cognitive factors, such as hostility and reaction aggression.

With a sample of 347 Greek adolescents (193 females and 154 males), mediation analyses indicated that hostility partially mediated the relationship between low extraversion, conscientiousness, agreeableness, openness, high neuroticism, and both proactive and reactive aggression (Kokkinos et al., 2017).

Moderation analyses revealed that adolescents scoring low on conscientiousness were more likely to engage in reactive aggression. The findings of this study emphasise the crucial role of personality and social-cognitive factors in understanding aggression. Empirical evidence from a variety of studies provides an explanation for the role of personality traits in understanding aggression (Kokkinos, Kountouraki, Voulgaridou, & Markos, 2020; Miller et al., 2010; Tackett, Kushner, Herzhoff, Smack, & Reardon, 2014).

Pease and Lewis (2015) examined how the Big Five model is associated with anger (measured by the state-trait anger expression inventory). Secondly, they examined whether such associations were qualified by interactions between Big Five model. Results suggested that neuroticism and low agreeableness were the traits most associated with components of anger (Kim, Clark, Donnellan, & Burt, 2020). Further, conscientiousness and extraversion also showed links to more focal components of anger. Finally, moderation was observed, as agreeableness and conscientiousness moderated the relationship between neuroticism and anger control/trait anger.

Research by Barker, Tremblay, Nagin, Vitaro, and Lacourse (2006) examined group-based trajectories of physical aggression, theft and vandalism and Eysenck's personality dimensions. Results indicated that boys following the high trajectories in physical aggression, theft, and vandalism, exhibited personality dimensions of psychotic characteristics such as reduced empathy and increased impulsivity. Extraverted characteristics were also present, but to a lesser extent. Venturesomeness was associated with the trajectories of aggression, vandalism, and theft (Carrasco, 2006). Such findings are powerful supporters of Eysenck's hypothesis concerning personality combinations of psychotic traits, impulsivity, and extraversion as predictors of aggressive behaviour.

In terms of the Dark Triad, Jones and Neria (2015) suggested that all dark traits significantly differ in relation to dispositional aggression. Specifically, they discovered that psychopathy positively predicted physical aggression, narcissism negatively predicted hostility, and Machiavellianism positively predicted hostility (Jones & Neria, 2015). In addition, research indicates that callousness and manipulation consistently correlate with dispositional aggression (Hare & Neumann, 2008; Williams, Paulhus, & Hare, 2007).

Further, research by Baughman et al. (2012) looked at relationships between the Dark Triad personality traits and aggression, in particular bullying behaviours. The sample consisted of 657 participants aged 18 to 70 (Baughman et al., 2012). The results of the study showed that psychopathy was most strongly related to bullying, followed by Machiavellianism, and then narcissism (Baughman et al., 2012). However, predictions were that the traits will affect bullying type, were not supported (Baughman et al., 2012).

Further research by Locke (2009) examined aggression, narcissism, self-esteem, and the attribution of desirable and humanising traits to self vs. others. The sample consisted of undergraduate students, who completed self-report measures of aggression, self-esteem, and narcissism. According to previous research, self-esteem and narcissism had opposing effects on aggression. Therefore, Locke (2009) controlled for their shared variance, which amplified self-esteem's negative association with aggression and narcissism's positive association with aggression. Furthermore, participants were asked to rate themselves and peers on traits that were or were not desirable and humanising (Locke, 2009). Results showed that describing yourself in a more humanising and less dehumanising way was associated with more narcissism and more aggression, but this did not mediate the narcissism-aggression relationship.

Erzi (2020), in a recent paper on personality and aggression, examined mediating roles of moral disengagement and relational aggression between Dark Triad and schadenfreude (*i.e.*, an emotional response, in particular a joyful feeling that takes place

from watching someone fail). Their sample consisted of 309 adults, who completed a self-report online survey consisting of Short Dark Triad (SD3), the moral disengagement scale, relational aggression in friendships scales and an author-generated measure of expressed schadenfreude. Findings showed that higher levels of psychopathy, narcissism and Machiavellianism were associated with higher levels of schadenfreude, moral disengagement, and relational aggression, as well as, moral disengagement and relational aggression mediated the effects of three traits on schadenfreude (Erzi, 2020). Such results suggested that individuals who score highly on SD3 are likely to disengage morally and tend to express relational aggression.

Further research by Dinić and Wertag (2018) examined the role of the Dark Triad (psychopathy, Machiavellianism, and narcissism) over HEXACO (Honesty - Humility) traits in an explanation of two functions of aggression – reactive and proactive aggression. They administered a reactive–proactive questionnaire, the SD3, and the HEXACO–60 personality item inventory scale. While psychopathy highly predicted proactive aggression in males, in females, Machiavellianism and HEXACO traits also had a significant contribution. As to reactive aggression, as expected, psychopathy and Machiavellianism had significant effects, but unexpectedly, agreeableness emerged as the most important predictor for both genders (Dinić & Wertag, 2018). Results of this study not only emphasised the importance of psychopath, narcissism, and Machiavellianism in understanding aggression, but also the need for a broader measure of personality. Additional research by Aghababaei, Mohammadtabar, and Saffarinia (2014) established further link between Honesty - Humility dimension and Dark Triad traits, thus providing a base for Dinić and Wertag (2018) research.

Pailing, Boon, and Egan (2014) extended the literature on Dark Triad and antisocial behaviour by adding examination of whether constructs predict self-reported violence. Participants were asked to complete standardised self-report questionnaires, consisting of SD3 and was examined in relation to normal personality traits as indexed by

the HEXACO (Pailing et al., 2014). Results of hierarchical regression analyses indicated that agreeableness was a more robust predictor of violence than psychopathy or Machiavellianism, however, both traits showed a strong association with aggression; narcissism had no effect (Pailing et al., 2014). In line with previous literature, this study provided the support for emergence of a trend, *i.e.*, agreeableness being the strongest negative predictor of violence, and exclusively explaining the majority of variance in violence.

### **1.3.2: Key variables related to Aggression**

Moral disengagement was originally described by Bandura (1986) in his book *Social Foundations of Thought and Action: A Social Cognitive Theory*, and further elaborated in his several published works such as ‘Mechanisms of moral disengagement’, in *Origins of Terrorism: Psychologies, Ideologies, States of Mind* (1990), and *Selective activation and disengagement of moral control* (1990). Bandura (1996) defined moral disengagement as the disengagement process of regulatory self-sanctions that convert harmful acts to moral ones, through obscuring personal agency by diffusing and displacing responsibility, misrepresenting, or disregarding the harmful effects inflicted, and berating the recipients of harmful acts by blaming and dehumanising them. Moral disengagement refers to eight interrelated cognitive mechanisms (moral justification, advantageous comparison, diffusion of responsibility, displacement of responsibility, euphemistic labelling, dehumanisation of victim, attribution of blame, and distortion of consequences (Caroli & Sagone, 2014; Caroli & Sagone, 2014a) that allow us to bypass our moral judgement and behave immorally without feeling any distress or guilt. In social cognitive theory, internal controls only work effectively when they are activated.

Bandura’s (1999) eight mechanisms of moral disengagement, indeed, require further attention. For example, moral justification can be described as a process by which an individual justifies his or her harmful actions as socially acceptable and even moral. Displacement and diffusion of responsibility are the two most well-known and researched

mechanisms of moral disengagement (Boardley & Kavussanu, 2011); they can be defined as the process by which personal responsibility is minimised due to social pressures, the instructions of others (in the case of displacement) or the actions of a group (diffusion of responsibility). Thus, mechanisms of moral disengagement dissociate our internal moral values from how we usually interpret our behaviour, rendering them completely and utterly ineffective. Such processes, potentially, convince people that ethical or moral values do not apply in a specific situation or context, through separating moral reasoning from inhumane conduct (Bandura, 2006; Fiske, 2017; Li, Nie, Boardley, Situ, & Dou, 2014; Moore, 2015).

Indeed, such mechanisms (*i.e.*, diffusion of responsibility and moral disengagement), can be traced throughout history. For example, Kteily and Bruneau (2017) examined the context of the intergroup war in which the losing side with incomparably more casualties was more likely to question the humanity of the winning side. Researchers assessed blatant dehumanisation and moral disengagement in the context of the conflict between Israelis and Palestinians during the 2014 Gaza war (Kteily & Bruneau, 2017). Study One had 521 Israeli individuals, Study Two had 354 Palestinian individuals. The results of the study revealed that, first, community samples of Israelis and Palestinians expressed extreme levels of blatant dehumanisation towards each other; secondly, blatant dehumanisation was uniquely associated with outcomes related to out-group hostility for both groups, even after accounting for out-group political aggression, and thirdly, the strength of correlation between blatant dehumanisation and outcomes was similar across both Israeli and Palestinian groups.

Further, McAlister, Bandura, and Owen (2006) examined the relationships between moral disengagement and support for military forces/armed conflict in the US. As part of the research, several facets of moral disengagement were included such as moral sanctioning of lethal means, demonising of personal responsibility for devastating effects of military campaigns, minimisation of civilian casualties, and diffusion of blame and



dehumanisation (McAlister et al., 2006). It is important to note that halfway through the study the country experienced the 9/11 terrorist attack. Due to the proximity to the study, it was noted that the terrorist attack increased the levels of moral disengagement for the use of military force compared to the pre-strike levels (McAlister et al., 2006). As expected, results showed that the higher the moral disengagement, the stronger the public support for immediate military action against suspected terrorist groups abroad, specifically in Iraq (McAlister et al., 2006). Further, moral disengagement completely mediated the effect of the terrorist attack and support for armed forces. From this, it is apparent that moral disengagement is directly affected by a threat from the unknown and helps to explain complete support for military actions without the feeling of guilt.

Johnson and Connelly (2016) in his research on moral disengagement during warfare stated that killing is fully justified, if it serves the purpose of protecting democracy, repelling aggression, and restoring morale in the society. For example, during and after World War Two, individuals and groups who supported Fascism, believed in the power of authority, and remained ignorant to war crimes against Jews, Communists and others disregarded by Hitler and SS out-groups. Almost all Nazi war criminals believed that they just followed orders, and at the time, that was the only 'right' action to take to save their lives and the lives of their loved ones. This important facet of moral disengagement is usually referred to as diffusion of responsibility, which is the spread of blame and guilt across all group members. Thus, individuals who engage in moral disengagement disregard the consequences of their actions, and ignore and minimise the outcome of malevolent actions, such as aggression.

The final example, that is worth mentioning as it directly results in aggression as an outcome, is research around moral disengagement and genocide. Cehajic, Brown, and González (2009) examined the dehumanisation of the victims based on Bosnia and Herzegovina and Serbian genocide. Researchers used a study by Castano and Giner-Sorolla (2006) as a baseline. This study was conducted in Bosnia and Herzegovina, and

used two conditions, where participants were reminded of the atrocities, and where participants were not reminded (Cehajic et al., 2009). Serbian adolescents who were in a condition with a reminder of atrocities, attributed fewer secondary emotions to Bosnia, in contrast to when they were not presented with a reminder of group responsibility (Cehajic et al., 2009). People who are reminded of the harmful behaviours of their group, even from the past, tend to use a diffusion of responsibility to avoid dealing with the feeling of guilt.

Important predictors of several morally undesirable behaviours associated with moral disengagement include, but are not restricted to, childhood aggression, cheating, workplace transgressions, misconduct, and denial of social change (Stoll-Kleemann & O’Riordan, 2020). Moral disengagement has been researched extensively across a number of disciplines and sub-disciplines. For example, moral disengagement research is included in an array of literature such as child and adolescent development (Caroli & Sagone, 2014; Hymel & Perren, 2015; Porter, Bhanwer, Woodworth, & Black, 2014); organisational behaviour (Duffy, Scott, Shaw, Tepper, & Aquino, 2012; Kish-Gephart, Detert, Treviño, Baker, & Martin, 2014), criminology (Cardwell et al., 2015) and personality psychology (Caroli & Sagone, 2014; Caroli & Sagone, 2014b; Erzi, 2020; Kuilman, Jansen, Middel, Mulder, & Roodbol, 2019; Liu, & Zheng, 2020; Wang, Wu, & Chong, 2019).

Mechanisms of moral disengagement may be used as justification of acts of aggression and violence because individuals may see themselves as trying to protect themselves and their in-group members from the ruthlessness of others (Bandura, 1999). Berkowitz and Geen (1966) stated that violence in films often takes on a justifiable motive, which normalises acts of aggression and violence. Aggressive conduct is occasionally considered morally acceptable and even an effective way of dealing with certain situations, whereas non-violent decisions are determined to be ineffective and weak, particularly around wartime situations, political debates and so on (Chignell, 2007). By using the mechanisms of moral disengagement, people become not only passive, but they also do not see themselves as being responsible for their aggressive actions. Bandura,

Jeffery, and Gajdos (1975) showed that dehumanised individuals were treated with more aggression than people who were attributed with humane qualities.

Gini, Pozzoli, and Bussey (2015) examined the moderating role of moral disengagement in the relationship between psychopathic traits and aggression. Researchers hypothesised that high levels of moral disengagement would strengthen the correlation between each psychopathic trait and aggressive behaviour (Gini et al., 2015). As expected, moral disengagement increased the risks for individuals with high manipulative interpersonal styles. Thus, people who are high in manipulative traits are less likely to suffer the consequences of their aggressive actions.

Ouvrein, De Backer, and Vandebosch (2018) examined the relationship between affective and cognitive empathy, moral disengagement, and online celebrity aggression. Researchers asked participants to complete the moral disengagement scale adapted to a celebrity context, the emotional quotient and a scale measuring mild and severe online celebrity aggression (Ouvrein et al., 2018). Results from SEM showed that when controlling for gender and celebrity media consumption, affective empathy was associated with severe online celebrity aggression. Additionally, the cognitive component of empathy was unrelated with online aggression (Ouvrein et al., 2018). Importantly, moral disengagement was related to mild and severe online celebrity aggression, and even further, mediated the relationship between affective empathy and mild and severe celebrity aggression.

Further research by Qi (2019) explored the mediating role of child moral disengagement and the moderating role of negative parental attribution in relation to harsh parenting and child aggression. Participants and their parents, who were recruited from two public schools situated in rural areas (Qi, 2019). Results of this study suggested that harsh parenting style was directly and indirectly associated with adolescent aggression via adolescent moral disengagement. Negative parental attributions were also found to moderate the indirect relation of harsh parenting to adolescent aggression via moral

disengagement (Qi, 2019). Harsh parenting was only significantly associated with moral disengagement for adolescents, who had increased levels of moral disengagement and were more likely to engage in aggressive behaviours. This deviated from the norm finding as it potentially shows that harsh parenting styles can lead to aggression development in children via moral disengagement. Like Qi (2019), research by Wang et al. (2019) indicated that harsh parenting was positively correlated with each mechanism of moral disengagement, and the mechanisms of moral justification and euphemistic language managed to completely mediate the correlation between harsh parenting and adolescent aggression.

The studies mentioned above (Ouvrein et al., 2018; Qi, 2019) directly provide a link between moral disengagement and aggression.

### **1.3.3: Conclusion**

Aggression is a complex behaviour that requires a deeper understanding and examination, as seen from the evidence-based review presented in this literature section. An important conclusion that can be drawn from this review is that the relationship between personality traits, both Dark Triad and Big Five, and aggression as a behavioural outcome, is strongly supported by a variety of studies (Anderson et al., 2003; Erzi, 2020; Locke, 2009; Pailing et al., 2014). For example, as stated in the section 1.3.2 above, some personality traits, such as neuroticism, psychopathy, and narcissism, are related to aggressive behaviours, as predicted by Barlett and Anderson (2012), while other traits, such as agreeableness, may be both indirectly and directly related to aggression, and extraversion sub-characteristics are predictive of aggression, but to a lesser extent. From an examination of the previous literature, there is a need for research that combines several concepts.

One way is to use both the Big Five personality model and Dark Triad dimension, with several mediators such as moral disengagement, impulsivity, and cognitive abilities. This is just an example of what future research can use. In addition, aggression, just like prejudice, is a cross-cultural concept; however, there is a distinct lack of cross-cultural

comparison around aggression research. From various research (Baughman et al., 2012; Dinić & Wertag, 2018; Erzi, 2020; Locke, 2009; Pailing et al., 2014) the conclusion can be drawn that Big Five, Dark Triad and aggression has a long-standing relationship that has been extensively studied. Nonetheless, there is a need to understand that relationship further in a cross-cultural setting, and the addition of a predictive variable, such as moral disengagement.

Research by Erzi (2020), previously described in the section on aggression, indicated that higher levels of psychopathy, narcissism and Machiavellianism were positively correlated with higher levels of schadenfreude, moral disengagement, and relational aggression, as well as, both moral disengagement and relational aggression acted as mediators on the effects of the traits, thus suggesting that individuals who have traits are likely to disengage morally, have a tendency of relational aggression.

It is important to mention that aggression is positively correlated with selfishness and negatively with moral reasoning that focuses on others (Arsenio, Adams, & Gold, 2009; Bear & Manning, 2014). To be precise, young adults who express aggression against others are more likely to morally disengage if they focus on the gains of the aggressive outcome, rather than on morality (Arsenio et al., 2009; Gasser & Keller, 2009). In contrast, reactive aggression is linked more to frustration and anger in previous research. It is usually identified by impulsivity and self-regulatory deficits (Fontaine, Yang, Dodge, Pettit, & Bates, 2009). This suggests that the ability to regulate one's behaviour since moral standards requires abilities that aggressors simply do not possess.

Zhou, Gao, and Zhao (2017) importantly showed that moral disengagement played a partially mediating role in the relationship between neuroticism, agreeableness, and bystander behaviour. Moreover, moral disengagement played a mediating role in the relationship between agreeableness and engagement in perpetration, and involvement in victimisation. As seen from all the previously mentioned research, moral disengagement is an important predictor not only in the normal personality range, but also in the dark

personality range. Egan, Hughes, and Palmer (2015) proved that moral disengagement is a useful adjunct to more commonly used traits to measure dark personalities, and that in particular, narcissism had a specific influence on outcomes once moral disengagement was taken into consideration. Therefore, we can assume that aggression will be strongly to be related to moral disengagement.

#### **1.4: Theory and origins of cross-cultural comparisons**

Like several concepts previously mentioned in this review such as personality, prejudice, aggression, there is no consensus among psychologists on which definition of “culture” should be widely used. For this research, Geertz’s definition of culture will be used, as it defines culture as a whole; specifically, “a historically transmitted pattern of meanings embodied in symbols; a system of inherited conceptions expressed in symbolic forms by means of which men communicate, perpetuate, and develop their knowledge about and attitudes toward life” (Geertz & Religion, 1993, p. 89). Such a definition is broad in nature, but it includes all the necessary aspects of what culture is, for example, it incorporates linguistics, knowledge, attitudes. Furthermore, it is important to note that there are a number of definitions of cross-cultural research, but with the same underlying principle.

Cross-cultural research, as defined by Ilesanmi (2009), is a scientific method of comparative research that focuses on systematic comparisons of culture to culture and explicitly aims to answer questions about distributions and causes of cultural variation and problems across a wide domain. Brislin (1983) on the other hand defined cross-cultural research as the empirical study of members of various cultural groups who have had significant experiences in leading to predictable, and theoretically important, similarities and differences in attitudes. Further, Triandis (1980) defined cross-cultural research as the study of behaviour and experiences as they transpire in different cultures, settings, or are influenced by culture, and result in unavoidable changes. Finally, according to Ilesanmi (2009), cross-cultural research is a scientific method of comparative analysis, which focuses on systematic comparisons of culture to culture, and explicitly aims to answer

questions about the distributions and causes of cultural variation and problems across different domains. For this project, the definition by Ilesanmi (2009) will be used as a baseline for understanding cross-cultural comparison studies.

According to Van de Vijver (2015), cross-cultural studies in psychology can be separated into three distinct categories. First, cross-cultural psychological research can be exploratory or evaluate specific hypotheses; second, some cross-cultural studies compare countries or ethnic groups while others relate specific characteristics of a country or ethnicity to a psychological variable; and finally, cross-cultural studies can compare either constructs or score levels (Van de Vijver, 2015). This project will be using an approach that is portrayed by comparing two countries, the United Kingdom, and the Russian Federation, and relating specific characteristics of a country to psychological variables (prejudice and aggression). Several well-known psychologists from a variety of sub-disciplines have stated the importance of cross-cultural data (Collier, 2020; Landy & Trumbo, 1980; Prietto, 1992). Different psychologists also recognise the significance of cross-cultural comparisons (*e.g.*, Boyle et al., 2020; Doucerain, 2019; Eysenck, 2004; Hanin, Eysenck, Eysenck, & Barrett, 1991; Tran, 2009). Cross-cultural research is not confined to one methodological approach, and usually combines numerous psychological disciplines, for example, personality and cognition, or personality and social psychology (Keller & Kärtner, 2013).

One of the greatest benefits of cross-cultural research is that results can potentially be generalised across many types of populations (expansive, constrictive, and stationary). It helps researchers make general statements about psychological phenomena and variables (Dong & Dumas, 2020).

Cross-cultural research has its limitations as well. A pertinent example includes self-report measures. For example, when measures are applied outside of the population in which they were developed, for example, Western vs non-Western, differences between cultural groups are difficult to interpret (Reynolds et al., 2001). Therefore, researchers

need to consider and implement specific measures to avoid biases (Tuthill, Nern, Rubin, & Reiser, 2014). These will be discussed more fully in the next chapter. Further, when it comes to interpreting cross-cultural mean-level difference results, it is important to be wary for several reasons (Richetin, Perugini, Adjali, & Hurling, 2007). First, an error that can influence the validity of cross-cultural comparisons is the ‘frame-of-reference effect’ (Heine, Lehman, Peng, & Greenholtz, 2002). The frame-of-reference effect is a process by which a person will compare himself or herself, as a reference, to a person who usually happens to be from their own culture (Marsh et al., 2015). Because of this effect, biases can accrue. For example, a Russian might compare him/herself to other Russians when answering personality questionnaires, whereas a Briton might compare him/herself to other British people. Thus, frame-of-reference effect could affect the validity of mean-level differences between two cultures (Marsh et al., 2015).

This project compares the United Kingdom and the Russian Federation on the Dark Triad and Big Five personality traits in relation to prejudice and aggression. It is important to understand why the UK and Russia were chosen for this research. First, these two countries have major historical and social differences, which come from the Cold War and Russia’s late transference to a democratic state. Secondly, there is an obvious lack of studies conducting cross-cultural research on prejudice and aggression in relation to these specific countries. Thirdly, it is reasonable to state that Russia and the UK are culturally different (O’Mochain, 2014; Slobodskaya, 2007; Tsygankov, 2006; Tsygankov, 2003). The UK represents a baseline for Western society and culture, whereas Russia represents a non-Western society. The UK, as previously stated, is a classic example of westernised society, and most importantly the main constructs of this project, as we know them today, were developed in westernised societies (*e.g.*, the US, UK).

The question as to whether Russia is part of Western society or not has been widely discussed. According to Lukin (2003), after the collapse of the Soviet Union with its official Marxist ideology, Russia began to exhibit signs of an ideological vacuum. Peculiar



theories and concepts began to emerge, ranging from traditional beliefs in tsarist Russia to the support of Western constructions. The general decline in popularity of the West in Russia can be explained by the failure of economic reforms which were associated with pro-Western politicians and pro-Western advice. Gvosdev (2009) suggested that no Russian party advocates Russian membership in Euro-Atlantic institutions and that there has been a consensus among Russians for less tolerance for Western criticism of Russia's political and economic choices.

Data from a general population survey suggested that most young Russians feel they want the same things as their counterparts in Western Europe (62 per cent), but that Russia should not try to become another European country (54 per cent) and that it would be better off if foreigners ceased from trying to 'impose their ideas' (72 per cent) on Russian people (Gvosdev, 2009). The United Kingdom, on the other hand, is a Western society; from its democratic stance on freedom of speech, the United Kingdom serves as a baseline for other Western countries. From previously mentioned examples and statements, the UK and Russia are the best examples for studying differences in prejudice and aggression, because they represent Western vs non-Western societies.

From the previous paragraph, it is important to understand the approach taken in the current study. Emic (meaning culture-specific) approaches often reveal dimensions that are remarkably like the dimensions that pertain to the FFM, but at the same time, research has identified culturally unique personality attributes (Diaz-Guerrero, Diaz-Loving, & Rodriguez de Diaz, 2001). A sample includes *amae*, or need for dependency in Japan (Doi, 1973), *anasakti*, or detachment in India (Pande & Naidu, 1992), *philotimo*, or behaving towards one's group members as one should, in Greece (Triandis & Vassiliou, 1972).

Further empirical evidence that Western trait measures may not adequately predict behaviour in other cultures comes from studies of Chinese populations where indigenous constructs were better predictors of variables such as life satisfaction or filial piety than

universal constructs (Zhang & Bond, 1998). Several reasons have been given for these results. Cross and Markus (1999) state that Western approaches may conceive personality very differently from their East Asian counterparts. The authors support their thesis by comparing the prevailing view in Western cultures with a central concept in Confucian perspectives that comprehends personality as a process of self-realisation rather than a relatively fixed state (Mischel & Shoda, 1995). In addition, Chinese perspectives on personality often include the notion of an ideal toward which one should strive. Personality is seen as the social knowledge that individuals use in working on important life tasks (Cantor & Harlow, 1994). Examining personality cross-culturally challenges prevailing theories and paradigms in Western psychology and provides new tools and concepts for expanding and enhancing those theories (Church, Katigbak, & del Prado, 2010; Locke, 2009; Moss, 2005).

#### **1.4.1: Cross-cultural examination of personality traits**

Curiosity regarding the universality of the Big Five has inspired several cross-cultural comparison studies. Western and developing countries (McCrae, 1996; Schmitt, 2011) have found substantial cross-cultural differences in self-reported mean levels of personality traits in a variety of samples. For example, McCrae (1996) revealed that mean-level differences between countries were related to Hofstede's (2001) well-known dimensions of culture. Power distance was negatively related to extraversion, and positively related to conscientiousness. moreover, uncertainty avoidance was negatively associated with emotional stability and agreeableness, and positive associations of individualism with extraversion and openness,

Despite some support for the cross-cultural replicability of the FFM, two types of challenges have been pointed out. First, it has been argued that FFM instruments may not be the most adequate to assess personality in non-Western contexts. Some researchers suggest that this is related for Western cultures by westernised society (Cheung, van de Vijver, & Leong, 2011). The quest for the universality of personality has been

operationalised as an attempt to confirm the invariance of Western instruments. Second, the expected five-factorial structure is not always retrieved (Dollard, Miller, Doob, Mowrer, & Sears, 1939; Gurven, von Rueden, Massenkoff, Kaplan, & Lero Vie, 2013; Voronin, Tikhomirova, Ismatullina, & Malykh, 2016; Yoon, Schmidt, & Ilies, 2002). On the other hand, most scales including BFI-2 (Big Five inventory scale-2) has been validated in Chinese, Dutch, German, English, Hebrew, Italian, Lithuanian, Portuguese, Spanish and Swedish (Minkov, van de Vijver, & Schachner, 2019), all validations presented high internal consistency and reliability.

Caprara et al. (2000) attempted to examine the value of a multiple data analysis for testing the cross-cultural generalisability of personality measures. Data were collected in four different countries: Italy, Germany, Spain, and the United States. The main measure was the Big Five questionnaire (BFQ), which is a measure of the FFM of personality traits (Caprara et al., 2000). In addition to item-level analyses, scale-level analyses were also conducted on item facets and an examination of comparability of latent structures was conducted (Caprara et al., 2000). Most importantly, three exploratory factor analyses, simultaneous component analysis, and confirmatory factor analysis were compared. The results of this research, in particular scale-level analysis, showed that the Italian, American, German, and Spanish versions of the BFQ are fully comparable. In addition, EFA (exploratory factor analysis) and SCA (simultaneous component analysis) methods identified the same five factors structure in four countries (Caprara et al., 2000). The factor structure was not affected, at least directly, by the difference in pattern loadings, nor by the difference in data sets. Unexpectedly, findings from CFA (confirmatory factor analysis) were less consistent.

Valentova, Moraes Junior, Štěrbová, Varella, and Fisher (2020) examined the effects of sociosexuality and Dark Triad traits on both mating and parenting efforts. Sample consisted of a total of 1,110 heterosexual Middle European (Czech) and Latin American (Brazilian) men and women, they were asked to complete an online self-report

questionnaire. Results indicated that sociosexuality dimensions, Machiavellianism, and narcissism predicted positive mating effort, while parenting effort was negatively predicted by sociosexual attitude and psychopathy (Valentova et al., 2020). Most importantly, this applies to both sexes and both countries. Individuals with a high-mating/high-parenting and low-mating/low-parenting profile scored in between. Thus, the relationship among traits, sociosexuality and mating and parenting efforts holds across cultures, and mating and parenting are not exclusive, but complementary variables (Valentova et al., 2020).

Jonason, Okan, and Özsoy (2019) examined perceptions of a dangerous and competitive world and individual differences in the Dark Triad traits. Data were obtained from two countries that differ in socio-ecological conditions (Jonason et al., 2019). Results indicated that Turkish participants scored higher than Australian participants, and the traits were positively correlated with a competitive but not a dangerous worldview (Jonason et al., 2019). Further, country-level differences were mediated by a competitive worldview, but not a dangerous worldview; rates of narcissism depended on the participant's sex and country (Jonason et al., 2019). This study was a pioneer in attempting to provide an understanding of country-level differences in the Dark Triad traits. Since there has been a wide range of studies looking at the concept in a cross-cultural setting.

Yang et al., (2019) investigated the associations between the Dark Triad and scores on the Pittsburgh Sleep Quality Index, and the mediating effect of anger rumination on the overall sleep quality in a large sample. Men scored significantly higher on narcissism, and lower on the use of sleeping medication than women did. Correlations revealed that Machiavellianism, primary, and secondary psychopathy, were significantly associated with poor sleep quality and greater anger rumination, whereas narcissism was neither associated with overall sleep quality, nor with anger rumination. Mediating effect analysis revealed that (1) Machiavellianism was directly associated with poor sleep quality, and indirectly associated with poor sleep quality via greater anger rumination; (2) both primary

and secondary psychopathy were indirectly associated with poor sleep quality via greater anger rumination, and secondary psychopathy had the strongest direct effect on poor sleep quality. These results give further support to the overlapping but distinct nature of concept and provide insight into the behaviours and underlying psychological processes.

Jonason et al., (2017) in a sample from six countries (America, Australia, Brazil Hungary, Japan, and Russia), examined the relationships between individual differences in independent, interdependent self-construal and the Dark Triad traits. Overall, traits were mostly unrelated to interdependence, whereas Machiavellianism and narcissism were associated with stronger independent self-construal (Jonason et al., 2017). Men scored higher than women did in all countries, with some cross-cultural variance. Women were used to both more independent and interdependent self-construal than men were, but these were weak and driven by country-specific effects. Results showed that sex differences in the Dark Triad traits were partially accounted for by individual differences in self-construal, but these mediation effects were quite small and speculative given limited evidence for sex differences in self-construal in the six countries we sampled (Jonason et al., 2017).

Chegeni, Pirkalani, and Dehshiri (2018) examined the relationship between the Dark Triad and mate retention behaviours in Iranian married individuals. Descriptive statistics and evaluation of sex differences suggested that Iranian men scored significantly higher on domains of mate retention. Women scored higher on narcissism. Correlational analyses indicated that Machiavellianism, narcissism, and psychopathy are positively correlated with benefit-provisioning, cost-inflicting, and overall mate retention. Therefore, individuals who score higher on the Dark Triad traits employ mate retention strategies to prevent the dissolution of their marital relationships. The findings are consistent with previous findings in Western cultures.

All of the research mentioned above is vital in understanding personality and individual differences across a range of dimensions, including dark personality traits and a normal range of personality traits.

#### **1.4.2: Cross-cultural examination of prejudice and aggression**

Despite the world moving towards increased globalisation and multiplication of opportunities for contact with other cultures, prejudice still exists, and sometimes appears to be resistant to change. If getting to know the characteristics and traditions of other groups is not enough, an attitude portrayed by openness, curiosity, and acceptance towards other cultures may be necessary to eradicate prejudice. It is important to understand prejudice from a cultural perspective by looking at the variety of research and studies.

Meeusen and Kern (2016) conducted research looking at the generalisability of prejudice across contexts by analysing associations between different types of prejudice in a cross-national perspective and by investigating the relation between country-specific contextual factors and target-specific prejudices. Relying on the European Social Survey (2008), results indicated that prejudices were indeed positively associated, confirming the existence of a generalised prejudice component. Next to substantial cross-national differences in associational strength, also within-country variance in target-specific associations was observed. This suggested that the motivations for prejudice vary according to the intergroup context. Two aspects of the intergroup context – economic conditions and cultural values – appeared to be related to generalised and target-specific components of prejudice. Future research on prejudice and context should take an integrative approach that considers both the idea of generalised and specific prejudice simultaneously.

Further research by Troian, Bonetto, Varet, Barbier, and Lo Monaco (2018), using social representations theory, created a secularism questionnaire and used it in a cross-sectional survey that also included SDO and generalised prejudice measures. To test social representation of secularism's legitimising function, we derived the hypothesis that NS

will mediate the link between SDO and expressed prejudice from a social dominance perspective. Results support authors predictions and are discussed considering intergroup status quo legitimisation processes and their links with social representations.

Scott and Safdar (2017) evaluated the moderating effects of intergroup ideologies (assimilation, multiculturalism, and inter-culturalism) on the relationship between SDO and expressions of prejudice under conditions of intergroup threat. Moderated multiple regression analyses suggest a multicultural integration frame moderates the relationship between SDO and feelings toward Syrian refugees in Canada when the target out-group is portrayed as a source of intergroup threat. This moderating effect was unique to the relationship between SDO and feelings toward Syrians and did not extend to other correlates of prejudice including beliefs in zero-sum group competition or a multicultural ideology, nor did it extend to more general measures of prejudice (*i.e.*, attitudes toward immigrants or evaluations of intercultural contact).

Findings suggest the prejudice-reducing effects of a multicultural integration narrative affect group evaluations and functions by targeting beliefs in social dominance, rather than zero-sum group competition or ideological support for cultural diversity (Scott & Safdar, 2017). The results offer insights into the prejudice-reducing potential for two alternative integration narratives that are institutionalised in Canada. Culture has a prominent place in understanding prejudice and potentially creating interventions techniques that can offer insights into reducing prejudice.

Brenick, Lawrence, Carvalheiro, and Berger (2019) evaluated the effectiveness of two prejudice reduction interventions among 148 Palestinian-Israeli and 154 Jewish-Israeli 5<sup>th</sup> grade students in a high conflict area. Schools in Jaffa (Israel) were assigned to a social-cognitive/emotional skills-based intervention, (*i.e.*, skills, skills + contact), or a control group—all delivered as part of the curriculum. Prejudice was assessed through participants' judgements of and justifications about hypothetical scenarios of intergroup exclusion in peer and home contexts at pre-test, post-test, and six-month follow-up

(Brenick et al., 2019). Repeated measures ANOVAs showed various main effects including gender, ethnicity, and context in which the exclusion occurred (peer/home). Significant higher-level interactions with the group by time demonstrated the positive influence of both treatment groups on prejudice reduction. The skills and skills + contact groups became more rejecting while the control group became more accepting of exclusion across time. Additionally, the skills and skills + contact groups increased in moral and empathic reasoning over time, whereas the control group increased in social conventional and stereotyped prejudiced reasoning. These findings illustrate the effectiveness of in-school social-cognitive/emotional skills and combined skills contact approaches in reducing the prejudiced attitudes of Palestinian and Jewish-Israeli pre-adolescents, especially in areas with protracted conflict (Brenick et al., 2019).

In terms of aggression and cross-cultural studies, similarly to prejudice, there has been a vast improvement in the literature. Ersan et al. (2020) investigated differences in driver aggression within countries and cultural differences between driver aggression, aberrant, and positive driver behaviours across five countries (Estonia, Greece, Kosovo, Russia, and Turkey). The authors predicted that drivers from these countries would differ significantly in terms of driver aggression, aberrant and positive driver attitudes. Participants completed the questionnaire package, including the Driver Aggression Indicators Scale (DAIS), the short version of the Driver Behaviour Questionnaire (DBQ) with items from the positive driver behaviour scale, and the demographic information form (Ersan et al., 2020).

To analyse the data, paired samples T-tests were conducted to examine the differences in driving aggression in the five countries. The results of the study indicated that, except for Russian drivers, drivers of other four countries reported that the other drivers had higher driver aggression than themselves (Ersan et al., 2020). The ANCOVA analysis showed that significant differences were observed in both item-based and subscale comparisons, and Russian drivers were significantly different from other drivers



in terms of hostile aggression and the revenge subscales (Ersan et al., 2020). Further, Turkish drivers were significantly different from other drivers, including errors and violations items (Ersan et al., 2020). The findings of this study show that culture-specific driving behaviours might be conducted for traffic-related anger management, and even further, differences in errors and violations among the five countries may be due to cultural differences (Ersan et al., 2020).

Butovskaya, Burkova, Karelin, and Filatova (2019) looked at recent meta-analyses and suggested the association between digit ratio (2D:4D) and aggression is relatively weak. Researchers emphasised that such a conclusion has been criticised because the meta-analyses conflate forms of aggression that show strong sex differences. Study aimed to assess the influence of 2D:4D and ethnicity in the expression of aggression in children and adolescents in four ethnic groups of European and African origin (Butovskaya et al., 2019). The study design included the use of the Buss and Perry aggression questionnaire. The participants were 1,296 children and adolescents from Tanzania and Russia from four ethnic groups – Datoga, Meru, Russians, Tatars (Butovskaya et al., 2019). The results showed that there were ethnic and gender differences in ratings on aggression in boys, who consistently reported more physical aggression. Importantly, in all four samples aggression was significantly lower in boys, compared to girls (Butovskaya et al., 2019). As such partial suggestion that boys and girls of different ethnic origins had various levels of aggression. Further, the total sample of boys from all ethnicities significantly and negatively associated with self-ratings on physical aggression, but no association was found for left 2D:4D (Butovskaya et al., 2019). However, no such association was found for physical aggression in girls.

Jansen, Dassen, Burgerhof, and Middel (2005) stated that there is currently not enough information about the attitudes of psychiatric nurses toward patient aggression, particularly from a cross-cultural perspective. This study focused on investigating patient aggression of psychiatric nurses from five European countries using their newly

developed scale. Researchers performed regression analysis to identify the personal and occupational characteristics of the nurses to be able to predict their attitude toward aggression (Jansen et al., 2005). Furthermore, an analysis of variance was used to identify differences in attitudes between and among countries (Jansen et al., 2005). Results showed that attitude was predicted by sex, contractual status (full vs. part-time), and the type of ward on which the subjects worked; however, most importantly attitudes differed across countries (Jansen et al., 2005).

Gee and Leith (2007) examined the mediating role of an athlete's birthplace (North America or Europe) on the use of aggressive attitudes in professional ice hockey. The study attempts to uncover whether the use of aggression in professional ice hockey is better understood according to within-competition or should be explored in the future using broader social factors such as cultural socialisation (Gee & Leith, 2007). The study was archival in nature and utilised the records from the first 200 games of the 2003–2004 NHL season. The researchers used 2185 penalties that were recorded and categorised according to Widmeyer and Birch's (1984) (Gee & Leith, 2007). Results of the study from an aggression questionnaire indicated that North American players committed significantly more aggressive, and non-aggressive acts than did their European counterparts (Gee & Leith, 2007). However, the authors stated that the distribution of both groups' aggressive acts was relatively similar when examined according to score differentials (Gee & Leith, 2007). Such research is important to understand aggressive behaviour in a cross-cultural setting from a justifiable perspective.

### **1.4.3: Conclusion**

With the rise of multiculturalism, it is becoming clearer and clearer that psychologists need to examine behaviour patterns and personalities in a cross-cultural setting. Singelis (2000) conceptualised that culture should be integrated in a variety of ways and added as one of the core aspects in multiple disciplines. The in-depth literature review presented above draws important conclusions for this section. First, several studies (Caprara et al.,

2000; Cheung et al., 2011; Hofstede, 2001; Yang et al., 2019) examined Big Five and the Dark Triad from a cross-cultural perspective, by understanding, translating, and evaluating the theory and the measures. It is clear from the evidence that both Dark Triad and Big Five models and their measures (SD3 and BFI-2) have been tried and tested in a variety of cultures, and repeatedly show high reliability and validity across the globe. As for aggression, prejudice and cross-cultural studies, there has been a vast improvement in the literature in the recent decade. Studies by several authors (Butovskaya et al., 2019; Ersan et al., 2015; Meeusen & Kern, 2016) provided widespread support for the measures chosen for the current research. From a review of the research mentioned above, adding a cross-cultural aspect to the current study will require considering multiple influences and levels of analysis, adding complexity to already complicated research.

Nonetheless, as the literature on personality, prejudice and aggression suggests, the cross-cultural aspect becomes more and more necessary to gain a fuller picture of the personality and behavioural outcomes (Fry, 2001). There is a need to incorporate a larger variety of regions, cultures, and countries in the research designs, to theorise and identify a larger set of variables to describe personality and overcome methodological weaknesses to improve the comparability of measurement results. Cross-cultural psychology is at the next crossroads in its development, and researchers can certainly make major contributions to this domain if they can address these weaknesses and challenges (Gallardo-Pujol et al., 2019). It is important to state that cross-cultural psychology has made important contributions to research and interventions across a variety of fields. More importantly, cross-cultural psychology indeed contributes new knowledge and understanding of the psychological behaviours and practices and can enrich current literature to successfully overcome challenges that diverse cultures face.

### **1.5: Rationale**

This project aimed to provide a greater understanding of the relationship between personality factors (*i.e.*, Dark Triad and Big Five) and malevolent social outcomes (*i.e.*,

prejudice and aggression), and to determine whether such a relationship extends across different cultures. Preceding research has typically focused on specific trait relationships rather than models. Consequently, previous work provides only partial insights into how personality relates to prejudice and aggression. Additionally, there is a lack of cross-cultural comparisons. These are important because they indicate whether relationships vary as a function of societal and historical context. Furthermore, cross-cultural comparisons are important as they specify the extent to which researchers can generalise models developed for one culture to another.

This project adopted correlational-based methods of analysis with a cross-cultural approach, which broadened the existing understanding of the relationships between personality traits in relation to prejudice and aggression in Russia and the United Kingdom. Research showed that separately, Dark Triad and Big Five aid in the understanding of prejudice and aggression on their own (Koehn et al., 2019); however, this evidence is fragmentary, in the sense that such personality traits are examined in isolation from one another, whereas prejudice and aggression are complex social phenomena that require an equally complex approach to their understanding. This project used an original approach and contributed to the knowledge and understanding of prejudice and aggression, through a combination of complex analyses and cross-cultural elements. This research aided in filling in the existing gaps in the literature gaps and created a new branch of cross-cultural psychological literature.

### **1.6: Outline**

The chapters contained within this thesis examined the effects of the Dark Triad and the Big Five model in explaining prejudice and aggression, via cross-cultural comparison. The next chapter will discuss the methodology for the thesis, by considering the philosophical underpinnings and justifying the need for the methodological approach used in the research.

The following three chapters will consist of three conceptually distinct but related studies for assessing cross-culturally the relationships between Big Five and Dark Triad personality traits in relation to socially malevolent outcomes (in the form of prejudice and aggression). Study One examines the interrelationships between Dark Triad traits and the Big Five personality factors while incorporating cross-cultural comparisons of the United Kingdom and Russia. This study employs a cross-sectional design and correlation-based methods of analysis with 1,292 British participants and 1,996 Russian participants. Participants were asked to complete an online set of established self-report measures such as short Dark Triad3 (SD3) and Big Five inventory 2 (BFI-2). Both measures were translated into the Russian language by the lead researcher using the back translation method (Ulvydienė, 2014; Zainudin & Awal, 2012).

Study Two and Study Three utilised the outcomes of Study One to inform the baseline of a predictive model, which was extended and tested in relation to the outcomes of prejudice and aggression. Study Two examined the relationship of personality dimensions, Dark Triad and Big Five, in relation to prejudice. The study understood how personality affects prejudice and showed that the relationship between personality traits and prejudice is mediated by ideological value, *i.e.*, SDO. Study Three investigated the relationship of personality dimensions and concerning aggression. This study identified how personality affected aggression and showed that the relationship between personality traits and aggression is mediated by moral disengagement. Both Study Two and Study Three incorporated cross-cultural comparisons between the UK and Russia. Similarly, to Study One, both Study Two and Study Three employed cross-sectional design and correlation-based methods of analysis with 1,019 British participants and 2,000 Russian participants.

The final chapter provides an outline and synthesis of the findings, discussion, limitations of the current research, and directions for future research on this topic.



## Chapter 2: Methodology

### 2.1: Overview

This chapter presents the research design, data collection and data analysis procedures that were decided to be most suitable for addressing the formulated research questions addressed in the rationale. Not only will practical procedures be presented, but their theoretical and philosophical foundations will also be discussed.

According to Rehman and Alharthi (2016), as researchers, we must be able to understand and articulate beliefs about the nature of reality, what can be known about it and how we go about acquiring such knowledge. These are the basic elements of research paradigms. A paradigm is a basic belief system and theoretical framework with assumptions about 1) ontology, 2) epistemology, 3) methodology and 4) methods. In simpler terms, it is our own way of understanding the reality of the world and how we can study it. This project sought to understand and answer questions regarding, first, what role personality, play in understanding prejudice and aggression. Secondly, does the cross-cultural setting influence the role of personality, in particular the Dark Triad and Big Five personality models, in explaining prejudice and aggression. To determine the most appropriate methodology for this project, a great deal of consideration was given to the research in personality, prejudice and aggression, and previous cross-cultural studies were examined.

#### 2.1.1: Quantitative methods in psychology

Creswell (2003, p. 4) defines quantitative research as:

“A means for testing objective theories by examining the relationship among variables. These variables, in turn, can be measured, typically on instruments, so that numbered data can be analysed using statistical procedures.”

The quantitative research paradigm dominated the scientific community, including the psychology field, until the late 20<sup>th</sup> century (Timans, Wouters, & Heilbron, 2019). By the end of the 20<sup>th</sup> century, other paradigms gained significant prominence, including the

future shared lead of qualitative research (Chilisa, 2011). Quantitative research paradigms are based on the philosophy that every phenomenon can only be explained from a positivist viewpoint. Positivists believe that there is only one truth, and such truth can be validated by using empirical methods and quantitative methodologies (Sale, Lohfeld, & Brazil, 2002). They argue that every research study should be generalisable to some extent to similar situations and different populations (Sale, Lohfeld, & Brazil, 2002). The methodology adopted by quantitative research is mostly experimental, with a focus on hypothesis testing, that goes in line with the positivist viewpoint. Hypothesis testing means finding the cause – and - effect relationship between variables (Price, Jhangiani, & Chiang, 2015). It is vital to mention that the quantitative research paradigm gained prominence due to its ease to adapt to standard ways of conducting research, and it is also highly generalisable in comparison to qualitative research. On the other hand, not all researchers agree with the strong form of positivism. Many advocated an alternative version known as post-positivism, which Phillips (Khaldi, 2017) sums up as follows:

“Although the object of our inquiry exists outside and independent of the human mind, it cannot be perceived with total accuracy by our observations; in other words, complete objectivity is nearly impossible to achieve, but still pursues it as an ideal to regulate our search for knowledge.”

The type of research methodology the researcher chooses is determined by the research philosophy and research questions. The chosen philosophy that the researcher adheres to then determines the research objectives and the research instruments, which are specifically developed and used in the quest for the solution to the problem the researcher is investigating. It is important to understand the philosophies behind the research and look at an alternative to the quantitative method.

It is worth mentioning an alternative method of research that is also widely used in a cross-cultural setting: qualitative research. Qualitative research has been considered increasingly valuable for cross-cultural psychology studies (*e.g.*, Tanggaard, 2014; Karasz



& Singelis, 2009). Yet not many studies applying qualitative methodologies discuss its contributions and challenges to the field (*e.g.*, de Quadros Rigoni, 2016). In qualitative research, the researcher's experiences and feelings are the main tools both to gather and to interpret the data collected in the field. The researcher's subjectivity is the main instrument to learn about the culture, beliefs, and experiences of the research participants (Kvale, 1996). Rather than something to be suppressed, the researcher's feelings need to be treated as data (*e.g.*, Demuth, 2013; Coffey, 1999; Flick, 1998; Tanggaard, 2014), becoming a valuable tool in understanding local contexts and processes. It is vital that researcher is honest and reflexive about their own assumptions and experiences, in turn this reflection influences the research process (de Quadros Rigoni, 2016). Another issue in employing qualitative methods in cross-cultural research was figuring out how to compare truly varied situations and experiences and uncover common patterns across nations and sectors while keeping local diversity in mind (de Quadros Rigoni, 2016). One of the main benefits of qualitative research is to get rich data related to local processes and context (*e.g.*, Kvale, 1996; Flick, 1998), which comes from the closeness the researcher develops with the participants and the field at large.

So far, empiricism and rationalism have been the most prevailing research philosophies (Markie, 2004). These philosophies can be traced back to the debate between the empiricists, who were inductivists, and the rationalists, who were deductivists. These two competing viewpoints take different approaches to explaining how knowledge is acquired: empiricists believe in inductive reasoning, whereas rationalists believe in reasoning (Markie, 2004). As a result, when it comes to selecting the appropriate research procedures, the inductive/deductive dichotomy might be considered the first significant paradigm in science. Inductive reasoning or the bottom-up method, begins with specific observations and progresses to a broad conclusion or theory.

Both approaches, of course, have drawbacks. There are three basic problems to the inductive approach, for example. First, the research's conclusions are based on

observation, and it's unclear how many observations are required before it's reasonable to draw conclusions relevant enough to make generalisations; second, the question is how much control the researcher has over the situation(s) and under what conditions these observations are conducted so that he can draw reliable conclusions; and third, even if our experiences are representative, we may interpret or generalise them (Markie, 2004).

The major flaw in the deductive approach is that it relies on theories that are speculative answers to a posed problem in the form of a hypothesis that is then tested through observation and experimentation but is, by definition, falsifiable, opening the possibility of a total rejection of the theory on which it was built, necessitating a revision of the initial hypothesis (Markie, 2004). Furthermore, while using a deductive procedure, the premise must be true for the conclusion to be true as well.

The post-positivists cleared the path for social sciences to be included in the realm of science, and they see social science research as natural science research. They believe that social reality is made up of quantifiable objective facts that can be precisely measured by the researcher, who can then evaluate causal linkages using statistics (Khaldi, 2017). However, while the positivists will favour a hypothetico-deductive procedure that advocates quantitative measurement, the post-positivists will follow an inductive procedure advocating qualitative assessment (Khaldi, 2017). These two research frameworks will establish the two major paradigms in research, *i.e.*, quantitative, usually associated with natural sciences, and qualitative, mostly associated with social sciences. In addition, paradigm which blends the characteristics of both qualitative and quantitative, *i.e.*, mixed-method research.

Research is the systematic and organised acquisition of knowledge. However, the paths that lead to the discovery of this new information differ depending on the researcher's philosophical beliefs (Khaldi, 2017). As a result, without a clear comprehension of the epistemological difficulties that drive them, research paradigms that dictate existing research procedures cannot be fully comprehended. The inductive-

deductive argument, which will eventually evolve into quantitative-qualitative approaches, is a direct outcome of changing attitudes about what constitutes the most efficient and trustworthy method of conducting research (Khalid, 2017). It is true, however, that the nature of the data, either natural or psychological, will direct the researcher to a great extent towards one or another methodology, like it did with this research project. The ontological position of the quantitative paradigm is that there is only one truth, an objective reality that exists independent of human perception (Khaldi, 2017).

Epistemologically, the investigator and investigated are independent entities. Therefore, the investigator can study a phenomenon without influencing it or being influenced by it; “inquiry takes place through a one-way mirror” (Guba & Lincoln, 1994, p. 110). The goal is to measure and analyse causal relationships between variables within a value-free framework (Denzin & Lincoln, 1994). Techniques to ensure this include randomisation, blinding, highly structured protocols, and written or orally administered questionnaires with a limited range of predetermined responses. Sample sizes are much larger than those used in qualitative research, so that statistical methods to ensure that samples are representative can be used (Carey, 2011).

The three major philosophies of science that bear on psychology are empiricism, social constructionism, and scientific realism (Greenwood, 1992; Manicas & Secord, 1983). 19<sup>th</sup> century British empiricism had a major influence on the development of British statistics in the first half of the 20<sup>th</sup> century (Mulaik et al., 1989). The statistical approaches created in such intellectual environment are still used extensively in statistical research in psychology. Authors of research techniques textbooks may portray quantitative research as basically positivist in its empiricist commitments, even in the current post-positivist philosophical context. (Yu & C-H, 2006). Among other things, positivism restricts its attention to what can be observed and regards theories as instruments that organise claims about observables but that do not explain them by appealing to hidden causes.

The guess and test strategy of the hypothetico-deductive method takes predictive accuracy as the sole criterion of theory goodness (Haig, 2018). However, it appears that the hypothetico-deductive technique is occasionally paired with the application of supplemental evaluative criteria including simplicity, scope, and fruitfulness in research practise. When this occurs, and one or more of the supplemental criteria is related to explanation, the combined technique can be legitimately regarded as a variant of inference to the best explanation, rather than just a supplement to the hypothetico-deductive method (Haig, 2018). This is because the basic feature of the hypothetico-deductive method is a logical entailment relationship between theory and evidence, whereas inference to the best explanation is likewise an explanation relationship. The hybrid version of inference to the best explanation that is being considered here will allow the researcher to claim that a good explanatory theory will score highly on the explanatory criteria while also having some prediction success (Haig, 2018). Most methodologists and scientists will agree that an explanatory theory that also makes accurate predictions is preferable.

Although the use of SEM in psychology often involves testing models in hypothetico-deductive fashion, it also contains a minority practice that amounts to inference to the best explanation in the sense just noted (Jeon, 2015). This, latter practice, involves the explicit comparison of models or theories in which an assessment of their goodness-of-fit to the empirical evidence is combined with the weighting of the fit statistics in terms of parsimony indices (Kaplan, Hill, Lancaster, & Hurtado, 2000). Here goodness-of-fit provides information about the empirical adequacy of the model, whereas parsimony functions as a criterion having to do with the explanatory value of the model. Both are used in judgements of model goodness. Markus, Hawes, and Thasites (2008) recently suggested that in SEM, model fit can be combined with model parsimony, understood as explanatory power, to provide an operationalised account of inference to the best explanation. They discussed the prospects of using SEM in this way to evaluate the comparative merits of two - and three-factor models of psychopathy.

The emphasis on quantitative methods of investigation and analysis has long been an important aspect of psychological study. In general, research necessitates the formulation of questions, a comprehension of methodologies and approaches, as well as the gathering and analysis of data in order to answer the researcher's questions (Jhangiani & Tarry, 2014). In psychology, a wide range of research methodologies are used, each of which is unique in numerous ways. Researchers must choose a method that best serves the study's goal, fits the theory and the persons being studied, and, in the end, reflects the applied psychological approach (Jhangiani & Tarry, 2014). Because all procedures have advantages and limitations, the decision must be cautious and scientifically supported. Scientific psychology is guided by the assumption that human behaviour has underlying norms that may be found and predicted using scientific approaches (Jhangiani & Tarry, 2014).

These assumptions of the scientific approach to psychology are identified via statistical determinism and discoverability (Kuhn, 2012). Based on this basic logic, empirical questions are formulated, corresponding studies are planned, and data-based conclusions are drawn. Quantitative research collects numerical data subjected to statistical analyses; its main types include experimental and correlational research. There are psychologists who see the exaggerated need of psychology to be a science as mere scientism (Jhangiani & Tarry, 2014), and some suggest that adductive rules be used in psychological theorising (Chow, Lowenthal, & Chen, 2015).

Research methods available to psychologists fall into three categories: non-experimental, experimental, and quasi-experimental (Jhangiani, Chiang, Cuttler, & Leighton, 2019). They are distinguished by the extent to which three types of controls are present. Control is a means to exclude an alternative explanation of research data (Jhangiani et al., 2019). If psychologists do not provide any recognised control in an empirical study, they are conducting a non-experimental investigation. If for myriad reasons, at least one control is not instituted, psychologists are conducting a quasi-

experiment. The choice between the three types of research methods depends on the meta-theoretical assumptions and theoretical foundation of the research. Psychologists who use non-experimental methods must decide on a research plan and choose the measuring instrument. For the current project, a non-experimental research method was chosen, as it is best suited for the theory behind the study.

### **2.1.2: Non-experimental research**

Experimental and non-experimental study designs are an element of quantitative research. Non-experimental research studies are those in which the independent variable is not manipulated by the experimenter, either for ethical concerns or due to their abstract character (age, gender, ethnicity opinions). Non-experimental research includes descriptive, causal-comparative, correlational, ex post facto research, and surveys, among other studies (Price, Jhangiani, & Chiang, 2015).

This section takes a closer look at specific types of non-experimental studies, *i.e.*, correlations. Correlational research is a type of non-experimental research in which the researcher measures two variables and assesses the statistical relationship between them with little or no effort to control extraneous variables (Bushman & Huesmann, 2001). Correlational research has a variety of strengths that aid researchers in understanding their research questions. Correlation is widely used to establish the reliability and validity of measurements (Lau, 2017). A variety of studies in psychology have previously used correlational studies to establish the reliability and validity of new measures, including the Dark Triad by Paulhus (1998) and the Big Five personality model by Soto and John (2017).

A further strength of correlational research that is related to the current project is that it is often higher in external validity than experimental research. As experiments usually involve a high level of control and manipulation, internal validity is high, but often at the expense of external validity (Lau, 2017). On the other hand, correlational studies typically have low internal validity because nothing is manipulated or controlled, but have

high external validity, hence the results are more likely to reflect relationships that exist in the real world (Bushman & Huesmann, 2001). Such an advantage is related to the current project, as the aim of the study is to understand prejudice and aggression in its so-called 'natural state', rather than in manipulated conditions. This gives higher generalisability for the research findings applicable to the population of Russia and the United Kingdom.

Following the advantages of correlational research, it is important to understand that such research can be divided into three types, all of which are commonly used by researchers in psychology and other fields. Correlational studies, better known as observational studies, are used for a variety of projects including trait psychology (Elwood, 2007). There are three basic types of correlational studies that are used: cohort, cross-sectional, and case-control studies (Vandenbroucke et al., 2014). Cohort studies can be described as a type of study where a sample of subjects is observed over time and groups are compared (Lau, 2017). Cohort studies may be prospective in nature, where subjects are followed for some time into the future or retrospectively for a period into the past. The comparisons are typically made at the beginning of the study as baseline measures, then repeated over time at predetermined intervals for differences and trends. Some cohort studies involve only a single group of subjects.

Cross-sectional studies, according to Veer, Lorenz, and Blind (2012), are considered a type of cohort study where only one comparison is made between subjects or groups at one point in time. They provide a snapshot of the outcome and the associated characteristics at a specific point in time. Case-control studies, described by Lau (2017) subjects in a sample that are exposed to the eHealth system are matched with those not exposed but otherwise similar in composition, then compared for differences in some predefined outcomes. Case-control studies are retrospective in nature, where subjects already exposed to the event are selected then matched with unexposed subjects, using historical cases to ensure they have similar characteristics (Veer et al., 2012).

### **2.1.3: Individual Differences and quantitative methods**

Applied individual differences research and its quantitative methods have a long and impressive history. Several names have been proposed for this discipline of psychology over the years (Revelle, Wilt, & Condon, 2011), individual psychology was coined by Binet, differential psychology was coined by Stern, but it was E. L. Thorndike who invented the most used term, the psychology of individual differences. Much of the early research in this field focused on examining behavioural aspects of human variation, such as abilities, personality, and vocational preferences, but not just any dimensions. Concentration was limited to identifying characteristics with real-world implications (Revelle, Wilt, & Condon, 2011).

We hold a common bond with applied individual differences research and its methods (Hollingworth, 1929; Hull, 1922; Paterson, Schneider, & Williamson, 1938; Viteles, 1932), and we are concerned with: the conservation and optimal development of human resources; quantitative methods for forecasting behavioural tendencies over extended intervals; issues involving the measurement of human psychological attributes (Lubinski, 1996). These topics unified early applied differential psychologists; they still do. There is much overlapping between them. Investigators of these themes in the past and today have a common goal of generating crucial data for policy research and development (Lubinski, 1996). They also sought to contribute to the broader economic well-being of their society through business, government, and other means. This translation of research findings into informing public policy has been challenging and not always successful. Noting this, Sechrest and Bootzin (1996) discussed difficulties associated with motivating policymakers to address solid, empirical findings relevant to policy agendas, as well as ways in which psychologists can obtain and present more useful information. Their discussion of mundane realism uncovers the need to consider many important ways in which people differ (*i.e.*, research findings from differential psychology).



Even today, the dimensions and interrelationships within human ability, personality, and vocational preference domains are far from complete adjudication, and tools purporting to measure these constructs undergo continual refinement (Hough, Eaton, Dunnette, Kamp, & McCloy, 1990). Applied psychologists nevertheless routinely find that measures of systematic sources of individual differences are the most predictive of their chief criteria of interest (Dahlstrom, 1993; Wiggins, Trapnell, & Phillips, 1988).

Personality psychology aims to identify the ways in which people differ from one another and to elucidate the psychological mechanisms that generate and sustain those differences. The study of personality is truly multidisciplinary in that it draws upon data and insights from disciplines as diverse as sociology, social psychology, cognitive science, development, physiology, genetics, clinical psychology, and evolutionary biology (Revelle, Wilt, & Condon, 2011). Quantitative approaches are important in personality theory and research, just as they are in other sub-disciplines of psychology. In this article, we'll look at how quantitative tools in personality psychology have aided discovery, assessment, and model testing (Revelle, Wilt, & Condon, 2011). Many personality researchers use quasi-experimental and longitudinal methodologies to examine personality processes, because most personality traits cannot be experimentally altered. Multiple linear regression is the most popular method of modelling such data, because of its flexibility, multiple regression is commonly employed in personality research. It is a statistical approach for modelling the influence of two or more (potentially associated) variables on an outcome (e.g., its ability to handle both categorical and continuous predictor) (Revelle, Wilt, & Condon, 2011).

One of the most important developments in the use of regression for studying personality processes was Baron and Kenny's (1986) conceptualisation of moderation and mediation. A variable moderates the relationship between two other variables when it statistically interacts with one of them to influence the other, whereas when a variable provides a causal pathway through which the impact of one variable is passed to another,

it is said to mediate the relationship between the two variables (Baron & Kenny, 1986). For example, personality researchers discovered that cognitive vulnerability moderates the impact of adverse life events on depressive symptoms, so people who make negative attributions about their experiences are more likely to develop depressive symptoms after a negative life event (e.g., failing an exam) than people who do not (Baron & Kenny, 1986). In a multiple regression analysis, hypotheses concerning moderation are tested by analysing the interaction term.

The estimated influence of one variable on another is reduced when the conjectured mediator is included in the regression equation, which is how mediational processes are examined. For example, Sandstrom and Cramer (2003) demonstrated that the moderate association between social status (e.g., the extent one is preferred by one's peers) and the use of psychological defence mechanisms after an interpersonal rejection is substantially reduced when changes in stress are statistically controlled. This shows that a person's social position influences their psychological defences by the amount of stress they are exposed to when they are rejected. To summarise, researchers can evaluate alternative models of personality processes using simple regression approaches to examine moderation and mediation (Revelle, Wilt, & Condon, 2011).

Over the last two decades, a growing number of personality psychologists have begun to formalise and analyse causal theories of personality processes using SEM. For at least two reasons, SEM has been effective in personality studies. To begin, researchers must precisely describe their assumptions in order to construct a quantitative model of psychological processes (Revelle, Wilt, & Condon, 2011). Moreover, once those assumptions are formalised, it is possible to derive quantitative predictions that can be empirically tested (Blunch, 2013). Second, SEM provides researchers with an improved, if imperfect, way to separate the measurement model (*i.e.*, the hypothesis about how latent variables is manifested via behaviour or self-report) from the causal processes of interest (*i.e.*, the causal influences among the latent variables).

Understanding intergroup context is essential for researching prejudice. Abrams et al. (2010) suggested that intergroup context involves inequality between groups, the threat of conflict, status and power differences, and the extent of differences between groups. These are the basis for intergroup conflict, including prejudice. Some authors (Abrams et al., 2010) argue that features of prejudice can be established from objective measures such as income and employment inequalities, or the legal basis for differences. The majority, on the other hand, believe that it is preferable to gauge people's views and opinions, such as if their own groups are in danger of losing their values, culture, or status, and whether there are perceived conflicts of interest between groups (Abrams et al., 2010).

Prejudice has been researched using qualitative (*e.g.*, interviews, focus groups), quantitative (*e.g.*, questionnaires, social distance scales), and experimental (*e.g.*, pupil dilation, response latency) methods (Abrams, 2010; Abrams et al., 2010). The predominant method, though, for researching prejudice, is a direct self-report questionnaire (Fiske & North, 2015). Numerous personality characteristics are linked to prejudice; however, personality traits are rarely measured within prejudice surveys, partly because of the considerable number of items required for reliable assessment. As such, current research adds to a small number of studies that looked at prejudice and personality together as a large survey-based method of analysis.

It is critical to emphasise that prejudice queries should focus on the relative situations of certain groups (for example, in the current study, Russian and British). This method is widely utilised in social psychology studies. Self-reporting questionnaires are the most utilised method for researching prejudice in practise. Surveys allow researchers to ask respondents to evaluate one group in relation to society as a whole or through questions that focus on other components of prejudice, such as its manifestations (Walker & Lambert, 1995). Overall, by taking a closer look at how prejudice has been researched in the past, there is great diversity. Remarkably different methods have been adopted, at

various times and by researchers working within different paradigms, hence the variety of prejudice measures and definitions.

A wide variety of studies on prejudice have been conducted using a cross-sectional survey design. For example, a study by Village (2011) used a cross-sectional design and tested the idea that personality is indirectly related to out-group prejudice through religiosity and out-group contact. The author used a total of 2,756 white adolescents from Northern England, who completed a questionnaire that included measures of out-group prejudice, extraversion, tough-mindedness, religiosity, and out-group contact (Village, 2011). The results of the study showed that extraversion had no direct effect on out-group prejudice, but was associated with greater out-group contact, while psychoticism was associated directly with higher levels of prejudice, and indirectly via religiosity (Village, 2011). The author indicated that the use of a cross-sectional survey-based study showed high comprehensibility by the participants and high psychometric quality.

A further study by Sibley and Duckitt (2010) looked at the associations between the HEXACO dimensions of personality, SDO, right-wing authoritarianism (RWA) and prejudice towards dangerous groups. Results from the questionnaire-based study showed low emotionality, rather than agreeableness, predicted SDO and therefore derogated and dissident group prejudice, and comparison with meta-analytic averages of Big Five data supported similarities and differences in the association of Big Five and HEXACO models of personality with SDO (Sibley & Duckitt, 2010). The use of the questionnaire proved to be of high psychometric qualities, allowing the researchers to obtain data from a large sample.

When it comes to methods of research for aggression, there are two major dilemmas, first, whether the findings from laboratory studies are applicable to real-world scenarios, and second, whether questionnaires can portray aggression in the correct light. Anderson and Bushman (2002) suggested that the literature on aggression provides strong empirical support for the laboratory researchers and laboratory aggression paradigm. The

individual difference variables such as sex, trait aggressiveness, and most of the situational variables such as provocation, alcohol, the presence of weapons, and media violence can consistently account for aggressive behaviour in both laboratory and non-laboratory settings. Such a convergence of findings in such disparate settings confirms the validity of both types of studies.

However, in recent years, due to ethical concerns and time limitations, research on aggression has shifted towards adopting a questionnaire-based approach (Bucur, Claassen, & Heskes, 2020; McKay, Perry, & Harvey, 2016). A study by Franz et al., (2010) used a cross-sectional design with a questionnaire to understand aggression and violence against health care workers in Germany. Researchers conducted a cross-sectional retrospective survey, using nurses and health care workers from two nursing homes, a psychiatric clinic, and a workshop for people with disabilities (Franz et al., 2010). The survey assessed the frequency, the type and the consequences of aggressive behaviour, and social support in connection with coping with aggression in the workplace (Franz et al., 2010). The cross-sectional survey approach was considered the most appropriate by researchers, as it allowed them with ease to question their participants without expensive equipment or a need for laboratory settings. Franz et al. (2010) stated that the key features of this survey are that it is handled with ease, comprehensibility, and high psychometric quality.

Another cross-sectional study, by De Loof et al. (2018) on burnout symptoms in forensic psychiatric nurses and their associations with personality, emotional intelligence, and client aggression, used established measures in a questionnaire format. The authors suggested that even though the causality could not be established due to the cross-sectional correlational design of the study, the results supported their hypotheses. The participant sample consisted of a total of 114 forensic nursing staff members (de Loof et al., 2018).

Both these studies support the need for cross-sectional survey-based studies on aggression. As can be seen from the variety of presented evidence, questionnaire-based studies have multiple advantages that were considered for the current project. Survey

research is a unique way of gathering information from a large sample (Jones, Baxter, & Khanduja, 2013). One of the main advantages of questionnaires that was considered for this research is the ability to gather a vast amount of data from a large population and therefore have greater statistical power.

#### **2.1.4: Data collection**

Participants for all studies in this thesis were recruited via companies (Smart Survey and Anketolog, UK and Russia respectively) specialising in participants recruitment in Russia and the United Kingdom. Participation in the studies was voluntary, and at any point, participants were able to withdraw their anonymous data. The minimal sample size was not calculated, however, as a rule of thumb, a minimum of 300 participants have been recommended for this type of research with consideration of using CFA and SEM (Drinkwater, Dagnall, Denovan, & Neave, 2020; Kline, 2013; Yong & Pearce, 2013). Myers et al., (2011) suggested the following formula for adequate sample size estimation for research using confirmatory factor analysis: “Common rules of thumb for determining adequate N for a particular application of CFA include, but are not limited to,  $N \geq 200$ , the ratio of N to the number of variables in a model (p),  $N/p \geq 10$ ; the ratio of N to the number of model parameters (q),  $N/q \geq 5$ ; and an inverse relationship between construct reliability and adequate N.” The final number of Russian participants for Study One was 1,996. The final number of British participants for Study One was 1,292. The final number of Russian participants for study two and three was 2,000 and British participants was 1,019. Participants in all three studies were asked to create unique ID numbers up to six digits, in case they wanted to withdraw their answers from the survey.

In terms of inclusion and exclusion criteria, no parameters apart from age were set. Participants had to be 18 and over. There are many strategies available for a quantitative method of research such as telephone interviews, web-based surveys, postal surveys, and structured questionnaires (Ul-Haq, 2014). Each instrument has its pros and cons in terms of quality, time, and cost of data. Newby et al. (2003) note that most researchers use

structured questionnaires for data collection for non-experimental design, where they are unable to control or influence respondents, which leads to low response rates, but more accurate data obtained. Saunders and Tosey (2016) argued that quantitative data is simpler to obtain and more concise to present. Surveys are the most traditional form of conducting research both in psychology and other academic fields (Kelley, Clark, Brown, & Sitzia, 2003). Survey-based questionnaires are often aimed at a representative sample of potential participants that are of the study's interest. Due to the philosophical assumptions, approach, and methodologies chosen, the survey design for the current project is considered the best option available, as a large amount of data can be gathered and analysed. Survey research has historically included large population-based data collection, which is ideal for cross-cultural comparison research, as it requires large sample sizes (Ponto, 2015).

The primary purpose of this type of survey research is to obtain information describing characteristics of a large sample of individuals of interest relatively quickly, for example, in the case of this project one of the aims was to understand the cross-cultural aspect of the role of personality on prejudice and aggression. These surveys were often provided through the mail and were intended to describe demographic characteristics of individuals or obtain opinions on which to base programmes or products for a population or group.

To ensure a high-quality research process and outcome, survey research has evolved into a rigorous approach to research, with scientifically tested strategies detailing who to include (representative sample), what and how to distribute (survey method), and when to initiate the survey and follow up with non-responders (reducing nonresponse error). The term survey now encompasses a wide range of research objectives, sample and recruitment procedures, data collection tools, and survey administration methodologies (Ponto, 2015). Given the variety of alternatives available in survey research, it is critical for the consumer/reader of survey research to understand the potential for bias in survey

research, as well as the tried and true approaches for eliminating bias, in order to draw appropriate conclusions regarding the data presented (Ponto, 2015). In the section below the description of the measures with reliability, scores will be presented.

A crucial aspect of cross-cultural research is the ability and skills in translating and adjusting scales to specific cultures. Psychologists who conduct cross-cultural research often need to translate their questionnaires and instructions for participants from one language to another. One of the best-known techniques for adequate and reliable translation of measures is the back translation method. According to Brislin (1970), back translation is a technique where a bilingual individual or researcher translates a text, followed by the same researcher translate he text back into the original language. Any differences indicate the need to modify the target language version. Werner and Campbell (1970) suggested a technique, decentering, for the closest translation possible.

Decentering refers to a technique where both original and target language are treated as equally important to the researcher/translator (Werner & Campbell, 1970). In relative terms, the items generated in one culture are modified to be made more suitable to another culture, and those generated in the second culture are adapted to suit the original culture. However, some researchers concluded that there is no need for decentering since variations in the language form of the instruments produce only relatively slight changes, which do not have a direct effect on the outcome. Several studies have supported the back translation technique (Brislin, Lonner, & Thorndike, 1973; Harkness & Schoua-Glusberg, 1998).

Research by de Souza, López-Del Campo, Blanco-Pita, Resta, and Del Coso (2019) was focused on translating and culturally adapting the ‘self-talk questionnaire for sports’ (S-TQ). The process of translation and cultural adaptation to the Brazilian Portuguese language was conducted in four stages: translation, back translation, comprehension test, and comprehension test with the target audience (de Souza et al., 2019). Importantly, after the two versions were compared, translation equality was



reached for 93.59% of the text and 85.83% after the back translation process. Further research by Stevanovic, Lozanovic-Miladinovic, Jovic, and Sarenac (2005) aimed at translating and adapting into Serbian the ‘quality of life in epilepsy inventory for adolescents’ (QOLIE-AD-48), and to evaluate the psychometric properties of the translation. Their sample consisted of 67 adolescents with epilepsy. The method of translation was performed, and the Serbian version was administered to the participants (Stevanovic et al., 2005). Results indicated that with the use of the back translation method, the scales reflected the same item content as the original version. These are just two examples out of hundreds using the back translation method for translating, adjusting, and validating measures across various disciplines within psychology.

When comparing groups, an assumption is made that measures are the same across the psychological constructs in all groups. If this assumption holds, the comparisons can be seen as valid and differences/similarities between groups can be meaningfully interpreted by the researcher (Milfont & Fischer, 2010). However, if such an assumption does not hold, comparisons and interpretations are not fully meaningful. The establishment of measurement of invariance is essential for meaningful comparisons between groups (Eringa & Zhou, 2015).

The following measures must be implemented to avoid biases during the procedure of translation: follow the same procedures in the new culture that are in the culture where the development of the test or scale took place and show similar patterns of correlation between the scores obtained with the instruments and other variables in the two cultures. For example, researchers need to make sure that the scales are used in similar ways to measure the construct or variable across cultures (Tuthill et al., 2014). In other words, measurements of invariance for the scales need to be established before cross-cultural data can be interpreted (*e.g.*, Cheung & Rensvold, 2002). It is for this reason that exploratory and CFA approaches are widely used in cross-cultural research (Caprara et al., 2000).

### **2.1.5: Design**

One of the most common and well-known study designs is the cross-sectional study design. In this type of research study, either the entire population or a subset thereof is selected, and from these individuals, data are collected to help answer research questions of interest. It is called cross-sectional because the information about X and Y that is gathered represents what is going on at only one point in time (Olsen & St George, 2004). This design was the best for the current study as it looks at the most represented sample of the population, for both Russia and the United Kingdom. The current project follows a cross-sectional design and correlation-based methods of analysis (*e.g.*, CFA, SEM). This section describes how research is designed in terms of the techniques used for data collection, sampling strategy, and data analysis for a quantitative method before going into the strategies of data collection and analysis.

In the inductive approach, researchers undertake research based around observations or an idea, and let the theory emerge at the end of their research. This means that they do not start with a conceptual framework or a predetermined theory (Saunders, Lewis, & Thornhill, 2007), but they need to be well versed in the chosen subject area. That is, they have read widely enough to formulate a workable idea to research (Quinlan, 2011). Subsequently, they may come up with an idea(s) or build on an existing idea(s) from their readings, then like the model below depicts, they may or may not test a hypothesis. This will be largely dependent on whether they are undertaking a qualitative or quantitative piece of research (Cohen, Manion, & Morrison, 2000; Saunders et al., 2007).

#### **2.1.6: Analysis**

It is important to address what statistical methods were used in the project, their advantages, and their limitations. SEM was selected as the primary method of data analysis for the ability to examine the simultaneous relationships operating between several latent constructs, each of which is measured with multiple measures (Bollen, 1989). By using multiple measures of each construct, the effects of measurement error

within any given, single measure can be mitigated. The relationships emerging between the constructs in these analyses describe the relationships between latent constructs independent of the measurement error (Bollen, 1989).

SEM are a collection of statistical models for the analysis of multivariate data (Byrne, 2005). The name 'structural equation model' describes the two major elements of the method: first an algebraic representation of latent variables that underlie manifest variables, and secondly a system of linear regressions among the latent variables (Ullman, Harari, & Dorfman, 2012). The ability of the method to separate true scores from errors of measurement is an invaluable feature of the classical SEM model (Ullman et al., 2012). It also partly explains the popularity of the method in the social sciences, such as psychology where theory often pertains to hypothetical constructs.

Many popular statistical methods—multiple regression, classical path analysis, classical test theory models for psychometric problems, factor analysis in all its versions—are special cases of SEM. At the same time, the classical SEM framework has been extended in many ways to multiple populations, new kinds of data, nonlinear functions among the variables, and complex samples (Byrne, 2005). Although most SEMs are used to explain correlations among variables, an important class of models summarises the correlations and variances; in other cases, the means of the variables are also incorporated (Hoyle, 1995). The number of different topics subsumed under the label of SEM is so large and diverse that the main practical ideas of SEM that will be discussed in this chapter are limited to latent variables that are interconnected in a framework of regression relationships.

As previously stated, SEM is a very general statistical model that usually involves a series of regression relationships, showing the dependencies and influences among variables, and is usually dictated by scientific theory. Sometimes the regression relationships of an SEM represent a strong theory of causality between traits; for example, that there is a direct and functional relationship between childhood trauma and later adult

psychopathology (Johnson, Leedom, & Muhtadie, 2012) or that early environmental stimulation causes higher achievement in school (Dick, 2011). Apart from true experiments with random assignment, causal relationships in the social sciences have proven difficult to demonstrate convincingly, especially as regards latent variables. More often, the collection of regressions of an SEM describes a series of hypothetical connections that may be plausible or that have been proposed in the literature that is correlational or predictive. Using an SEM to describe a complicated set of associations is still useful scientifically even if the process suggested to explain the correlations is not unambiguously causal (Hoyle, 1995). The main qualities of a mathematical model are that it makes a theory explicit, which minimises ambiguities and encourages critical analysis of its parts, and that it can explain data, which implies that it is a possible description of behaviour, such as in the case of this project related to personality and explanation of prejudice and aggression.

The SEM, both in terms of applications and statistical developments, is large, technical, vigorous, well-integrated, and very widely applied in a variety of research. Many review chapters have appeared that describe SEMs for various scientific disciplines (Bentler & Dudgeon, 1996; Bollen K. A, 2002; Browne & Arminger, 1995; MacCallum & Austin, 2000; Tremblay & Ewart, 2005; Tremblay, Goldberg, & Gardner, 1995). There are a number of books aimed at SEM application and advantages (Browne & Cudeck, 1993; Hoyle, 1995; Kaplan et al., 2000; Kline, 2005; Raykov & Marcoulides, 2000; Schumacker & Lomax, 2004). SEMs have become commonplace in many academic and non-academic fields (*e.g.*, Buhi, Daley, Fuhrmann, & Smith, 2009; Holbert and Stephenson, 2002; Ullman et al., 2012), and published examples are routine.

In the current project, the Dark Triad provides several ways for principled and data-driven approaches to explore both the malevolent and beneficial sides of human nature (Kaufman, Yaden, Hyde, & Tsukayama, 2019). It is important to understand how research into the traits uses advanced statistical techniques, such as SEM. Research by

Boyle et al. (2020) used SEM as the primary analysis method to look at the construct and their importance in predicting workplace behaviours, aggression (Baughman et al., 2012; Kerig & Stellwagen, 2010), sociosexuality (Jonason, Valentine, Li, & Harbeson, 2011; Jones & Olderbak, 2014) and financial misbehaviour (Jones, 2013). Researchers have recently turned to SEM when assessing the effects of Dark Triad traits (Jonason et al., 2011; Jones & Olderbak, 2014) on behavioural outcomes, and understanding whether the traits should be separated or not. For example, Jonason et al. (2011) argued that levels of assessment and hypothesis should dictate whether the traits should be combined or separated. Sisco, Gladden, and Figueredo (2010) have also argued that the traits that make up the Dark Triad are indistinguishable at certain stages of assessment. This contradicts other researchers, who suggest that, even though constructs do overlap, they are different on a micro-level (Paulhus & Williams, 2002; Rogoza & Cieciuch, 2018). As can be seen from the examples above, SEM has proven to be the most suitable technique for the analysis of the gathered data.

#### **2.1.7: Correlational research**

The data screening process was undertaken for both Russian and British data sets in Studies One, Two and Three to check for the assumptions, before performing CFA and SEM with multilevel group analysis, for the presence of normality, linearity, absence of multicollinearity, outliers (Flora, LaBrish, & Chalmers, 2012). As we had some missing data in the British sample in Studies One, Two and Three, regression analysis was performed, and an analysis of descriptive statistics, *i.e.*, means, standard deviations and correlations, were performed to fully examine the data collected. CFA was performed to test the proposed theoretical model using Analysis of Moment Structures (AMOS) version 25. For Study One, as part of the main analysis, Pearson correlations were computed between all the variables for each sample, to see relationships between each of the traits. Correlations for both Russian and British samples will be discussed separately. There were no issues with multicollinearity, and all correlations were below .9.

SEM allows for the simultaneous modelling of several multiple regressions and the use of latent variables (Ullman et al., 2012). An SEM is a two-part model consisting of structural components and measurement components. The fit of the overall model is determined by looking at the fit statistics.  $\chi^2$  statistics are used to assess model fit, with a non-significant  $\chi^2$  indicating good model fit. However,  $\chi^2$  distributions are sensitive to sample size and often yield significant results when sample sizes are large (Ho et al., 2015; McDonald & Ho, 2002). As a result, multiple fit indices are usually used to assess model fit. Commonly recommended (Hu & Bentler, 1999; Quintana & Maxwell, 1999) fit statistics include the root mean squared error of approximation (RMSEA; excellent fit is .06 or less; adequate fit is .08 or less, and poor fit is .10 or less), the comparative fit index (CFI; excellent fit is .95 or greater; adequate fit is between .90 and .95), and Sorbom's root mean squared residual (SRMR; excellent fit is .08 or less). The fit of the measurement component of the model is determined by CFA, which tests whether the measures of the latent variables are good indicators of those latent variables. Significant ( $p < .05$ ) and high factor loadings ( $> .3$ ) for measured variables indicate good identification of the latent variables.

The model's structural element fit is determined by the relevance of each individual path included in the model. When the stated model does not provide a satisfactory fit to the data, model adjustments may be applied. Paths are incrementally added or removed from the model (Ho et al., 2015). Modifications with the highest modification index value that also has theoretical support are made first. The first modifications are those with the highest modification index value and theoretical backing. The model is tweaked until it produces a good fit for the data (Meyer et al., 2019). Path analysis is a type of regression in which a variable can be used as both an outcome predicted by one or more independent variables and a predictor of variability in other dependent variables (Meyer et al., 2019). Path analysis is used to manage complex systems of regressions in which variables interact directly with one another to explain data from multiple variables at the same time.

There are vast advantages to using SEM in correlational research. First, SEM can show the relationship between dependent variables, which is usually used in traits analysis for personality dimensions (Meyer et al., 2019). As such, SEM is perfect for the current study due to the analysis of personality traits in relation to a specific outcome in the form of prejudice and aggression. A further advantage of SEM is that a researcher can show the direct effect, indirect effect, and total effect because more than one exogenous variable and endogenous variables are estimated simultaneously (Gist & Mitchell, 1992). It is important to understand what the endogenous and exogenous variables are in the context of SEM analysis. According to Gunzler, Chen, Wu, and Zhang (2013) endogenous variables function as a dependent variable in at least one of the SEM equations, whereas exogenous variables are always independent variables in the SEM equations. Such an advantage in the context of current research will allow for a better understanding of the relationship not only between the personality traits in Study One, but also between personality traits and behavioural outcomes.

Finally, another important advantage of SEM is that the SEM analysis provides model fit information about the consistency of the hypothesised mediational model to the data and evidence for the plausibility of the causality made when constructing the mediation model (Gunzler et al., 2013). Such advantages allow for ease of interpretation and estimation of the data. In the context of the current research, as SEM is used with mediation, analysis can be extended to multiple independent variables, mediators, or outcomes, such as moral disengagement and SDO.

CFA has become established as an important analysis tool for many areas of the social and behavioural sciences (Mueller & Hancock, 2015). It belongs to the family of SEM techniques that allow for the investigation of causal relations among latent and observed variables in a priori specified, theory-derived models (Mueller & Hancock, 2015). The main advantage of CFA lies in its ability to aid researchers in bridging the often-observed gap between theory and observation. For example, instead of analysing

data with an exploratory factor analysis (where each item is free to load on each factor) and potentially facing a solution inconsistent with the initial theory, a CFA can give the investigator valuable information regarding the fit of the data to the specific, theory-derived measurement model (where items load only on the factors they were designed to measure) and point to the potential weakness of specific items (Mueller & Hancock, 2015). CFA is best understood as a process, from model conceptualisation, identification, and parameter estimation to data-model fit assessment and potential model modification. As opposed to exploratory methods, CFA's further strength lies in its disconfirmation nature: models or theories can be rejected, but results might also point towards potential modifications to be investigated in subsequent analyses (Bhattacharjee & Premkumar, 2004).

Both CFA and SEM methods, implemented in a variety of computer packages, provide researchers with powerful data analysis tools, such as AMOS that was used in this project. Applied judiciously, these methods have important advantages over traditional multivariate methods, such as linear regression, which assume no errors in observed measures (Alexopoulos, 2010). For example, covariation in cross-sectional data offers no clues to asymmetric or reciprocal causation; even the temporal sequences among repeated measures in longitudinal panel designs are not an infallible guide to causal order (Knoke, 2005). Because SEM methods by themselves do not enable researchers to distinguish among many alternative models with statistically equivalent fits, analysts face the additional task of applying logic and theory jointly to distinguish incredible from plausible alternative model specifications (Knoke, 2005).

The final method that was used in this project was path analysis. Path analysis is a method for studying direct and indirect effects, and it is intended not to discover causes but to shed light on the tenability of the causal model formulated by a researcher (Barbeau, Boileau, Sarr, & Smith, 2019). So, it is vital to state that the aim of path analysis is an explanation, not a prediction. Path analysis looks at the relationship between dependent



variables and between independent variables and dependent variables from one-time analysis, which is important when it comes to trait analysis for personality dimensions, such as in this project. In path analysis, the path coefficient is calculated, and it indicates the direct effect of a variable hypothesised as a cause of a variable taken as an effect (Stage, Carter, & Nora, 2004).

One of the main advantages of path analysis is that it affords the decomposition of correlations among variables, thereby enhancing the interpretation of relations and the pattern of the effects of one variable on another (Barbeau et al., 2019). Path analysis showed the total effect, the direct effect, and the indirect effect via mediation. In the analysis of causal models, a distinction is made between the direct and indirect effects of independent variables on dependent variables (O'Leary et al., 1989). The use of path coefficients produces the correlation matrix and plays a significant role in assessing the validity of a given causal model. Given the multilevel nature of the data, hierarchical linear modelling would seem a natural choice for an alternative to SEM, and these techniques may eventually be employed, in further studies.

Given the multilevel nature of the data, hierarchical linear modelling would seem a natural choice for an alternative to SEM, and these techniques may eventually be employed, in further studies.

The philosophy of methods is an aspect of research methodology that receives limited attention in behavioural science education. Most students and research practitioners in the behavioural sciences obtain the bulk of their knowledge of research methods from textbooks. However, a casual examination of these texts shows that they tend to pay little, if any, serious regard to the philosophy of science and its bearing on the research process. As Kuhn pointed out nearly 50 years ago (Kuhn, 1962), textbooks play a significant role in dogmatically initiating students into the routine practices of normal science. Serious attention to the philosophy of research methods would go a considerable way towards overcoming this uncritical practice. As contemporary philosophy of science

increasingly focuses on the contextual use of research methods in the various sciences, it is to be hoped that research methodologists and other behavioural scientists will avail themselves of the genuine methodological insights that it contains.

## **Chapter 3: The relationship between the Dark Triad and the Big Five**

### **3.1: Overview**

The purpose of Study One was to investigate the preliminary relationships between the Dark Triad and Big Five personality models, and to compare those relationships in the British and Russian samples. The overall research question for Study One was: what is the relationship between the Big Five and Dark Triad? Hypothesis for Study One was divided into sections, first that there will be a significant relationship between individual traits of the Dark Triad and the Big Five, and second that such relationship will extend cross-culturally.

### **3.2: Literature review**

In Chapter One, the literature review section of this thesis, the Dark Triad and Big Five models were discussed in detail. Nonetheless, it is important to look at each construct, and their relationship, in more depth. The Dark Triad is a construct with three personality traits (Paulhus & Williams, 2002). Big Five personality trait theorists believe that people are assumed to have trans-contextual (McCrae & Costa, 1987) personality dispositions that are unchangeable over time, situations, and social roles (Sheldon et al., 1997). Such traits characterise us, indeed, some believe that these traits are “our very own selves” (McCrae & Costa, 1987). The Big Five theory focuses on a core set of personality traits (McCrae & John, 1992).

Although the personality constructs of narcissism, Machiavellianism, and psychopathy have different origins, they all have factors in common. To varying degrees, all traits entail dark, socially malevolent characteristics with behavioural tendencies such as grandiosity, emotional coldness, manipulation and to a varying degree, aggressiveness (Paulhus & Williams, 2002). Hart and Hare (1996) noted the link between narcissism and psychopathy. The recent development of non-clinical measures of narcissism (by Raskin & Hall, 1979) and psychopathy (Forth, 1998) allowed researchers to directly compare the three dark traits within normal populations. For example, there is now empirical evidence

that, in the non-clinical populations, Machiavellianism and psychopathy are intercorrelated (McHoskey et al., 1998). Similarly, there is compelling evidence that narcissism and psychopathy overlap (Gustafson & Ritzer, 1995). The concept of the Dark Triad assumes that Machiavellianism and psychopathy are closely related to each other and could even be treated as two facets of one construct (Rogoza & Cieciuch, 2018). This theory found support in different studies, where narcissism was the least correlated construct, and hence excluded from the models, and with different criterion validity (Egan et al., 2015; Kowalski et al., 2016; Petrides, Vernon, Schermer, & Veselka, 2011; Rogoza & Cieciuch, 2018).

The exclusion of narcissism reflects the idea that psychopathy and Machiavellianism are closely related, based on the assumption that psychopathy is a broader construct that includes Machiavellianism with the addition of impulsivity and risk taking (Glenn & Sellbom, 2015). On the other hand, some researchers argued that there are more than three Dark Triad traits, and it should be extended to include status-driven risk taking (Visser et al., 2016) or everyday sadism (Buckels et al., 2014). Paulhus (1998) pointed out the key features of the dark tetrad (including sadism), and the only common element between the Dark Triad and sadism was callousness, which suggests that each personality trait could be described as callous. Callousness, according to some researchers, can be a trait in its own right.

Marcus and Zeigler-Hill (2015) noted the need to broaden the view of dark personality features and instead of investigating three or four traits as one construct, they advocate a big tent under which all dark traits (such as greed, spitefulness, perfectionism, dependency) could be classified. These controversies regarding the number of dark traits raise the question of whether Machiavellianism is a derivative of psychopathy, and narcissism is conceptually separate from other traits (Duspara & Greitemeyer, 2017). Out of the Dark Triad traits, Machiavellianism refers to manipulative strategies of social conduct that are not correlated with general intelligence, and that do not necessarily lead

to success (Wilson et al., 1996). Narcissism and psychopathy both originated in clinical literature and practice (see Furnham & Crump, 2005), but are treated as sub-clinical traits in the Dark Triad composite (Furnham et al., 2013; Paulhus et al., 2018; Phillips, 1990). Narcissism was initially conceptualised as a unidimensional construct (Raskin & Hall, 1979); however, recently researchers suggest that it is multidimensional.

Two alternative models are a three-dimensional model proposed by Ackerman et al. (2010b) and a two-dimensional model proposed by Back et al. (2013). Ackerman et al.'s (2010b) model assumes the existence of adaptive (leadership/authority) and maladaptive (grandiose exhibitionism) aspects of narcissism. Within maladaptive narcissism, it is the explosiveness that is socially malevolent, while grandiose exhibitionism has both negative and some positive aspects, especially when it comes to success (Ackerman et al., 2010b). The limitation of this model is the fact that it was developed based on the narcissistic personality inventory (NPI), a questionnaire designed by Raskin and Hall in 1979, which reflects the DSM-III (APA 1980) narcissistic personality disorder diagnostic criteria. Machiavellianism, unlike narcissism and psychopathy, does not have a clinical equivalent. Machiavellianism is a personality trait that can be defined as a person who should be pragmatic, tactical, and strategic but is also immoral, manipulative, and cynical (Christie & Geis, 2013; Jones & Paulhus, 2013).

The structure of Machiavellianism is unclear, and the following facets are usually differentiated: cynical worldview, manipulative tactics, amorality, lack of empathy, and self-enhancement (Christie & Geis, 2013; De Loof et al., 2018; Jones & Paulhus, 2013); however, the results by Gu, Cavanagh, Baer, and Strauss (2017) suggest that only desire for control can be meaningfully differentiated. Rauthmann and Will (2011) consolidated existing knowledge and proposed a multi-faced theoretical conceptualisation of Machiavellianism, which is expressed in desires, cognition, affect, and behaviour. The broadest aspect is Machiavellian behaviour, which could be identified as follows: antisocial tendencies, self-beneficial and antagonistic attitude, detachment,

dehumanisation, exploitation, and manipulation. Manipulation is one of the core elements of a Machiavellian personality (Rauthmann, 2011; Rauthmann & Will, 2011).

Hare and Neumann (2008) distinguished four dimensions of psychopathy: interpersonal (superficial charm, grandiose self-worth, pathological deception, and manipulative), affective (lack of remorse and empathy, shallow affect), antisocial conduct (poor behavioural control, criminal versatility, and juvenile delinquency), and lifestyle (stimulation seeking, impulsivity, and irresponsibility). Although this conceptualisation was initially developed for clinical purposes, this four-factor psychopathy model was successfully adapted for personality assessment of community samples (Neal & Sellbom, 2012; Paulhus et al., 2018) and validated in different cultural contexts (*e.g.*, Atari & Chegeni, 2016). Hare (1985) also hypothesised two broader dimensions that incorporate these four, one grouping together interpersonal manipulation and callous affect, and the other grouping together erratic lifestyle and antisocial demeanour (Debowska & Zeyrek Rios, 2015; Hare, Hart, & Harpur, 1991; Hare & Neumann, 2008). Primary psychopathy is characterised as callous, manipulative, and selfish, while secondary psychopathy is defined as antisocial behaviour manifested by impulsivity while under the influence of an emotional condition. (Levenson et al., 1995).

The structure of psychopathy is closely related to Machiavellianism due to theoretical overlap (Glenn & Sellbom, 2015; Miller et al., 2017; Vize, Lynam, Collision, & Miller, 2018). Both features have similar affective and behavioural characteristics, making it possible to distinguish them only at a hierarchical level, such as specialised manipulation strategies. (Hare & Neumann, 2008; Levenson et al., 1995; Neal & Sellbom, 2012; Rauthmann, 2011; Rauthmann & Will, 2011).

Many contemporary personality psychologists believe that there are five basic dimensions of personality, often referred to as the Big Five personality traits. The five broad personality traits described by the theory are extraversion (also often spelt extroversion), agreeableness, openness, conscientiousness, and neuroticism. Today, many

researchers believe that they are five core personality traits. Evidence of this theory has been growing for many years, beginning with the research of Fiske (2017), and later expanded upon by other researchers including Smith (1967), Goldberg (1990), and McCrae and Costa (1987). The Big Five are broad categories of personality traits. While there is a significant body of literature supporting this FFM of personality, researchers do not always agree on the exact labels for each dimension. Over the past decades, researchers have made substantial progress in answering this question by using hierarchical models that group behavioural measures into higher-order clusters. One well-known example of such a hierarchical model is the Big Five (Digman, 1990; Goldberg, 1990; McCrae & Costa, 1987). These basic factors can explain and predict individual differences over a wide range of settings, including mental health, job satisfaction, and work performance (Barrick & Mount, 1991; Judge et al., 2002).

The openness dimension features characteristics such as imagination and insight. People who are high in this trait also tend to have a broad range of interests (Zhao & Seibert, 2006). They are curious about the world and other people and eager to learn new things and enjoy new experiences. Openness to experience is characterised as someone who is intellectually curious and tends to seek new experiences and explore novel ideas. Openness is positively correlated with intelligence, especially aspects of intelligence related to creativity, such as divergent thinking (McCrae, 1996). Standard features of the conscientiousness dimension include elevated levels of thoughtfulness, good impulse control, and goal-directed behaviours (Adorno et al., 1950; Altemeyer, 1998; Duckitt et al., 2002).

Highly conscientious people tend to be organised and mindful of details. Extraversion is defined by excitability, sociability, talkativeness, assertiveness, and considerable amounts of emotional expressiveness. People who are high in extraversion are outgoing and tend to gain energy in social situations. Being around other people helps them feel energised and excited. This personality dimension includes attributes such as

trust, altruism, kindness, affection, and other prosocial behaviours (Altemeyer, 1996). People who are high in agreeableness tend to be more cooperative, while those low in this trait tend to be more competitive and sometimes even manipulative. Neuroticism is a trait associated with sadness, moodiness, and emotional instability. Individuals who are high in this trait tend to experience mood swings, anxiety, irritability, and sadness. Those low in this trait tend to be more stable and emotionally resilient.

In current literature both Dark Triad and Big Five personality model have been explored to their core; however, few researchers venture into identifying a relationship between the two constructs. One of the first studies to investigate the Dark Triad and the Big Five is by Hodson et al. (2009). Their results showed that the latent dark personality factor predicted SDO, whereas negative openness to experience predicted RWA; these ideological variables each predicted prejudice directly and indirectly through heightened intergroup threat (Hodson et al., 2009). Their dual-route SEM model added to existing dual-route prejudice models (Duckitt, 1992; Ekehammar et al., 2004), incorporating a normal range of dimensions, but also a key social psychological construct, *i.e.*, intergroup threat as a proximal prejudice predictor (Duckitt, 1992; Riek, Mania, & Gaertner, 2006). The researchers also suggested that such a study would benefit from incorporating a wider range of personalities and variables.

Correlations have also been reported between the Dark Triad and the Big Five variables, although results have been inconsistent. Paulhus and Williams (2002), for example, reported that narcissism correlated positively with extraversion ( $r = .42$ ) and openness ( $r = .38$ ) and negatively with agreeableness ( $r = -.36$ ); that Machiavellianism correlated negatively with agreeableness ( $r = -.47$ ) and conscientiousness ( $r = -.34$ ); and that psychopathy correlated with all Big Five variables: extraversion ( $r = .34$ ), agreeableness ( $r = -.25$ ), conscientiousness ( $r = -.24$ ), neuroticism ( $r = -.34$ ) and openness ( $r = .24$ ). Lee and Ashton (2004) reported similar correlations, but Jakobwitz



and Egan (2006) found no significant correlations between the Dark Triad and either openness or extraversion.

The Dark Triad and Big Five personalities all fall within the personality clusters in trait psychology, and they are descriptive models rather than interpreted models. Although they have in common terms of personality types and models, the two personality traits are complementary to each other in such aspects as the description of the nature of personality. In view of the relationship between them, many scholars divide concepts into specific dimensions to explore the similarities and differences between them (Jakobwitz & Egan, 2006; Jonason, Li, & Teicher, 2010; Paulhus & Williams, 2002). All the Big Five have been linked to one or more of the traits.

Many studies show that the most consistent negative associations are agreeableness and conscientiousness (Douglas & Craig, 2007; Jakobwitz & Egan, 2006; Jonason et al., 2010; Jonason et al., 2009; Paulhus & Williams, 2002). The features of the three dark personalities are different from dimensions that are the low end of the Big Five, such as weak will, aimlessness and unreliability. Even though negative links with agreeableness are close, the correlation is not more than 0.5 (Machiavellianism -.47; narcissism -.36; psychopathy -.25) (Paulhus & Williams, 2002). When the concept of the Dark Triad was put forward, Paulhus and Williams (2002) put the dark personality clusters as the references of personality traits, by showing negative association with agreeableness and conscientiousness (Paulhus & Williams, 2002).

The Big Five model tries to contain all kinds of personalities, but in fact, its positive language descriptions make it be used to describe positive personality traits, as it does not adequately describe the dark sides of personalities. This reality leaves a wide research space for dark personality traits (Lim, 2020). As previously mentioned, psychopathy, narcissism and Machiavellianism are part of one construct, with addition of the Big Five model, it makes personality theory more rigorous and complete.

Because of the essence of dark personality clusters, it is difficult for the Dark Triad to maintain consistent results when predicting other outputs, in addition to positive links with counterproductive work behaviour (see Figure 1). This unstable correlation is associated with its nature. For example, narcissists feel fine about themselves and exaggerate their own achievements, and their superiority gives rise to high organisational commitment and job satisfaction (Jonason, Slomski, & Partyka, 2012), but arrogance may hinder the performance ascension. Psychopathy is passed for the “darkest” personality variables, so it normally has a negative effect on output. By contrast, Machiavellians who are regarded as the chameleon entirely centre on the purpose of gaining goals and have inconsistent links with job performance. The early environment in which the personality takes shape may cause this feature. Although all three dark personality variables are influenced by genetics rather than shared environment, the shared environment has a more significant impact on Machiavellianism (Rauthmann, 2011; Veselka et al., 2012). In addition to the characteristics of the personality itself, situational factors significantly affect stability and consistency (Zettler & Solga, 2013), and the Machiavellian feature itself to a certain extent explains the role of situational factors.

In contrast, the Big Five model shows good stability and consistency when predicting work outputs, as five positive personality variables are significantly associated with employee well-being, despite different organisational backgrounds and performance criteria (Youli & Chao, 2015). Conscientiousness has a stable and effective effect on individual, leadership behaviour, influence, and team performance (Xie, Chen, Lei, Xing, & Zhang, 2016). Although the links between extraversion, agreeableness and career interest, job performance are only limited to the specific profession or performance indicators, dependency with specific career or performance indicators is certain (Huang & Liang, 2015). Overall, the Big Five model has good predictive validity, apart from the openness to experience variable, which is not always stable.

If various outputs of Big Five personality in organisational situations are embodied in an act of “consistency” across situations, the Dark Triad only highlights consistency across situations. The former is consistent or the same when predicting organisational attitudes while the latter can only be called behavioural style, or comparable properties rather than the same. The two personality models belong to trait theory and maintain the stable style in different situations, but compared with the Dark Triad, the difference is that the Big Five personality maintains consistent behaviour. Individual attitudes result from the interaction between environmental pressure and individual intrinsic quality. People show different demeanour under different circumstances, and the reason may be that individuals meet the needs of the environment (Fang et al., 2020). Environmental factors can explain the differences in stability and consistency when predicting outcome variables. From the above comparison, the Dark Triad is more significantly influenced by environmental factors, especially Machiavellianism.

Paulhus and Williams (2002) found that there is significant overlap between Machiavellianism, psychopathy, and narcissism, but despite this fact, they represent three distinct dimensions of socially aversive personality traits. In their study, they found that the Dark Triad variables were differentially correlated with other personality constructs. With regards to the FFM, the only commonality found across all three dimensions was low agreeableness. Vernon, Villani, Vickers, and Harris (2008) conducted a behavioural genetic study examining the relationship of the Dark Triad and the Big Five personality dimensions. These researchers found differential phenotypic correlations. More specifically, Machiavellianism had a significant positive correlation with neuroticism, and significant negative correlations with agreeableness and conscientiousness. Psychopathy had significant negative correlations with agreeableness and conscientiousness. Narcissism had a significant positive correlation with extraversion, and a significant negative correlation with agreeableness.

Petrides, Vernon, Schermer, and Veselka (2011) examined the relationship between the Dark Triad and trait emotional intelligence, further demonstrating the distinctiveness of the traits. Machiavellianism had significant negative correlations with emotionality, self-control, well-being, and global trait emotional intelligence. Psychopathy had significant negative correlations with emotionality, self-control, well-being, and global trait emotional intelligence. Narcissism had positive significant correlations with sociability, well-being, and global trait emotional intelligence, and was the only one of the dark traits to be related to positive personality dimensions, suggesting the possibility that narcissism might be excluded from the malevolent personality cluster.

Egan (2014) examined positive psychological states in the differentiation relative to the Dark Triad and general personality traits. Using SEM, Egan (2014) found that the best fitting model for their data consisted of the “dark dyad” (Machiavellianism and psychopathy) and a separately correlated narcissism. In other words, even though narcissism has some negative connotations, it differs from the other two dark variables as it has positive and prosocial aspects (Rauthmann & Kolar, 2012). One of the aims of the present study is to examine this dark dyad hypothesis in relation to the socially positive GFP.

Agreeableness is another trait that is socially negative when found at a low level. At an elevated level, agreeableness indicates respect for individual differences, cooperativeness, and social harmony (Graziano & Eisenberg, 1997). Conversely, people who are low in agreeableness are angry, less trusting, disrespectful, and uncooperative. Disagreeable people tend to be selfish and put their own interests above those of others, using negative behaviours such as being manipulative, competitive, and expressing low empathy. Honesty - humility and agreeableness differ from each other in terms of how people react to negative responses; people low in Honesty - Humility do not react immediately with anger – instead, they carefully plan their revenge in terms of time and place (Lee & Ashton, 2004), which makes this trait especially fascinating to examine in

the context of workplace bullying. Low agreeableness is associated with the Dark Triad (Boyle et al., 2020). Muris, Merckelbach, Otgaar, and Meijer (2017) found that agreeableness is moderately related to both Machiavellianism and psychopathy. Agreeableness is low in inmates (Eriksson et al., 2011), in violent inmates (Shimotsukasa, Oshio, Tani, & Yamaki, 2019).

The past decades witnessed an upsurge of interest in personality traits related to malevolent behaviours, as represented in the components of the ‘Dark Triad’ (Paulhus & Williams, 2002) and many other traits such as greed (Seuntjens, Zeelenberg, van de Ven, & Breugelmans, 2015), sadism (O’Meara, Davies, & Hammond, 2011), or spitefulness (Marcus & Zeigler-Hill, 2015). As noted by Graziano and Tobin (2017), theoretical definitions of the construct of agreeableness are sparse, incoherent, and rarely go beyond defining the term with a list of trait or facet word descriptors.

A more elaborate account, which is compatible with and subsumes other prominent definitions (Buss, 1991), has been provided by Graziano and Tobin (2017). They broadly (albeit vaguely) define agreeableness as the “motivation to maintain positive relations with others” (Graziano & Tobin, 2017, p. 46), tying it to individual differences in social accommodation in terms of an opponent process model comprising elements of approach and avoidance. Considering their importance for a variety of outcomes (O’Boyle et al., 2012, Vize et al., 2018) and given that dark traits exhibit a substantial theoretical and empirical overlap (Muris et al., 2017, O’Boyle et al., 2015), various attempts have been made to describe their commonalities with the Big Five model (Diebels, Leary, & Chon, 2018; Jonason et al., 2009; Jones, 2013). Recently, Moshagen et al. (2018) provided an integrative and extended account of the common core of dark personality by defining the basic disposition that gives rise to all dark traits (and thus, the underlying disposition responsible for the observed commonalities across dark traits). Thus, according to the previously discussed view, the commonalities of the Dark Triad components can be seen as a reflection of the opposite pole of the agreeableness dimension in the Big Five model.

Importantly, both theory and empirical evidence concerning the proposition that the commonalities of dark traits essentially reflect low agreeableness exclusively (Kaufman et al., 2019). However, the Dark Triad components represent just a subset of all malevolent traits, so a natural extension is to broaden the notion previously confined and presume that low agreeableness represents the commonalities of not only Machiavellianism, narcissism, and psychopathy, but all dark traits, including sadism (Kaufman et al., 2019). If the positive manifold of all dark traits and could indeed adequately be described as the opposite pole of an established (and fundamental) personality dimension like agreeableness, theoretical parsimony dictates adopting this view and in the only study so far that looked at agreeableness and Dark Triad traits, Moshagen et al. (2018) reported a latent correlation of  $r = -0.69$  between agreeableness (Costa & McCrae, 1992; as assessed through the respective subscale of the Borkenau & Ostendorf, 1998).

Thus, at the very least, the overlap between agreeableness and the Dark Triad is substantial. However, the theoretical origins of agreeableness differ fundamentally, with agreeableness being a part of the Big Five model of basic personality structure, intending to describe all major sets of individual differences by as few independent dimensions as possible (*e.g.*, Saucier, 2009). In contrast, the Dark Triad is defined to represent the commonalities of all dark traits, so the model represents a blend of several characteristics across basic dimensions of personality (Paulhus et al., 2018). Correspondingly, empirical evidence concerning both the components (Furnham et al., 2014a; Muris et al., 2017; Vize et al., 2018) and indeed the common core (Moshagen et al., 2018) indicates substantial associations not only with agreeableness, but with other FFM dimensions. This is in line with the fact that the theoretical conceptualisation of the Dark Triad also refers to features that are typically thought to reflect other FFM dimensions (for instance, warmth is part of extraversion and hostility is part of neuroticism; Costa & McCrae, 1992; Furnham et al., 2014a).

This conceptualisation differs from the original in at least three respects. First, because of defining agreeableness through predominantly motivational terms, there is hardly a reference to individual differences in social cognition. By contrast, the definition of Dark Triad directly highlights the importance of attitudes and beliefs that are used to justify malevolent behaviour (and empirically, Moshagen, Zettler, Horsten, & Hilbig, 2020). Second, whereas Graziano and Tobin's (2017) account can immediately be used to explain certain classes of relevant attitudes (such as helping others), it is difficult to reconcile with behaviours that impose disutility on others in absence of an explicit receiver/other (such as tax fraud or conservation attitudes). Also, it seems less suited to account for sadistic or spiteful demeanours, *i.e.*, behaviours directed at deriving utility from the very act of inflicting disutility on others – as is part of the conceptualisation of D. Third, individuals with high levels in D will often be poorly described by resorting to mere avoidance. On the contrary, the core defining feature of D – seeking to maximise individual utility – is very clearly approach behaviour, especially in social settings (*e.g.*, seeking recognition, reputation, or status), as is perhaps most evident in specific dark traits such as narcissism.

Finally, it should also be noted that Graziano and Tobin's (2017) conceptualisation of agreeableness allows for a substantial overlap with the theoretical content of other FFM dimensions. Most obviously, individuals with elevated levels of extraversion can be expected to show a pronounced motivation to maintain positive relations with others (and to exhibit strong approach tendencies, *e.g.*, Wilde, Martin, & Goff, 2013). On a theoretical level, such a conflation is unsatisfactory given the presumed independence of the FFM dimensions. Overall, based on the theoretical considerations mentioned above, there are myriad reasons to motivate the assumption that agreeableness and Dark Triad show meaningful differences, which is also corroborated by initial empirical evidence provided in Moshagen et al. (2018). However, as seen from the evidence above, the relationship is not straightforward.

Extraversion is a personality trait that is defined by a tendency to be outgoing, sociable, interested in other people, assertive and active. People who are high in extraversion are in search of positive emotions. Positive emotions as such are not related to bullying (Bowling & Beehr, 2006), but when extravert people make decisions, they may overlook the emotions of others. Extraversion is related to the Dark Triad, especially to narcissism and psychopathy (Lee & Ashton, 2004; Paulhus & Williams, 2002). Due to the extravert person's sociability and desire to be popular, he or she may pay more attention to external events and excitement-seeking than to the feelings of others, thereby becoming part of bullying-provoking situations in the workplace.

According to Campbell and Muncer (2009), "Narcissism refers to a personality trait reflecting a grandiose and inflated self-concept" (p. 1304). The narcissist tends to view him - or herself as intelligent, powerful, physically attractive, unique, and entitled (Campbell and Muncer (2009). Some researchers (*e.g.*, Campbell & Muncer, 2009; Twenge & Foster, 2010) have claimed that there has been a significant increase in narcissism among "generation Ys" or "millennials" over the last two decades, although others dispute this (Ackerman et al., 2010a; Ackerman et al., 2010b). Narcissism is defined by grandiosity, a sense of entitlement and a belief by the individual that they are special and unique; it is often accompanied by arrogance and a lack of empathy (DSM-IV-TR, 2000). Narcissists believe they have special and unique talents often associated with creativity (Furnham et al., 2013).

The two types of narcissism were found to be related to basic personality traits, such as within the Big Five (*e.g.*, Miller et al., 2010). Individuals with high grandiose narcissism are more extraverted and stable (Jauk, Weigle, Lehmann, Benedek, & Neubauer, 2017; Miller et al., 2010) and score higher on openness (Zajenkowski, Maciantowicz, Szymaniak, & Urban, 2018). In contrast, vulnerable narcissists are associated with high negative emotionality, including high levels of anxiety, anger, or depression (*e.g.*, Miller et al., 2010). Miller et al. (2010) showed that most of the



vulnerable narcissism variance might be explained by neuroticism. Additionally, vulnerable narcissism is highly associated with introversion (e.g., Miller et al., 2010). Agreeableness, on the other hand, is negatively correlated with both types of narcissism (e.g., Miller et al., 2010). To better understand the nature of narcissism it would be valuable to examine more specific aspects of broad personality domains in correlation with narcissism. For instance, research by Miller et al., (2010) found that there were differences between grandiose and vulnerable narcissism in their correlations with the Big Five facets.

A study by Zajenkowski et al. (2018) focused on the relationship between grandiose and vulnerable narcissism and ten aspects of the Big Five as described by DeYoung, Grazioplene, and Peterson (2012). The results of the study indicated that grandiose narcissism was more differentiated within all the models, specifically, grandiose narcissism correlated positively with assertiveness (from extraversion), and intellect (openness/intellect), and negatively with politeness (agreeableness), industriousness (conscientiousness) and withdrawal (neuroticism) (Zajenkowski et al., 2018). On the other hand, vulnerable narcissism showed less differentiated correlations within broad domains, except for openness/intellect. Additionally, individuals high in vulnerable narcissism exhibited a high level of openness. Thus, DeYoung et al. (2012) suggested that ten aspects of the Big Five seem to be useful in understanding the nature of each type of narcissism (grandiose and vulnerable).

Research studying the association of narcissism with usage of social networking sites has concluded that there is a strong positive relationship (Campbell & Muncer, 2009; Hyman, 1957; Johnson et al., 2012). Buffardi and Campbell (2008), using the narcissistic personality inventory (Raskin & Terry, 1988) and coding, had examine individuals' Facebook pages. They found that higher scores on the NPI were related to more interactions on Facebook (specifically, number of friends and wall posts); there was no relation between page owners' narcissism and quantity of information they posted about

themselves, as had been expected (Buffardi & Campbell, 2008). Narcissism was positively related to coder ratings of self-promoting information, and “main photograph attractiveness, self-promotion, and sexiness” (Buffardi & Campbell, 2008, p. 1310).

Consistent with Buffardi and Campbell (2008), Mehdizadeh (2010) found that narcissism scores were positively correlated with the time spent on Facebook and the number of times Facebook was checked per day. Although the study author completed the ratings of self-promoting content, the results offered partial support for the hypothesis that narcissism scores are connected to self-promoting content; thus, the findings are potentially biased and, therefore, dubious (Mehdizadeh, 2010).

In contrast to Buffardi and Campbell (2008) and Mehdizadeh (2010), Bergman, Fearington, Davenport, and Bergman (2011) found that narcissism was unrelated to the amount of time spent on social networking sites or the frequency of status updates. It also showed that narcissism was not related to types of social networking sites activities, except for more posting of self-focused pictures (Bergman et al., 2011). Narcissism was also positively related to the desire to have many social networking sites friends, and follow their activities (Bergman et al., 2011).

Ong (2011) found that extraversion and narcissism were positively related to self-ratings of the attractiveness of Facebook profile pictures and the frequency of status updates (in contrast to Bergman et al., 2011, findings). However, narcissism was unrelated to social network size, as was supported with contrasting findings by Bergman et al. (2011) and the number of photos posted, once extraversion was considered (Ong, 2011). Finally, Ryan and Xenos (2011) reported that, although Facebook users were higher on overall narcissism than non-users, narcissism was unrelated to the amount of time spent on Facebook (consistent with Bergman et al., 2011). This study also found that narcissism was associated with a preference for the photos feature, and that the exhibitionism dimension, but not the overall NPI score, was related to a preference for the status updates feature (Ryan & Xenos, 2011).

Personality traits have historically been viewed as fitting into one of two discrete categories, namely, normal (*e.g.*, conscientiousness) or abnormal (*e.g.*, obsessive-compulsive) traits (Furnham et al., 2013). However, there has recently been increasing evidence to suggest that abnormal personality can be modelled as extremes of normal personality (Markon et al., 2005, O'Connor & Dyce, 2001). For example, someone with obsessive-compulsive disorder will be maladaptively high on neuroticism and conscientiousness and low on openness and agreeableness (Furnham et al., 2013).

Previous examinations of the personality-creativity relationship have found significant positive correlations between multiple metrics of creativity and the factors of extraversion and openness (Dollinger, Urban, & James, 2004; Furnham et al., 2013; Hughes, Hurlstone, Marsh, Vachon, & Jones, 2013). Estimates of effect size vary but are generally considered small to medium ( $0.15 < r < 0.30$ ). When considered collectively in regression models, the Big Five model tend to explain around 20–50% of the variance in creativity measures. Measures of creativity tend to be modestly correlated (Batey & Furnham, 2006) and as such, much of the variation observed in effect sizes and variance explained is a function of the use of different measures of creativity (and personality). Further, it has been suggested that different aspects of personality may relate to different aspects of creativity (James & Asmus, 2001; Wolfradt & Pretz, 2001) and that the correlation with specific personality factors varies between different creative groups, such as scientists and artists (Fiske, 2017; Furnham et al., 2013). In consequence, two different measures of creativity were used in the study by Batey and Furnham (2006), namely, self-reported creativity and a biographical inventory of creative behaviours which assesses a broad range of everyday creative activities.

Eysenck (2004) proposed variation in the ability to bring together different ideas from memory to create novel ideas and problem is a manifestation of a wide concept of relevance. That is, some individuals have a much wider view of what is relevant in each scenario than others, thus providing them with a 'larger sample of ideas' that can be used

to make connections between things or ideas that others would not have been considered. He termed this 'over-inclusiveness' and suggested that it is vital in the production of novel and creative ideas. Eysenck (2004) argued that over-inclusiveness was related to the trait of psychoticism, which in Big Five terms, is high openness, low agreeableness, and conscientiousness. Psychoticism has also been shown to relate to numerous personality disorders such as schizophrenia, borderline personality disorder, antisocial personality disorder and narcissism (Deary et al., 1998).

Research into narcissism and the Big Five does show a slight positive relationship with openness and extraversion (Saulsman & Page, 2004), indicating that those high in narcissism may exhibit higher levels of creativity. This idea is supported by research indicating a link between narcissism and creative achievement (Feldman, 1989).

In early studies on humour, it was noted that varying uses of humour (*e.g.*, perspective-taking, sarcasm) had vastly different effects on psychological well-being (*e.g.*, Allport, 1961; Freud, 1928; Maslow, 1954). However, these unique uses of humour were not formalised into a unified framework until the pivotal work of Martin, Puhlik-Doris, Larsen, Gray, and Weir (2003), who proposed the existence of four distinct humour styles: affiliative, self-enhancing, aggressive, and self-defeating. Affiliative humour involves the use of joking and friendly humorous banter to facilitate interpersonal bonds. Self-enhancing humour is characterised by the ability to find amusement in life's stresses. Aggressive humour entails the use of sarcasm and put-downs to hurt or manipulate others. Lastly, self-defeating humour represents individuals' attempts to amuse others by making excessively disparaging humorous remarks about themselves.

These four humour styles have been linked to several different personality traits. The two positive styles (affiliative and self-enhancing) are positively associated with extraversion and openness, whereas the two negative styles (aggressive and self-defeating) correlate negatively with agreeableness and conscientiousness, and positively

with neuroticism (*e.g.*, Martin et al., 2003; Vernon et al., 2008). The use of self-enhancing humour has also been linked to greater optimism (Martin et al., 2003).

Though assessed in association with a variety of other personality traits, the four humour styles have not yet been looked at as potential correlates of the Dark Triad (Paulhus & Williams, 2002). Specifically, this antisocial trinity comprises narcissism, as defined by excessive self-love and feelings of superiority; psychopathy, as characterised by high thrill-seeking attitudes paired with low empathy; and Machiavellianism, as exhibited through cold and manipulative behaviours. Psychopathy and Machiavellianism exhibit negative associations with agreeableness and conscientiousness, while narcissism correlates positively with extraversion, and negatively with agreeableness (Vernon et al., 2008). Furthermore, psychopathy and Machiavellianism are linked to lower trait extraversion (Ali, Amorim, & Chamorro-Premuzic, 2009). While narcissism has not been explored in the context of trait EI, studies have shown that it demonstrates positive associations with variables relevant to trait EI, such as empathy (*e.g.*, Watson, Little, Sawrie, & Biderman, 1992). Narcissism also exhibits positive correlations with optimism (Hickman, Watson, & Morris, 1996).

To obtain a more complete picture, researchers previously examined the general personality traits of the HEXACO model (Ashton & Lee, 2005), which in addition to the traditional five personality traits, includes also a trait known as Honesty - Humility. Honesty - Humility is defined as “the tendency to be fair and genuine in dealing with others, in the sense of cooperating even when one might exploit them” (Ashton & Lee, 2005, p. 156). People who are high in Honesty - Humility tend to not take advantage of others, keep everyone's best interests in mind, and are truthful and non-manipulative (Ashton & Lee, 2005). Conversely, people low in Honesty - Humility are willing to exploit others by means of lies, selfish and unethical acts, haughtiness, hypocrisy, fraud and cunning; they prioritise the comforts in life and luxury and have sentiments of entitlement and superiority (Ashton & Lee, 2005). Low Honesty - Humility is at the core of the Dark

Triad (Book, Visser, Volk, Holden, & D'Agata, 2019) and is strongly related to Machiavellianism (Muris et al., 2017).

### **3.3: Current study**

While it has been well documented that the Big Five model and the Dark Triad are closely related to each other on individual levels, most of the exploration focused on one aspect of the relationship or another, without including culture into the equation. The aim of the current chapter was to therefore assess whether there is indeed a strong relationship between personality traits, and whether that relationship stands cross-culturally.

### **3.4: Method**

#### **3.4.1 Participants**

Participants were recruited via companies (Smart Survey and Anketolog, United Kingdom and Russia respectively) specialising in participant recruitment for research. Participants were recruited from Russia and the United Kingdom. Participation in the study was voluntary, and participants at any point were able to withdraw their anonymous data. Participants were asked to create unique ID numbers up to six digits, in case they wanted to withdraw their answers from the survey. The minimal sample size was not calculated; however, as a rule of thumb, a minimum of 300 participants have been recommended for this type of research with consideration of using CFA and SEM (Kline, 2013; Yong & Pearce, 2013), therefore this study made sure to have more participants than needed. The final number of Russian participants was 1,996. The final number of British participants was 1,292.

The demographics for both samples were as follows. For the British sample, the researchers had 722 females (55.9 %), 558 males (43.2 %) and 12 preferred not to disclose their gender (0.9 %). For the Russian sample researchers had 687 males (34.40 %), 1,302 females (65.20 %) and 7 (0.40 %) preferred not to disclose. The age of participants for both samples ranged from 18 to 70, the British sample ( $M=37.40$ ,  $SD=13.61$ ), the Russian sample ( $M=36.8$ ,  $SD=12.5$ ).

The educational level for the British sample was the following GCSE (24.79%), A-level (23.71%), undergraduate (29.96%), Master's degree or equivalent (19.15%), PhD or equivalent (5.56%). The demographics for the British in terms of residency type were as follows: big city (30.35%), small city (15.29%), big town (20.46%), small town (22.39%), village (12.82%).

The educational level for the Russian sample were as follows pre-GSCE (0.10%), GSCE (0.15%), A-levels (26.74%), undergraduate (69.39%), Master's degree or PhD, and equivalent (3.63%). The demographics for the Russians in terms of residency type were as follows: city (90.18%), small city (4.71%), small town (4.31%), village (0.80%).

Demographics Study One

	British	Russian
<b>Gender</b>		
Male	43.2%	34.4%
Female	55.9%	65.2%
Prefer not to disclose	0.9%	0.4%
<b>Education</b>		
GCSE or equivalent	24.8%	0.10%
A-level	23.71%	0.15%
Undergraduate	29.96%	26.74%
Masters	19.15%	69.39%
PhD or equivalent	5.56%	3.63%
<b>Residency type</b>		
Big city	30.35%	90.18%
Small city	15.29%	4.71%
Big town	20.46%	
Small town	22.39%	4.31%
Village	12.82%	0.80%

Indeed, for both samples predominant number of participants came from big cities, however there is a big gap between Russian and British sample as evidenced from Table 1. Additionally large percentage of Russian sample has minimum Masters degree, whereas for British it is undergraduate or equivalent.

### 3.4.2: Design and measures

The study used a cross-sectional design (as different populations, Russian and British, were compared at a single point in time). In Study One, the researchers gave participants a questionnaire, consisting of self-report measures.

The short Dark Triad (Paulhus, 1998), most known as SD3, measures narcissism, Machiavellianism, and psychopathy simultaneously. The questionnaire consists of 27 items, with answers on a scale from 1 (completely disagree) to 5 (completely agree), with some reversed items. The reported alpha reliability of the SD3 is high (Rogoza & Cieciuch, 2018), the current  $\alpha = .85$  for the British sample, and  $\alpha = .79$  for the Russian sample. As can be seen from all the research mentioned previously in the literature review chapter, in the recent decade, there has been a substantial increase in the examination of three constructs (Paulhus & Williams, 2002). The growing interest in the Dark Triad has led to the development of two short and efficient measures that substantially reduce the number of items from 124, either to 12, in the 'dirty dozen' by Jonason et al. (2009) or to 27 in the SD3 by Jones and Paulhus (2013). The dirty dozen or DTDD-T has 12 items with five-point Likert scale responses. This measure has been validated by the extensive amount of research and has been translated into several languages including Turkish, Serbian, and French (Ardic & Ozsoy, 2016; Dinić & Wertag, 2018; Gamache, Savard, & Maheux-Caron, 2018).

Similarly, SD3 includes a 5-point Likert scale response; however, this measure has increased the number of items, 27 to be precise. SD3, in contrast to DTDD-T, is a newer measure; nonetheless, it has been widely used in an array of research and literature with a proven record of high reliability and validity (Anderson & Cheers, 2018; Dagnall et al., 2019; Dagnall et al., 2019; Papageorgiou et al., 2017; Riek et al., 2006). Also, SD3 has been translated into a number of languages including Turkish, Serbian, Iranian, French, Japanese, Farsi and Russian (Ardic & Ozsoy, 2016; Ardic & Ozsoy, 2016; Atari & Chegeni, 2016; Dinić & Wertag, 2018; Egorova, Parshikova, & Sitnikova, 2016; Gamache et al., 2018). Both measures have high reliability. Originally reported by Jones and



Paulhus (2013), alpha reliabilities for the SD3 subscales were  $\alpha = .71$ ,  $\alpha = .77$ , and  $\alpha = .80$  for narcissism, Machiavellianism, and psychopathy, respectively.

For this research SD3 was the chosen measure, as the most robust and most internationally used measure. This is a well-established, validated, and reliable measure of the Dark Triad that has been consistent throughout studies. In the current research the reliability of SD3 for Study One for the Russian sample was  $\alpha = .79$ , and for the British sample was  $\alpha = .85$ . The alphas for subscales for the British sample were the following: Machiavellianism  $\alpha = .83$ , narcissism  $\alpha = .73$ , and psychopathy  $\alpha = .76$ . The alphas for subscales for the Russian sample were as follows: Machiavellianism  $\alpha = .61$ , narcissism  $\alpha = .65$ , and psychopathy  $\alpha = .62$ .

The Big Five inventory scale - 2, known as BFI-2 (Soto, & John, 2017), measures extraversion, agreeableness, conscientiousness, negative emotionality, and open-mindedness simultaneously. This scale consists of 60 items, with answers on a scale from 1 (disagree strongly) to 5 (agree strongly), and some items have been reversed for this study. The reported alpha reliability of the BFI-2 is high (Soto & John, 2017). The most comprehensive measure is Costa and McCrae's (1992) 240-item NEO personality inventory (NEO-PI-R), which focuses on the measurement of the Big Five domains and six specific facets within each dimension. Previous researchers argued that it is too long for participants to complete in one sitting, which can lead to biases in their answers; hence the researchers set out to create a more concise measure (Gosling, Rentfrow, Swann, & Jr, 2003).

The four most well-established and widely used measures are the 44-item Big Five inventory, or BFI (Benet-Martínez & John, 1998; John & Srivastava, 1999), the 60-item NEO five-factor inventory, or NEO-FFI (Costa & McCrae, 1992), Goldberg's measure, or TDA, which is comprised of 100 trait-descriptive adjectives (Goldberg, 1990), and the 60-item Big Five inventory 2, or BFI-2 (Soto & John, 2017). The BFI-2 (Soto & John, 2017) is a 60-item questionnaire that hierarchically examines personality structure by

assessing the Big Five dimensions and 15 sub-facets: extraversion (sociability, assertiveness, and energy), agreeableness (compassion, respectfulness, and trust), conscientiousness (organisation, productiveness, and responsibility), negative emotionality (anxiety, depression, and emotional volatility), and open-mindedness (intellectual curiosity, aesthetic sensitivity, and creative imagination).

The most recent measure to capture a wider range of personality dimensions, introduced by Ashton and Lee (2005), is known as HEXACO, or the Honesty - Humility dimension. Ashton et al. (2004) stated that while three of the HEXACO dimensions, specifically, extraversion, conscientiousness, and openness, are remarkably similar to the Big Five model, the other three, agreeableness, emotionality, and Honesty - Humility, are substantially different. Results of the comparative study by Hodson et al. (2018) showed that the scales of the BFI-2 and HEXACO-60 generally overlap, apart from the near-absence of the Honesty - Humility dimension. From this conclusion, for the current project, on the effects of the Dark Triad and the Big Five models in explaining prejudice and aggression, via cross-cultural comparison, BFI-2 became the measure of choice. BFI-2 has been well established, with high reliability and validity from a variety of studies including international research; it is not the shortest, but the most precise measure of personality dimensions to this day. In the current research, the reliability of BFI-2 for Study One was  $\alpha = .85$  for the Russian sample and  $\alpha = .86$  for the British sample. The alphas for subscales for the British sample were as follows: extraversion  $\alpha = .91$ , agreeableness  $\alpha = .91$ , conscientiousness  $\alpha = .91$ , open-mindedness  $\alpha = .92$ , negative emotionality  $\alpha = .92$ . The alphas for subscales for the Russian sample were as follows: extraversion  $\alpha = .89$ , agreeableness  $\alpha = .89$ , conscientiousness  $\alpha = .90$ , open-mindedness  $\alpha = .90$ , negative emotionality  $\alpha = .90$ .

For the Russian participants, the questionnaire was translated using back translation method by the lead researcher. As fully described in the literature review chapter, back translation, or translation of a translated text back into its original language,

has been used in cross-cultural survey research over the past 50 years, primarily as a quality assessment tool (Son, 2018). It was, historically, the first linguistic quality control technique introduced into cross-cultural research and has been considered a standard translation procedure for a long time (Harkness, Villar, & Edwards, 2010). This approach is used in other studies and is supported by several academic fields. For example, study by Denovan, Dagnall, Hill-Artamonova and Musienko (2021) used back translation method with assessment of structural and convergent validity, and examination of internal consistency in translation and adaption of Mental Toughness questionnaire for Russian population. The consensus is that this approach preserves the original meaning of the questionnaire items in another language. Douglas and Craig (2007) noted that among the 45 articles published in the *Journal of International Marketing* between 1997 and 2005 that reported surveys using multiple languages, 34 of them (75%) used back translation as a primary quality assessment method.

### **3.4.3: Procedure and ethical considerations**

Participants completed online questionnaires containing the materials described above and all questions were randomised. All questions were marked as required, to avoid missing values. Once the questionnaire was complete, participants were fully debriefed about the study and how they can withdraw their data if they choose to do so. The research conducted contained no major ethical dilemmas as all participants were able to give full informed consent, were able to keep their responses confidential and anonymous and were able to withdraw at any point before 1 February 2019 by simply contacting the researcher and quoting their unique participant ID number. Data collection and questionnaires used in Studies One, Two and Three were approved by the ethical committee in one application form. Only minor points needed to be considered, such as the lack of reimbursement for participants' time and explaining the use of the collected data. The research was approved by the Manchester Metropolitan University ethics board and signed by Professor Carol Haigh. The researcher also completed an online data protection course and research

integrity training provided by the Manchester Metropolitan University to ensure protection of the participants.

#### **3.4.4: Analysis**

The data screening process was undertaken for both Russian and British data sets to check for assumptions, before performing CFA, for the presence of normality, linearity; absence of multicollinearity, outliers (Flora et al., 2012). As we had some missing data in the British sample, mean imputation with linear regression analysis was performed. During mean imputation, the mean of the variables that contain missing values is calculated and used to all missing values in those variables. Also, an analysis of descriptive statistics, *i.e.*, means, standard deviations and correlations, was performed to fully examine the data collected. The most fundamental model in CFA is the one-factor model, which will assume that the covariance (or correlation) among items is due to a single common factor. Much like exploratory common factor analysis, we will assume that total variance can be partitioned into common and unique variance.

CFA was performed to assess the proposed theoretical model using AMOS version 25. The fit indices that were reported for the analysis  $\chi^2$  (assess overall fit and the discrepancy between the sample and fitted covariance matrices;  $p\text{-value} > 0.05$ ), Tucker-Lewis index (TLI) (.95), indicates the model of interest improves the fit by 95% relative to the null model; ( $TLI \geq 0.95$ ), CFI (compares the fit of a target model to the fit of an independent, or null, model;  $CFI \geq .90$ ), RMSEA (a parsimony-adjusted index: values closer to 0 represent a good fit;  $RMSEA < 0.08$ ). Path analysis was also performed as part of CFA. One of the advantages of path analysis is the inclusion of relationships among variables that serve as predictors in one single model, and the exclusion of paths that are not contributing to the overall model. The model was tested in CFA analysis. And, in addition to CFA and path analysis, invariance analysis was performed to compare the British and Russian samples on the results. Hox and Van de Schoot (2013) stated that invariance analysis establishes whether factor loadings, intercepts and residual variances

are equivalent in a factor model that measures a latent concept and ensures that comparisons that are made on the latent variable, like Russia and the United Kingdom in this project, are valid across groups. It is important to note that establishing measurement invariance involves running a set of increasingly constrained SEM and testing whether differences between these models are significant for our samples (Hox, & Bechger, 1998). The hypothesised confirmatory factor Model 1 (Appendix 3) and Model 2 (Appendix 3.A) are described further.

### **3.5: Results**

The means and standard deviations indicate that there is an underlying relationship between Big Five ( $M=188.9$ ,  $SD=15.5$ ;  $M=190.5$ ,  $SD=19.7$ ) and Dark Triad ( $M=73.7$ ,  $SD=13.9$ ;  $M=78.2$ ,  $SD=11.2$ ) traits for both samples (see Tables 1 and 2). Also, there is a general consistency between the British and Russian samples, which will be further addressed in the discussion section of this chapter.

**Correlations:** As part of the analysis, Pearson correlations were computed between all the variables for each sample, to see relationships between each trait. Correlations for the Russian and British samples will be discussed separately. There were no issues with multicollinearity, and all correlations were below .9.

**British:** Correlations revealed a significant relationship between the variables, which was expected; however, the following relationships stand out from the theory (see Table 3): narcissism highly positively correlates with extraversion,  $r = .516$ ; narcissism positively correlates with open-mindedness,  $r = .210$ ; psychopathy negatively correlates with agreeableness,  $r = -.609$ ; Machiavellianism positively correlates with negative emotions,  $r = .218$ ; Machiavellianism negatively correlates with agreeableness,  $r = -.329$ ;

Machiavellianism positively correlates with open-mindedness,  $r = .076$ ; negative emotions positively correlate with open-mindedness,  $r = .280$ .

Table 3 Bivariate correlations among study variables for British sample (N=1255)

Variables	N	P	M	C	NE	OM	E	A
<b>Narcissism</b>	1	.513**	.329**	-0.042	-.065*	.210**	.516**	-.238**
<b>Psychopathy</b>		1	.458**	-.335**	.178**	0.022	0.026	-.609**
<b>Machiavellianism</b>			1	-0.04	.218**	.076**	-.095**	-.329**
<b>Conscientiousness</b>				1	-.152**	.085**	.201**	.357**
<b>Negative_Emotions</b>					1	.280**	-.286**	-.206**
<b>Open_Mindness</b>						1	.179**	.141**
<b>Extraversion</b>							1	.126**
<b>Agreeableness</b>								1

Note. \* $p < .05$ ; \*\*\* $p < .001$

**Russian:** Similarly, as with the British sample, correlations revealed a significant relationship between the variables, which was expected; however, the following relationships stand out from the theory (see Table 4): narcissism highly positively correlates with extraversion,  $r = .502$ ; narcissism positive correlates with open-mindedness,  $r = .238$ ; psychopathy negatively correlates with agreeableness,  $r = -.441$ ; Machiavellianism positively correlates with extraversion,  $r = .049$ ; Machiavellianism

positively correlates with open-mindedness,  $r = .122$ ; negative emotions positively correlate with open-mindedness,  $r = .222$ .

Table 4 Bivariate correlations among study variables for Russian sample (N=1996)

Variables	N	P	M	C	NE	A	E	OM	
<b>Narcissism</b>	1	.241**	.324**	.173**	-.108**	-0.02	.502**	.238**	
<b>Psycopathy</b>			1	.317**	-.249**	.047*	-.441**	0.005	-.067**
<b>Machiavellianism</b>				1	.073**	.132**	-.270**	.049*	.122**
<b>Conscientiousness</b>					1	-0.02	.315**	.308**	.304**
<b>Negative_Emotions</b>						1	-.186**	-.339**	.222**
<b>Agreeableness</b>							1	.269**	.154**
<b>Extraversion</b>								1	.232**
<b>Open_Mindedness</b>									1

Note. \* $p < .05$ ; \*\* $p < .001$

**Confirmatory factor analysis:** CFA was performed for the British and Russian samples via AMOS version 25. CFA is a theory-driven approach, and it allows us to test the hypotheses about a particular factor structure (Byrne, 2005). In this case, the relationship between Big Five personality traits and Dark Triad traits was evaluated. To use CFA to test our model, several assumptions had to be met: the error term in the CFA model had to be independent of each other, which means that variances do not overlap; all pairs of factors are assumed to be covariates; multivariate normality; a sufficient sample size ( $n > 200$ ), the correct a priori model specification (Kline, 2013). Using box plots and Mahalanobis distance, no univariate or multivariate outliers were observed. According to Schreiber, Nora, Stage, Barlow, and King (2006), the CFI should be  $\geq .95$  for the model to be acceptable; the TLI should be  $\geq .95$  or can be  $0 > TLI > 1$  for acceptance; the RMSEA should be  $< .06$  to  $.08$  with confidence interval.

**British model analysis:** The original model fit for the British sample before path removal was CFI = .59, TLI = .12; RMSEA = .26;  $\chi^2 = 1106.9$  (df=13);  $p = .95$ . The comparative fit index for the British model after path removal of Machiavellianism and open-

mindedness was CFI = .99; TLI = .98; the RMSEA = .04;  $\chi^2 = 2.8$  (df=1),  $p = .95$ . These values indicate a good fit between the model and the observed data. The squared multiple correlation coefficients (R<sup>2</sup>) describe the amount of variance the common factor accounts for in the observed variables. The path diagram (Figure 1) now displays the standardised regression weights for the common factor and each of the indicators. The single path has been removed from the model, from Machiavellianism to open-mindedness, as with this path the model was not a good fit. This resulted in a better model fit, as indicated by the CFI index.

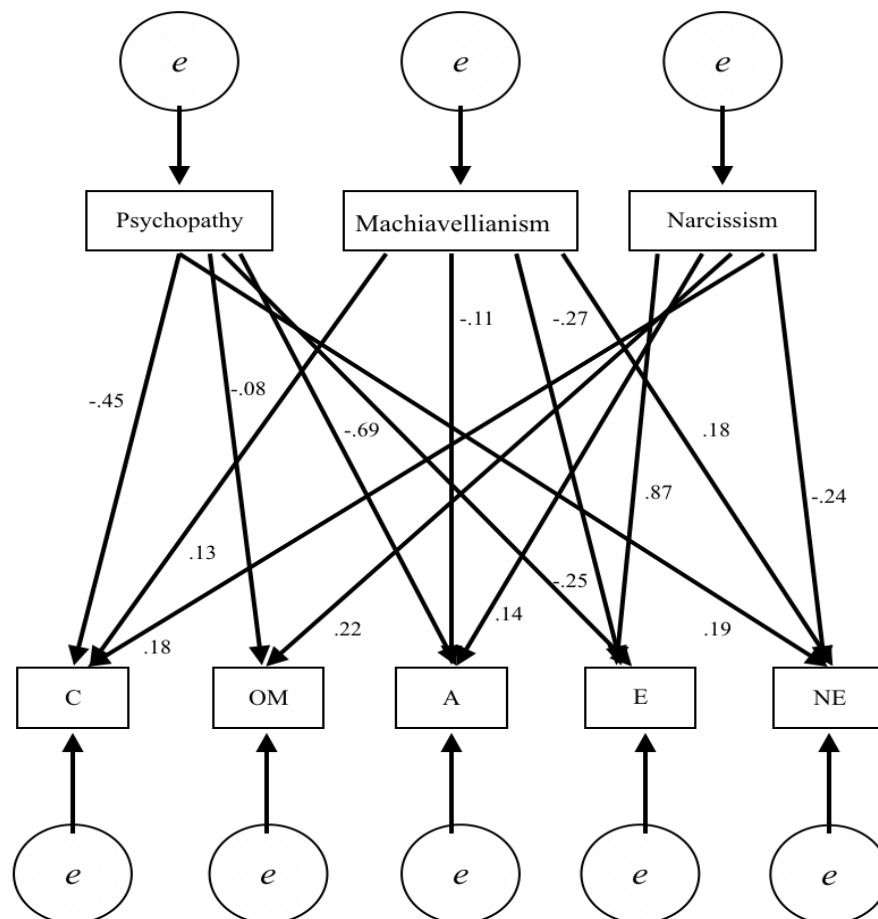


Figure 1: Hypothesised confirmatory factor model for British sample. Boldface arrows indicate structural component. *e* = error.

Indeed, some of the relationships between variables were in accordance with currently established literature. For example, psychopathy has a negative direction relationship with extraversion, agreeableness, conscientiousness, and open-mindedness,



but shows a positive direction with negative emotions. On the other hand, some of the variables contradicted current literature. For example, narcissism has a positive relationship with open-mindedness. Similarly, Machiavellianism has a positive relationship with conscientiousness.

**Russian model analysis:** The original model fit for the Russian sample before path removal was  $CFI = .54$ ,  $TLI = .02$ ;  $RMSEA = .23$ ;  $\chi^2 = 1424.6$  ( $df=13$ );  $p = .95$ . The comparative fit index for the Russian model after path removal was as follows:  $CFI = .99$ ;  $TLI = .93$ ;  $RMSEA = .06$ ;  $\chi^2 = 17.93$  ( $df=2$ ),  $p = .95$ . These values indicate a good fit between the model and the observed data. The squared multiple correlation coefficients ( $R^2$ ) describe the amount of variance the common factor accounts for in the observed variables. The path diagram (Figure 2) now displays the standardised regression weights for the common factor and each of the indicators. Some paths have been removed from the model, from Machiavellianism to open-mindedness, and psychopathy to negative emotions, as with these paths the model was not a good fit. The removal of these paths resulted in a better model fit, as indicated by the CFI index.

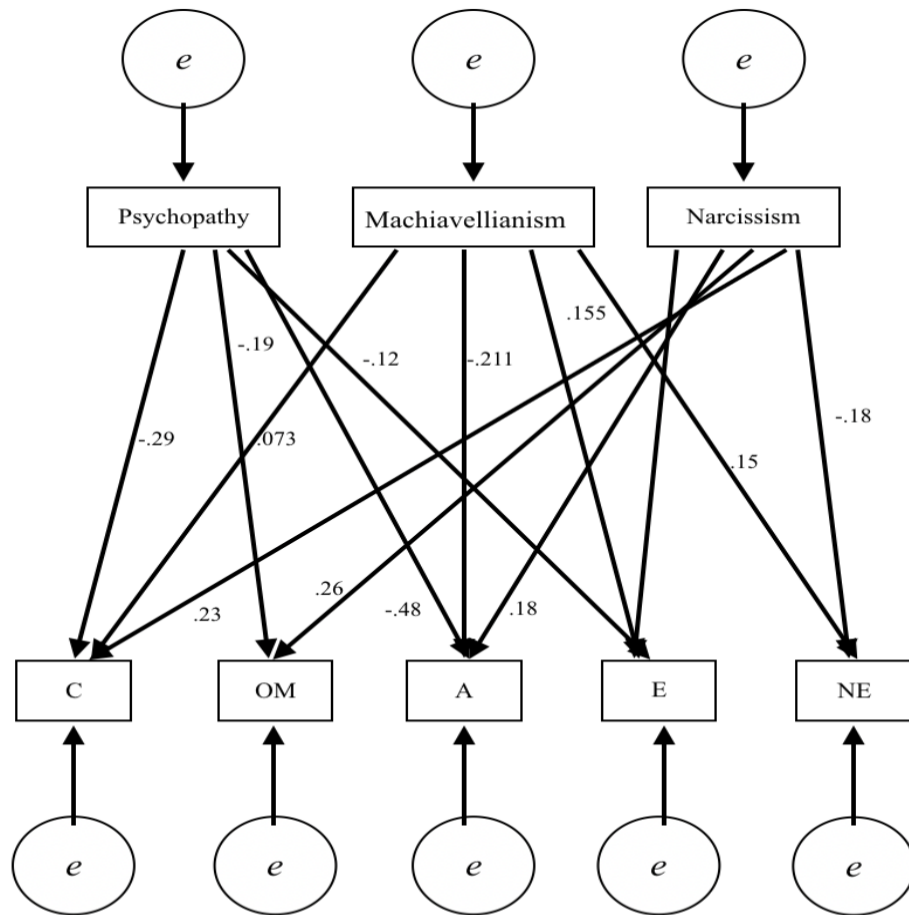


Figure 1: Hypothesised confirmatory factor model for Russian sample. Boldface arrows indicate structural component.  $e$  = error.

Unlike current literature, narcissism has a positive direction relationship with conscientiousness: when narcissism goes up, so does conscientiousness. Similarly, Machiavellianism shows a positive direction with conscientiousness. Only psychopathy agreed with currently established theories, having a negative direction with conscientiousness and other variables, apart from negative emotions.

Both models showed underlying relationships that have previously not been seen in other studies, or not investigated by other researchers. Indeed, both the Russian and the British samples showed consistencies within model estimates. This was not in accordance with the hypothesis. The researchers hypothesised that there would be significant differences between the British and Russian samples based on CFA.

Standardised parameter estimates for the Russian sample were as follows: conscientiousness and Machiavellianism  $\beta = .073$ , negative emotions and Machiavellianism  $\beta = .150$ ; extraversion and Machiavellianism  $\beta = -.155$ , agreeableness and Machiavellianism  $\beta = -.211$ , conscientiousness and narcissism  $\beta = .230$ , negative emotions and narcissism  $\beta = -.180$ , open-mindedness narcissism  $\beta = .258$ , extraversion and narcissism  $\beta = .92$ , agreeableness and narcissism  $\beta = .185$ , conscientiousness and psychopathy  $\beta = -.299$ , open-mindedness and psychopathy  $\beta = -.119$ , extraversion and psychopathy  $\beta = -.121$ , agreeableness and psychopathy  $\beta = -.471$ .

Standardised parameter estimates for the British sample were as follows: conscientiousness and Machiavellianism  $\beta = .132$ , negative emotions and Machiavellianism  $\beta = .183$ , extraversion and Machiavellianism  $\beta = -.266$ , agreeableness and Machiavellianism  $\beta = -.106$ , conscientiousness and narcissism  $\beta = .178$ , negative emotions and narcissism  $\beta = -.240$ , open-mindedness and narcissism  $\beta = .218$ , extraversion and narcissism  $\beta = .87$ , agreeableness and narcissism  $\beta = .144$ , conscientiousness and psychopathy  $\beta = -.451$ , negative emotions and psychopathy  $\beta = .187$ , open-mindedness and psychopathy  $\beta = -.081$ , extraversion and psychopathy  $\beta = -.248$ , agreeableness and psychopathy  $\beta = -.689$ .

Such coefficients can also be found for both samples in Figures 1 and 2. Unstandardised estimates for both data sets are shown in Tables 5 and 6.

**Invariance analysis:** The CFA model with the unconstrained factor loadings and intercepts is shown in Figure 1. Two CFAs was conducted for the United Kingdom (Group One) ( $\chi^2 = 2.8$ ;  $p = .95$ , CFI = .99; TLI = .98; RMSEA = .04), and Russia (Group Two) ( $\chi^2 = 17.93$ ;  $p = .95$ , CFI = .99; TLI = .93; RMSEA = .06), separately. Next, a diagram with interacting models was assessed; however, it did not yield any results. A further path between psychopathy and negative emotions was removed and the overall unconstrained model fit were:  $\chi^2 = 39.93$ ;  $p = .95$ , CFI = .99; TLI = .82; RFI = .81; RMSEA = .08. Once the model included constraints such as structural weights the fit of the model improved.

Structural weights model fit was the following:  $\chi^2 = 119.92$ ;  $p = .95$ , CFI = .98; TLI = .93; RFI = .93; RMSEA = .05.

However, when structural residuals were accounted for, the model fit significantly decreased and was the following:  $\chi^2 = 548.53$ ;  $p = .95$ , CFI = .91; TLI = .87; RFI = .86; RMSEA = .06. After, in addition to psychopathy and negative emotions, the path between Machiavellianism and open-mindedness was removed, the results of the overall unconstrained model fit improved and were as follows:  $\chi^2 = 61.8$ ;  $p = .95$ , CFI = .99; TLI = .86; RFI = .85; RMSEA = .06. Once the model included constraints such as structural weights the fit of the model improved. The structural weights model fit was the following:  $\chi^2 = 140.04$ ;  $p = .95$ , CFI = .98; TLI = .93; RFI = .92; RMSEA = .05. However, when the structural residuals were accounted for, the model fit decreased and was the following:  $\chi^2 = 570.2$ ;  $p = .95$ , CFI = .91; TLI = .86; RFI = .86; RMSEA = .07.

**Scatter plot:** As an addition to the invariance analysis, and as part of the growing evidence of the cultural differences between samples, scatter plot was created using codes in R Studio (see figure 6 appendix). The scatter plot revealed differences between the British and Russian samples.

### **3.6: Discussion**

Study One looked at the relationship between Dark Triad and the Big Five personality traits in detail. The discussion is divided into two sections. The first part looks deeper into the findings from the CFA performed on both the Russian and the British samples. The second part looks at the results of the multilevel group analysis or invariance analysis performed in AMOS, comparing the United Kingdom and Russia. The third part assess the methodological limitations of Study One.

This research encompasses a methodology and theory that build upon past research while making novel contributions to the understanding of the relationships between the Dark Triad and the Big Five based on the cross-cultural comparison. The aim was first to see if there is a relationship between personality traits, and secondly to see if such a

relationship is affected by culture. The findings confirmed the proposed hypothesis. AMOS version 25 was used to create and analyse the proposed models for study one. CFA, structure equation modelling and invariance analysis were used through this project. The results have confirmed that there is a strong positive relationship between personality traits. However, some models had to be removed as they did not add to the existing analysis. Overall, Study One on the relationship between the Dark Triad and Big Five models provided support that there is a strong relationship between personality traits that are affected by culture.

The research in personality psychology has collected an extensive base of evidence on different dimensions of personality (Austin, Farrelly, Black, & Moore, 2007; Borgatta, 1964; McCrae & Costa, 1987; McCrae & Costa, 2008; Paulhus & Williams, 2002; Tomarken & Waller, 2005; Turner & Reynolds, 2003). Among these, the most predominant are the Big Five and the Dark Triad models of personality, which have been cross-culturally validated, and are currently the two best-known models in defining personality traits (O'Boyle, Forsyth, Banks, Story, & White, 2015). Numerous studies have determined specific sets of components associated with the personality traits and shed light on how different traits are linked to behavioural outcomes in social life (Cohen, 2013; Costa & McCrae, 1992; Gabriel et al., 1994; Jensen-Campbell, Knack, Waldrup, & Campbell, 2007; Jonason & Kavanagh, 2010; McCrae & Allik, 2002; Myers et al., 2011; Pabian, De Backer, & Vandebosch, 2015). The current study is not an exception, with data gathered from 2,000 Russian participants and 1,300 British participants to assess the in-depth relationship between the Big Five and Dark Triad as overall models.

Study One has produced several clear and consistent findings, with regards to the relationship between the Dark Triad and the Big Five personality model and indicated a strong relationship. Empirical research has informed their recognition in workplaces, learning and social discourse, with implications for not mismanaging them. The 2002 research of Paulhus and Williams studied correlations, however, the correlations with

normal personality traits, like the Big Five, require better understanding. This study reproduced partial findings of the 2002 research. Variables moderately correlated with one another, as was expected from the literature. Between the Dark Triad and the Big Five, there were significant correlations between Machiavellianism and agreeableness, and psychopathy and agreeableness. Narcissism positively significantly correlated with extraversion.

Consistent with preceding literature (Miller et al., 2010) for both Russian and British samples, agreeableness had strong negative correlations with all three of the Dark Triad traits; the most significant negative relationship was with psychopathy and Machiavellianism. As predicted, for both samples, extraversion had strong negative correlations. This is supported by the vast amount of previous research (Alper, Bayrak, & Yilmaz, 2021b; Gabriel et al., 1994; Kaufman et al., 2019; Pincus et al., 2009). There was a mild positive correlation between narcissism and conscientiousness, such a relationship having been previously reported by Zajenkowski et al. (2018), and by DeYoung et al. (2012). A further positive relationship that was reported is between extraversion and narcissism for both Russian and British samples. One explanation can be from the distinction between grandiose and vulnerable narcissism. The literature (Campbell & Muncer, 2009; Fajkowska, 2016; Miller et al., 2010) indicated that there is a positive link between grandiose narcissism and extraversion, due to sub-facets of extraversion assertiveness and enthusiasm.

During the analysis of the British and Russian samples, the Machiavellianism and open-mindedness paths were removed due to not yielding any significant results, which is in line with most of the literature. It is important to understand that openness to experience includes characteristics such as active imagination, sensitivity, attentiveness to feelings, and intellectual curiosity, which is the opposite of Machiavellianism (Rothmann & Coetzer, 2003). Individuals who tend to score low on openness often are defined as conventional and unoriginal in behaviour and conservative in their outlook, which is

positively correlated with Machiavellianism (Rothmann & Coetzer, 2003). Lee and Ashton (2004) applied previous research regarding Machiavellianism to the Big Five personality traits, using the measure created and used by Christie and Geis (2013). They found that Machiavellianism was negatively related to agreeableness and conscientiousness, however, they did not find significant relationships among Machiavellianism and openness to experience, or emotional stability as was originally hypothesised by Christie and Geis (2013). This provides support for the removal of the path for both British and Russian samples in the current study.

After further analysis of the Russian sample, the psychopathy and negative emotions paths were removed, as again they did not yield any significant results. As such it is important to discuss how neuroticism and psychopathy are understood in Russia. Psychopathy, as a widely studied trait, can be defined as a maladaptive personality trait characterised by lack of remorse, manipulateness, egocentricity and superficial charm (Cleckley, 1941; Hare, 1985; Wissing & Reinhard, 2017). Neuroticism, on the other hand, is not as widely understood and studied in Russia. Neuroticism as defined by Voronkova, Radyuk, and Basinskaya (2017) is a tendency to experience negative emotions and has a specific characteristic such as reactivity. The scale (BFI-2, neuroticism) measures how emotionally stable or unstable a person is. Neuroticism studies in Russia are usually focused on clinical, rather than, general populations (Basinskaya et al., 2017). It is believed that to a certain extent not all participants either were able or wanted to understand the question related to neuroticism, as it is not as widely circulated within the normal range of the population.

In general, there have not been many studies investigating the cross-cultural aspect of the Dark Triad and the Big Five relationship with a focus on comparative analysis. More importantly, there has not been a study investigating British and Russian populations. As such, the present study can be seen as pioneering, adding a significant contribution to the literature on the Dark Triad and the Big Five, with a focus on the cross-

cultural comparative element. Recent research by Atitsogbe, Hansenne, Pari, and Rossier (2020) examined the link between both normal and malevolent personality traits, proactive attitude, and self-perceived employability across Belgium, Switzerland, and sub-Saharan Africa. Such research, similarly, to the current research, presented an original contribution to the literature on cross-cultural research and personality. However, as the participants were from convenience samples and thus heterogeneous, the research failed to achieve homogeneity of each national sample. The current research takes this further, with access to representative samples both in Russia and the United Kingdom, thus achieving homogeneity.

Several methodological limitations need to be mentioned. First, it is important to understand the drawbacks of questionnaires. Questionnaires are often associated with a low response rate (Dale & Bell, 1999), and Gilbert (2001) reports that response rates for specifically postal questionnaires can be as low as 20%. Incorrectly or illegibly filled out questionnaires, or missing answers, will inevitably affect the quality of the data collected. Saunders et al. (2007) stated that online questionnaires do not offer the researcher the opportunity to follow up ideas and clarify issues if one arises. Consideration needs to be given to all aspects of the questionnaire, from design to selecting the correct target group, to format and order of questions, to obtain the maximum amount of reliable and valuable data (Dale & Bell, 1999).

Saunders et al. (2007) noted that questionnaires are not particularly suited for research that requires a substantial number of open-ended questions, for which a (semi-structured) interview might be a better method. Having said that, for the current project this was not an issue, as the questionnaires were structured with the use of established measures. Saunders et al. (2007) also describe the limitations of questionnaires with regards to the expected outcome, which might for example highlight trends or attitudes, but will fail to explain the underlying reasons for the outcome.



Using factor analysis procedures such as exploratory factor analysis or CFA to investigate latent variables is quite common for areas including instrument development, longitudinal data analysis, comparing group means, and trait analysis (see Browne & Cudeck, 1993). It is important to emphasise that an appropriate sample size relies on the precision and power of the model's parameter estimates (Maxwell, Kelley, & Rausch, 2008). When considering the appropriateness of a model, it is important to have narrow confidence intervals around parameter estimates to ensure that the model's parameters are accurately estimated (Kelley et al., 2003).

## **Chapter 4: The relationship between personality traits and prejudice**

### **4.1: Overview**

The purpose of Study Two was to investigate the relationship between the Dark Triad and Big Five personality models and prejudice and compare this in the British and Russian samples. The overall research question for Study Two was: How does the Dark Triad and the Big Five add to the understanding of prejudice? Hypothesis for Study Two was divided into three parts, first personality traits of Dark Triad and Big Five will add significantly to variance explained in prejudice, secondly, that the relationship between personality traits and outcome variable will be mediated by Social Dominance Orientation, and thirdly that this explanation will stand cross-culturally.

### **4.2: Literature review**

For more than five decades, psychological research has tried to find out why some people are more prejudiced than others, and in recent decades, individual differences research has tried to answer this question from the perspective of personality. Most of the literature on prejudice has already been discussed in Chapter One, so this section will focus on individual differences research on prejudice and SDO as a predictor of prejudice. Individual difference researchers address the ways in which people differ from one another and how these personal characteristics are related to other variables such as prejudice (Whitley & Kite, 2010). It is important to understand the history of individual differences research on prejudice. Such research became important to the study of prejudice after World War II, when researchers concluded that factors such as realistic intergroup conflict and competition could not explain Nazi anti-Semitism and the Holocaust.

Smith and Milner (1981) suggested that explanations had to be sought in the disturbed personality ideas, as it was hardly conceivable that such horrific actions could be the actions of normal individuals. Such a broadened understanding led to the development of one of the first individual difference theories of prejudice, the theory of

the authoritarian personality by Altemeyer (1998). Further researchers added that individual differences play a role in prejudice due to the discovery that people who score high on prejudice against one group also tend to score high on prejudice against other groups (Cunningham, Roberts, Barbee, Druen, & Wu, 1995). This intriguing similarity of response to different groups suggests that some characteristics of the individual may be a common underlying cause of all the prejudices traits.

Psychological interpretations of the concept of prejudice for the most part contain its definition as an unreasonably negative attitude towards a group and its individual representatives (see Chapter Two). Social psychologists concentrate their attention on the study of prejudices from different perspectives. Several researchers (Martini, Blanco, Ruiz, & Castro, 2016; Pettigrew & Meertens, 1995). Consider the traditional approach to defining a concept through “negative affect” to be unreasonable, suggesting that the phenomenology of prejudice should include not only hostility and hostile attitude towards members of the out-group, but also the absence of positive feelings, and a positive version of the attitude in favour of one's group (Richman & Leary, 2009). The interpretation of the concept is partly due to the historical dynamics of the phenomenon of prejudice and the diversity of its forms, which draw researchers' serious attention to the understanding of such phenomena in different contexts.

The presence of various forms of manifestation of prejudice was first identified by Allport in his now classic work in this area, *The Nature of Prejudice* (1954). He noted several levels of intergroup hostility: verbal expressions of hostility, avoidance of intergroup contact, discrimination, use of physical methods of influence and destruction. It is easy to see that, along with obviously destructive forms, the author also discussed milder ways of expressing prejudices. Allport (1954) also pointed out that the roots of prejudice lie in human thinking and its tendency towards categorisation and stereotyping. Therefore, prejudice is representing normal functioning of the psyche and is considered an inevitable and natural phenomenon in the life of society. It is difficult indeed to find a

person who is completely free from various kinds of prejudices and prejudice, but in such a situation, the approach according to which bias is either present or absent seems too simplistic. The understanding of this concept lies within the characteristics of every person; the difference lies in what form and in what sphere they manifest themselves, and in the level of bias. Popkov (2002) stated that there are several types of prejudice and organised them into categories: symbolic prejudice implies the presence of negative feelings towards another group, which is perceived as threatening the cultural basic values of their group; tokenism consists in providing an official advantage to representatives of certain groups in society to create the appearance of justice; the presence of prejudices is not recognised by their owners; the familiar and unfamiliar represent the lowest level of prejudice, when in contact with representatives of another group, a person will feel uncomfortable compared to interaction with representatives of his own group.

The identification of various levels of prejudice reflects the historical dynamics of the phenomenon of prejudice, which was observed by scientists in the second half of the 20th century. They drew attention to the evolution of the phenomenon of prejudice and noted that its most destructive manifestations remained in the past (Billig et al., 1988). To a certain extent, the values of modern society require a person to behave in accordance with the ideals of equality and justice, and openly expressing prejudice has become socially unacceptable and stigmatised. Nonetheless, prejudice manifests itself in different forms and shapes in society whether it is covert or overt.

In the 1970s, American social psychology began an active study of the so-called new forms of racial prejudice. In contrast to traditional forms of prejudice, such as racism, they are more sophisticated and polite, and do not allow open expression of hatred towards members of a racial minority. Subtle forms of prejudice and discrimination involve the use of indirect, softer, and more flexible ways of expressing prejudiced attitudes (Pettigrew, Woodman, & Cameron, 2001). There are a number of subtle forms of prejudice were identified: modern racism, in which racial prejudice is condemned;

symbolic racism; ambivalent racism; aversive racism (Pettigrew & Meertens, 1995). At their core, these are prejudices that manifest themselves in a hidden, veiled form.

Pettigrew and Meertens (1995) proposed to distinguish between explicit and subtle prejudices. They noted that the latter, like overt prejudices, are based on antipathy towards the out-group (Pettigrew & Meertens, 1995). They identified three components in the structure of subtle prejudices: protection of traditional values, exaggeration of cultural differences and the absence of positive emotions. They gave a normative interpretation to the emergence of subtle forms of prejudice in society: in Western society, there is a norm of non-expression of prejudices in an explicit form, and there are individual differences in its internalisation. Other scholars have also pointed out the difference between classical and modern subtle forms of prejudice in Western society.

This is where the current project is important for understanding prejudice, as it compares Western prejudice and non-Western prejudice. Researchers previously noted that the social context has a significant impact on the ability to express subtlety, hence, comparing Western with non-Western countries will add to the literature on understanding prejudice. It depends on which representative of the minority the subject meets. Thus, distinguishing between explicit and subtle prejudice is indeed needed and undeniable, and therefore it is vital to include the fullest measure of prejudice into the research.

Among the tools for measuring subtle and explicit prejudices are the scale of modern racism, methods of false information channels, diagnostic coefficient, generation of adjectives, priming and reaction speed and so forth (Billig et al., 1988). Another promising direction in the study of forms of prejudice examines the role of language and linguistic means in the formation of prejudiced attitudes. (Billig, 1991; Billig et al., 1988). Oral and written messages, their structure and themes are studied, mass media messages, educational and political discourses, jokes, and graffiti are analysed. Van Dijk (1990) identified the cognitive and speech strategies that are used by biased subjects for expressing their preconceived attitudes in a socially acceptable form, in accordance with

the norms of equality and tolerance in that society. These strategies allow the subject to maintain a positive idea of himself or herself as an educated, intelligent, tolerant, and just person, without being portrayed as prejudiced. Billig et al. (1988) classified these strategies, including generalisation, setting an example, correction, strengthening, obvious concessions, repetition, contrast, softening, shift, evasion, indirect speech, and others. Discourse analysis allows the study of linguistic expressions and communication strategies, with the help of which the negative image of the out-group is constructed, and to fix complex dilemmas, ambivalence, and ambiguity. The current research focused on the difference between Russian and UK samples based on the personality dimensions and behavioural outcome of prejudice.

Asendorpf and van Aken (2003) suggested that the five-factor (Big Five) model of personality (*e.g.*, McCrae & Costa, 1987) is the most widely accepted model of personality structure in prejudice research. These five factors are core personality factors due to their substantial heritability coefficients and their early expression in temperament in human infants (*e.g.*, Bouchard & Loehlin, 2001; Clark & Watson, 1999; Plomin & Caspi, 1999). The literature on the overall model of Big Five has been discussed previously in Chapter one of this thesis, however, a more in-depth understanding of the relation between individual traits and prejudice is vital for this research.

Personality psychology has been determined to explain and eradicate prejudice as an overall concept and as individual parts, such as authoritarianism and social dominance (Chen, OuYang, & Chou, 2018). There has been only a small number of studies relating personality traits to more specific prejudice outcomes, such as racism, due to the assumption that prejudice may be generalised, and there is no need to differentiate between outcomes (Akrami et al., 2011). However, more studies look at prejudice as a general behaviour, rather than separate parts. The Big Five model played a vital role in understanding prejudice, especially when it came to individual traits. For example, agreeableness is weakly associated with racism (Sibley & Duckitt, 2008); however,

agreeableness and openness have been identified as the main traits predicting generalised prejudice (Baron & Richardson, 1994; Ekehammar & Akrami, 2003; Jonason, 2015; Mateeva & Dimitrov, 2013; Sibley & Duckitt, 2008).

People with neuroticism traits are thought to be anxious, disposed to feeling sad, and have poor coping mechanisms in times of stress (Gerber et al., 2011; John et al., 2008; Pelton, Gound, Forehand, & Brody, 2004). While these characteristics do indeed affect levels of impulsive behaviour (McCrae & Costa, 2008), they can also affect social status in groups (Anderson et al., 2003), and hence are an inconsistent predictor of generalised prejudice. However, a meta-analysis conducted by Sibley and Duckitt (2008) showed no relationship whatsoever of neuroticism to either authoritarianism, social dominance, or generalised prejudice (Akrami & Ekehammar, 2006). However, given the nature of neuroticism, research suggests attitudes toward others become increasingly negative when feeling threatened (Sides & Citrin, 2007), and those higher in neuroticism are more likely to react poorly to perceived threats, which suggests a path for neuroticism to impact generalised prejudice.

Contrasting with neuroticism, extraversion has been related to particular social behaviours, including risk taking (Markey & Markey, 2010) and higher levels of membership in groups (Bekkers & Wiepking, 2011). Additionally, extraversion appears to increase RWA, but not SDO (Akrami & Ekehammar, 2006). However, there appears to be no consistent relationship between extraversion and generalised prejudice (Sibley & Duckitt, 2008). The most relevant results suggest that people who score higher on extraversion are more supportive of tighter controls over immigration (Mondak, 2010), and have a less pro-immigrant attitude on average, under some conditions such as threat (Gallego & Pardos-Prado, 2013), but these effects are inconsistent and not in line with the literature. Consequently, the expectation for the current study is that extraversion will have a negative relationship, or no relationship at all, with generalised prejudice.

In terms of open-mindedness (Gerber et al., 2011), as this characteristic relates to one's ability to see the world around one through open eyes, being willing to open to new ideas and experiences, this should be negatively related to prejudice. Those higher in openness are predisposed to creativity (George & Zhou, 2001), curiosity, and imagination (McCrae & Costa, 1987), valuing new experiences and exploration (Piedmont, 2013), while those with lower levels of this character trait have been connected to conservatism (McCrae, Costa, Del Pilar, Rolland, & Parker, 1998). Openness is also negatively related to RWA and SDO (Akrami & Ekehammar, 2006). Additionally, it is important to mention that those higher in openness traits demonstrate a greater tolerance for diversity, as stated by John et al. (2008), and have a greater tendency to disconfirm negative social stereotypes, as demonstrated by Flynn (2005). Subsequently, the expectations for the current study are that those with higher levels of openness should have lower levels of general prejudicial orientations and a lower level of SDO.

Agreeableness is seen as one of the least understood traits in connection with prejudice (Graziano & Tobin, 2017). Gerber et al. (2011) described the contrast between "a prosocial and communal orientation toward others with antagonism." Broadly, it is thought to cover how one manages interpersonal relationships, particularly the degree of trust placed in others (McCrae & Costa, 1987) and conflict avoidance (Jensen-Campbell et al., 2007), and prosocial orientations (John et al., 2008). Additionally, agreeableness is negatively related to SDO, but not RWA (Akrami & Ekehammar, 2006). Given this sense of empathy and altruistic tendencies, it would seem prudent to expect those higher in agreeableness would experience lower levels of prejudice toward others, particularly toward stigmatised social groups, and should be less likely to oppose issues that would stand to benefit those groups.

Lastly, conscientiousness is "socially prescribed impulse control that facilitates task - and goal-directed behaviour" (Gerber et al., 2011, p. 267). Conscientious individuals are said to be efficient, rational, and well-organised (Piedmont, 2013), with higher levels



of performance in school and jobs (John et al., 2008). Those higher in conscientiousness also tend to be risk averse (Kowert & Hermann, 1997). Politically, conscientiousness is thought to act inversely to openness to experience: higher levels lead to beliefs in personal responsibility, tradition, virtue, and thus conservatism (Mondak, 2010). Individuals higher in conscientiousness provides support for this view (Stenner, 2005); additionally, those higher in conscientiousness preferred Bush to Kerry in the 2004 election (Barbaranelli, Caprara, Vecchione, & Fraley, 2007).

Despite this political tendency, there is no direct link between levels of conscientiousness and RWA, SDO, or levels of prejudice or stereotyping. It would also be imprudent to assume that a relationship between conscientiousness and opinions linked to social groups is indicative of a prejudicial orientation, when it could merely be an expression of principled conservatism. It is with this in mind that I must remain undecided as to the relationship between conservatism and expressions of prejudice. Researchers have studied more than 25 individual difference variables concerning prejudice (McFarland, 2010); however, in a set of four studies, McFarland (2010) found that two variables, authoritarianism and SDO, were consistently producing significant results in relation to prejudice. Research by Ekehammar and Akrami (2003) suggested two major theoretical frameworks to explain individual differences in prejudice. One line originates from the authoritarian personality theory (Adorno et al., 1950), which is further developed in the theory of RWA (*e.g.*, Altemeyer, 1998). The other is social dominance theory (*e.g.*, Sidanius & Pratto, 1999) where the central individual difference variable is SDO.

However, recent research has questioned whether RWA and SDO are personality variables at all. Rather, these critics suggest that RWA and SDO are measures of social attitudes, social beliefs, or social evaluations (*e.g.*, Duckitt et al., 2002; Kreindler, 2005; Saucier, 2009) and should be placed in the social psychology rather than the personality domain. On the other hand, other researchers place RWA and SDO between personality

and social psychology, with distinct roots in core personality (Akrami et al., 2011; Ekehammar et al., 2004).

In Western European and American scientific literature, many directions are developed by socio-behaviouristic, psychological (Adorno et al., 1950), symbolic-interactionist (Baran & Davis, 2006) theories in the study of prejudice. At the same time, there is a widespread view that prejudice is a combination of factors, behaviour and environments and should not be studied alone. In Western scientific literature, classification and study of prejudice were ongoing and getting interest from different fields. Until the early 1960s, the term “stereotype” was not used in domestic science, although the problem of studying the patterns of human behaviour was posed (Rothbart & John, 1985). Only at the beginning of the 1960s did several works of critical content appear, in which the problem of prejudice was considered. At the same time, for the first time in Russian science, attempts were made to define the concept of prejudice

The phenomenon of prejudice manifests itself not only under capitalism, but also under socialism, dictatorship, and authoritarianism (Rothbart & John, 1985). Prejudiced thinking influences the practical actions of an individual and groups in the socio-economic, political, and ideological spheres of life in society, in some cases not only slowing down social development, but also causing significant moral and material damage to society (Rothbart & John, 1985). Being a natural, deterministic phenomenon of individual and social consciousness, stereotypes sometimes become a dangerous phenomenon. This happens when they turn into the dominant form of individual and social consciousness and begin to "dictate" inappropriate social decisions and actions to individuals and entire social groups. A product of social and economic stagnation, social stereotypes are the expression of spiritual stagnation. As a subjective factor, they exacerbate negative phenomena and processes in the socio-economic life of society.

But the science of prejudice was developing, and culture was entering into considerations (*e.g.*, Pettigrew & Meertens, 1995). European research on intergroup

relations understood this before American research did. European social psychology generated its own models, more sensitive to the European cultural contexts (Yzerbyt & Demoulin, 2010), which then spread to the US. For example, European-originated social identity theory posits the relativity of categorisation, depending on the context, with people aiming for positive and distinctive identities that reflect their category-based behaviour (Brewer, 1991; Ching et al., 2013; Tajfel, 1981; Turner & Reynolds, 2003). An example would be people identified as immigrants versus native-born, each reflecting past and current cultural contexts.

Some prejudices share cross-cultural patterns, but others are more variable and culture specific. Those sharing cross-cultural patterns (sexism, ageism) each combine societal status differences and intimate interdependence. For example, in stereotypes of sex and age, lower-status groups—women and elders—gain stereotypic warmth (from their cooperative interdependence) but lose stereotypic competence (from their lower status); men and middle-aged adults show the opposite trade-off, stereotypically more competent than warm. Meta-analyses support these widespread ambivalent (mixed) stereotypes for gender and age across cultures. Social class stereotypes often share some similarities, *e.g.*, cold but competent rich vs warm but incompetent poor. These compensatory warmth v competence stereotypes may function to manage common human dilemmas of interacting across societal and personal positions. However, other stereotypes are more variable and culture-specific, including ethnicity, race, religion. Case studies of specific race/ethnicities and religions reveal much more cultural variation in their stereotype content, supporting their being responses to cultural contexts, apparent accidents of history. To change stereotypes requires understanding their commonalities and differences, their origins, and patterns across cultures.

### **4.3: Current study**

While it has been well documented that the Big Five model, Dark Triad and prejudice are related to each other on different levels, most of the previous research focused on one

aspect of the relationship or another, without including culture or mediator into the equation. The aim of study two was to therefore assess whether there is indeed a strong relationship between personality traits and prejudice, whether such a relationship is stronger in the presence of SDO, and, whether that relationship stands cross-culturally.

#### **4.4: Method**

##### **4.4.1: Participants**

Participants, as with Study One, were recruited via Smart Survey and Anketolog, United Kingdom and Russia, respectively. Participants were recruited from Russia and the United Kingdom. Participation in the study was voluntary, and participants at any point were able to withdraw their anonymous data. Participants were asked to create unique ID numbers up to six digits, in case they wanted to withdraw their answers from the survey.

Participants for Study Two, were recruited via companies (Smart Survey and Anketolog, United Kingdom and Russia, respectively) specialising in participants recruitment. Participants were recruited from Russia and the United Kingdom. Participation in Study Two was voluntary, and at any point participants were able to withdraw their anonymous data. The minimal sample size was not calculated; however, as a rule of thumb, a minimum of 300 participants have been recommended for this type of research with consideration of using CFA and SEM (Kline, 2013; Yong & Pearce, 2013). The final number of Russian participants was 2,000. The final number for British participants was 1,019. The age of participants for both samples range from 18 to 70, the British sample ( $M=39.44$ ,  $SD=14.39$ ), the Russian sample ( $M=38.56$ ,  $SD=11.12$ ). For the British sample researchers had 640 females (62.81 %), 384 males (37.68 %) and three preferred not to disclose their gender (0.29 %). The educational level for the British sample was GCSE (29.44%), A-level (28.26%), undergraduate (30.62%), Master's degree or equivalent (13.25%), PhD or equivalent (2.45%). Demographics for the British sample in terms of residency type were as follows: big city (27.67%), small city (15.11%), big town (22.67%), small town (23.65%), village (12.56%).

For the Russian sample had 722 males (36.10 %), 1,274 females (63.70 %) and four (0.20 %) preferred not to disclose. The educational level for the Russian sample was as follows: pre-GSCE (0 %), GSCE (0.2%), A-levels (23.99%), undergraduate (72.08%), Master's degree or PhD, or equivalent (3.73%). The demographics for the Russian sample in terms of residency type were as follows city (91.65%), small city (3.55%), small town (3.90%), village (0.90%). Similarly, as with Study One, participants were asked to create unique ID numbers up to six digits, in case they wanted to withdraw their answers from the survey.

Demographics Study Two

	British	Russian
<b>Gender</b>		
Male	37.7%	36.1%
Female	62.8%	63.7%
Prefer not to disclose	0.3%	0.2%
<b>Education</b>		
GCSE or equivalent	29.4%	0.2%
A-level	28.3%	24%
Undergraduate	30.6%	72.1%
Masters	13.3%	
PhD or equivalent	2.5%	3.7%
<b>Residency type</b>		
Big city	27.7%	91.7%
Small city	15.1%	3.6%
Big town	22.7%	
Small town	23.7%	3.9%
Village	12.6%	0.9%

In terms of inclusion and exclusion criteria, no parameters apart from age were set. Participants had to be 18 and over. Interestingly, the biggest difference between Russian and British participants is that majority of Russian participants were from the Big City. It is worth noting that majority of British participants came from the big city too, however the difference between Russian and British sample is drastic.

#### 4.4.2: Design and measures

The study used a cross-sectional design (as different populations, Russian and British, were compared at a single point in time).

In Study Two, participants were given a questionnaire, consisting of self-report measures. The Short Dark Triad (SD3) with reported alpha reliability of  $\alpha = .84$  for the British sample, and  $\alpha = .72$  for the Russian sample. For this research on the effects of the Dark Triad and the Big Five model in explaining prejudice and aggression via cross-cultural comparison, SD3 was the chosen measure, as the most robust and most internationally used measure. This is a well-established, validated, and reliable measure of the Dark Triad that has been consistent throughout studies.

The Big Five inventory scale 2 is the most precise measure of personality dimensions to this day. In the current research, the reliability of BFI-2 for study two was .92 for Russian sample and was .93 for British sample.

In addition to the Big Five model and Dark Triad, measures of prejudice and SDO were added. Measures of prejudice vary from concept to concept. There are arrays of measures in the literature on prejudice, however, most of the studies focus on implicit versus explicit prejudice measures. For this project, measures from two types of intergroup prejudice were used: blatant and subtle. Blatant prejudice is the so-called traditional form of prejudice, and it is the most widely researched form of prejudice (Pettigrew & Meertens, 1995). On the other hand, subtle prejudice is the more modern, it is the direct opposite of blatant prejudice. The most widely used and well-known measure for blatant and subtle prejudice, was created by Pettigrew and Meertens (1995).

Pettigrew and Meertens (1995) developed a 10-item Likert scale to measure each sub-facet of prejudice. These include threat and rejection factor items (e.g., '*Other nationalities have jobs that the British should have*'), intimacy factor items (e.g., '*I would be willing to have sexual relationships with a person of other nationalities*'), traditional values factor items (e.g., '*Other nationalities living here should not push themselves where they are not wanted*'), cultural differences factor items (e.g., '*How different or similar do you think other nationalities here are to other British people like yourself*') and positive emotions factor items (e.g., '*How often have you felt sympathy for other*

*nationalities living here'*) (Pettigrew & Meertens, 1995). As reported by Pettigrew and Meertens (1995), alphas are consistently higher for the blatant scale (0.87 to 0.90) than the factorially subtle scale (0.73 to 0.82), across a variety of research. Recently Martini et al. (2016) developed a new measure, based on Pettigrew and Meertens' (1995) subtle and blatant prejudice scale.

As stated by the researchers, the new scale has been adjusted in three different ways: first, items were rewritten to avoid double assertions, secondly, three new items were added to adequately measure the 'denial of positive emotions', and thirdly, the wording of the 'cultural differences' dimension items, measuring perceived cultural differences rather than prejudices, was changed (Martini et al., 2016). Results showed that the reliability coefficient for the total scale was ( $\alpha = .88$ ). Nonetheless, this is a new measure that has not yet been widely used in research. Thus, Pettigrew and Meertens' (1995) subtle and blatant prejudice scale were chosen for the current project. Indeed, measures of prejudice require the attention of modern researchers. As prejudice has a hostile social outcome, the academic community needs to develop a stronger and more reliable measure of prejudice, that can potentially be applied in a variety of communities, not just Western society. The prejudice scale reliability for Study Two was  $\alpha = .75$  for the British sample, and for the Russian sample it was  $\alpha = .74$ .

As discussed in Chapter one of this thesis, research around prejudice and personality traits had a significant impact on explaining prejudice in a normal range of the population. However, such research has significant flaws, which opened an opportunity for the current study to be presented. For example, most of the research around prejudice and personality has used small measures of prejudice, rather than extended. This reduces the impact of the studies, as researchers cannot be sure that all types of prejudice can be generalised. Further, it is important to use a combination of the Dark Triad and Big Five models, as it gives researchers a fuller picture. Moreover, the importance of SDO as a mediator for prejudice cannot be denied.

Social Dominance Orientation, or SDO, is a 16-item scale that measures group hierarchies relevant to resource competition, and how individuals endorse group-level resource inequality and superiority (e.g., '*Inferior groups should stay in their place*') (Pratto et al., 1994). SDO focuses on social dominance, as opposed to self-esteem. Importantly, the SDO scale has been translated into approximately 20 languages and is used in many cultures and societies as a prejudice predictor (e.g., Aiello, Chirumbolo, Leone, & Pratto, 2005; Lee, Pratto, & Johnson, 2011; Meyer et al., 2019). SDO positively correlates with ideologies that support inequality, racism, sexism, and nationalism, using a variety of culturally appropriate measures, and negatively correlates with ideologies that affirm inclusiveness and equality (Lee et al., 2011).

Researchers have previously noted some problems. Nonetheless, the SDO measure still correlates robustly with criterion variables, indicating that the variability of scores on the scale is meaningful (Lee et al., 2011). Some of the literature has examined the effects of SDO on job roles. For example, people who score highly on the SDO scale correlated with choosing hierarchy-enhancing roles such as law, policing, politics, and business; on the other hand, people with low SDO scores chose hierarchy-attenuating roles such as social work or counselling (Adam-Troian et al., 2020; Pratto et al., 1994; Sidanius, Pratto, Martin, & Stallworth, 1991). A meta-analysis by Fischer et al. (2012) of cultures has succeeded in linking SDO negatively to hierarchy-attenuating ideologies and gender empowerment. Levin et al. (2012) suggested that across the array of research SDO has always highly correlated with prejudices. Reliability for SDO for Study Two was  $\alpha = .77$  for the British sample, and for the Russian sample, it was  $\alpha = .87$ .

As can be seen from the research mentioned above, the link between SDO and prejudice has been studied extensively (e.g., Sibley & Duckitt, 2008); however, there is a strong need to expand on current research, by including SDO as a mediator of prejudice with emphasis on personality.



For the Russian participants, the questionnaire was translated and back translated by the lead researcher. As fully described in the literature review chapter, back translation, or translation of a translated text back into its original language, has been used in cross-cultural survey research over the past 50 years, primarily as a translation quality assessment tool (Son, 2018). It was, historically, the first linguistic quality control technique introduced to cross-cultural research and has been considered a standard translation procedure for a long time (Dept, Ferrari, & Halleux, 2017; Harkness et al., 2010). This approach is used in other studies and is supported by several academic fields. The consensus is that this approach preserves the original meaning of the questionnaire items in another language. Douglas and Craig (2007) noted that among the 45 articles published in the *Journal of International Marketing* between 1997 and 2005 that reported surveys using multiple languages, 34 of them (75%) used back translation as a primary quality assessment method.

#### **4.4.3: Procedure and ethical considerations**

As mentioned in Chapter One, ethical application for Studies One, Two and Three was submitted simultaneously. The research conducted contained no major ethical dilemmas as all participants were able to give full informed consent, were able to keep their responses confidential and anonymous and were able to withdraw at any point before 1 February 2020 by simply contacting the researcher and quoting their unique participant ID number. The research was approved by the Manchester Metropolitan University ethics board and signed by Professor Carol Haigh. The researcher also completed an online data protection course and research integrity training provided by the Manchester Metropolitan University to ensure participant protection.

#### **4.4.4: Analysis**

The data screening process in Study Two was undertaken for both Russian and British data sets to check for assumptions, before performing SEM with mediation, for the presence of normality, linearity; absence of multicollinearity, outliers (Flora et al., 2012).

As we had some missing data in the British sample, mean imputation with linear regression analysis was performed. During mean imputation, the mean of the variables that contain missing values is calculated and used to all missing values in those variables. Also, an analysis of descriptive statistics, *i.e.*, means, standard deviations and correlations, was performed to fully examine the data collected.

Traditionally, one statistical test is used to establish the significance of an analysis in various statistical approaches. SEM, however, relies on several statistical tests to determine the adequacy of model fit to the data (Suhr, 2000). The chi-square test indicates the amount of difference between expected and observed covariance matrices. A chi-square value close to zero indicates slight difference between the expected and observed covariance matrices (Suhr, 2000). In addition, the probability level must be greater than 0.05 when the chi-square is close to zero. The CFI is equal to the discrepancy function adjusted for sample size. CFI ranges from 0 to 1, with a larger value indicating better model fit. Acceptable model fit is indicated by a CFI value of 0.90 or greater (Hu & Bentler, 1999).

The RMSEA is related to residual in the model. RMSEA values range from 0 to 1, with a smaller RMSEA value indicating better model fit. Acceptable model fit is indicated by an RMSEA value of 0.06 or less (Hu & Bentler, 1999). If the model fit is acceptable, the parameter estimates are examined. The ratio of each parameter estimate to its standard error is distributed as a z statistic and is significant at the 0.05 level if its value exceeds 1.96 and at the 0.01 level if its value exceeds 2.56 (Hoyle, 1995). Unstandardised parameter estimates retain scaling information of variables and can only be interpreted with reference to the scales of the variables. Standardised parameter estimates are transformations of unstandardised estimates that remove scaling and can be used for informal comparisons of parameters throughout the model. Standardised estimates correspond to effect size estimates. If an unacceptable model fit is found, the model could be revised when the modifications are meaningful.

This model modification involves adjusting a specified and estimated model by either freeing parameters that were fixed or fixing free parameters. The Lagrange multiplier test provides information about the amount of chi-square change that results if fixed parameters are freed. The Wald test provides information about the change in chi-square if free parameters are fixed (Hoyle, 1995). However, several adjustments must be considered before the analysis: the requirement of sufficient sample size; measurement instrument; multivariate normality; parameter identification; outliers; missing data; interpretation of model fit indices (Schumacker & Lomax, 2004).

#### 4.5: Results

The means and standard deviations for the British sample results were as follows: Big Five ( $M=196.39$ ;  $SD=25.32$ ), Dark Triad ( $M=81.68$ ;  $SD=15.18$ ), prejudice scale ( $M=53.47$ ;  $SD=8.91$ ) and SDO ( $M=55.54$ ;  $SD=11.65$ ). For the Russian sample data was as follows: Big Five ( $M=190.64$ ;  $SD=21.91$ ), Dark Triad ( $M=78.58$ ;  $SD=12.36$ ), prejudice scale ( $M=49.93$ ;  $SD=8.18$ ) and SDO ( $M=61.01$ ;  $SD=14.54$ ). This showed that there is a general consistency between the British and Russian samples, which will be further addressed in the discussion section of this chapter.

Table 7 Means and standard deviation for study II British (N=966)

Variables	M	SD
Dark Triad	81.68	15.18
Big Five	196.39	25.32
Prejudice	53.47	8.91
Social Dominance Orientation	55.54	11.65

Table 8 Means and standard deviation for study II Russian (N=2000)

Variables	M	SD
Dark Triad	78.58	12.36
Big Five	190.64	21.91
Prejudice	49.93	8.18
Social Dominance Orientation	61.01	14.54

**Correlations:** As part of the analysis, Pearson correlations were computed between all the variables for each sample, to see relationships between traits and behavioural outcomes in the form of prejudice. Correlations for both Russian and British samples will be discussed separately. There were no issues with multicollinearity, and all correlations were below .9. Correlations are significant at the 0.01 level (2-tailed).

**Russian:** Correlations revealed a relationship between the traits and behavioural outcome in the form of prejudice, which was expected; however, the following relationships stand out: all Dark Triad traits were significantly negatively correlated with prejudice (Machiavellianism  $r = -.129$ ; narcissism  $r = -.079$ ; psychopathy  $r = -.157$ ). All Big Five model, apart from conscientiousness ( $r = .05$ ), had no significant relationship with prejudice (extraversion  $r = .03$ ; agreeableness  $r = .013$ ; negative emotionality  $r = .015$ ; open-mindedness  $r = .03$ ). SDO in turn as predicted had significant positive correlations with all Dark Triad traits (Machiavellianism  $r = .22$ ; narcissism  $r = .16$ ; psychopathy  $r = .101$ ). SDO had a significant positive relationship with all Big Five model (extraversion  $r = .17$ ; agreeableness  $r = .25$ ; conscientious  $r = .26$ ; negative emotionality  $r = .22$ ; open-mindedness  $r = .18$ ), which in turn confirms the use of SDO as a mediator for the relationship between personality traits and prejudice.

Table 9 Bivariate correlations among study variables for Russian sample (N=2000)

Variables	N	P	M	C	NE	OM	E	A	Social Dominance Orientation	Prejudice
Narcissism	1	.45**	.47**	.33**	.36**	.33**	.37**	.38**	.16**	-.08**
Psychopathy		1	.49**	.23**	.28**	.31**	.26**	.27**	.10**	-.16**
Machiavellianism			1	.30**	.29**	.26**	.25**	.29**	.22**	-.13**
Conscientiousness				1	.68**	.68**	.66**	.72**	.26**	.05**
Negative_Emotions					1	.68**	.67**	.68**	.22**	.02**
Open_Mindedness						1	.70**	.67**	.18**	.03**
Extraversion							1	.72**	.17**	.03**
Agreeableness								1	.25**	.01**
Social Dominance Orientation									1	.10**
Prejudice										1

\*\*Correlation is significant at the 0.01 level (2-tailed)

**British:** Similarly, as with the Russian sample, correlations revealed a significant relationship between the personality traits and prejudice, which was as expected. However, the following relationships stand out: prejudice was significantly positively correlated with all Big Five model (extraversion  $r = .55$ ; agreeableness  $r = .48$ ; conscientious  $r = .47$ ; negative emotionality  $r = .51$ ; open-mindedness  $r = .54$ ). As with the Russian sample, SDO had significant positive relationship with all Big Five model (extraversion  $r = .48$ ; agreeableness  $r = .43$ ; conscientiousness  $r = .41$ ; negative emotionality  $r = .45$ ; open-mindedness  $r = .5$ ), which in turn confirms the use of SDO as a mediator for the relationship between personality traits and prejudice.

Table 9 Bivariate correlations among study variables for British sample (N=966)

Variables	N	P	M	C	NE	OM	E	A	Social Dominance Orientation	Prejudice
Narcissism	1	.72**	.61**	.50**	.55**	.58**	.63**	.53**	.50**	.55**
Psychopathy		1	.58**	.49**	.51**	.53**	.57**	.51**	.47**	.52**
Machiavellianism			1	.41**	.43**	.46**	.45**	.47**	.41**	.51**
Conscientiousness				1	.74**	.72**	.71**	.76**	.41**	.47**
Negative_Emotions					1	.73**	.72**	.74**	.45**	.51**
Open_Mindedness						1	.76**	.70**	.50**	.54**
Extraversion							1	.73**	.48**	.55**
Agreeableness								1	.43**	.48**
Social Dominance Orientation									1	.56**
Prejudice										1

\*\*Correlation is significant at the 0.01 level (2-tailed)

SEM with mediation was performed for the British and Russian samples via AMOS version 25. SEM is a theory-driven approach, and it uses a conceptual model, path diagram and system of linked regression-style equations to capture complex and dynamic relationships within a web of observed and unobserved variables (Gunzler et al., 2013). In this case the relationships between Big Five personality traits, Dark Triad traits and prejudice were evaluated with the use of mediation variables in the form of SDO. To use SEM to test our model, several assumptions had to be met: the error terms in the SEM model had to be independent of each other, which means that variances do not overlap; all pairs of factors were assumed to be covariates; multivariate normality; a sufficient sample size ( $n > 200$ ), the correct a priori model specification (Kline, 2013). Using box plots and Mahalanobis distance, no univariate or multivariate outliers were observed. According to Schreiber et al., (2006) the CFI should be  $\geq .95$  for the model to be acceptable; the TLI should be  $\geq .95$  or can be  $0 > TLI > 1$  for acceptance; the RMSEA should be  $< .06$  to  $.08$  with confidence interval.

**Russian model analysis:** The original CFI for the Russian model = .99, the TLI = .95, the RMSEA = .07, and  $\chi^2 = 77.9$  ( $df=7$ ),  $p = .95$ . The comparative fit index for the Russian

model after path removal (SDO and open-mindedness) (CFI) = .99, the TLI = .97, the RMSEA = .05, and  $\chi^2 = 50.76$  (df=7),  $p = .95$ . Those values indicate a good fit between the model and the observed data. The squared multiple correlation coefficients (R<sup>2</sup>) describe the amount of variance the common factor accounts for in the observed variables. The diagram (Figure 1) now displays the standardised regression weights for the common factor and each of the indicators.

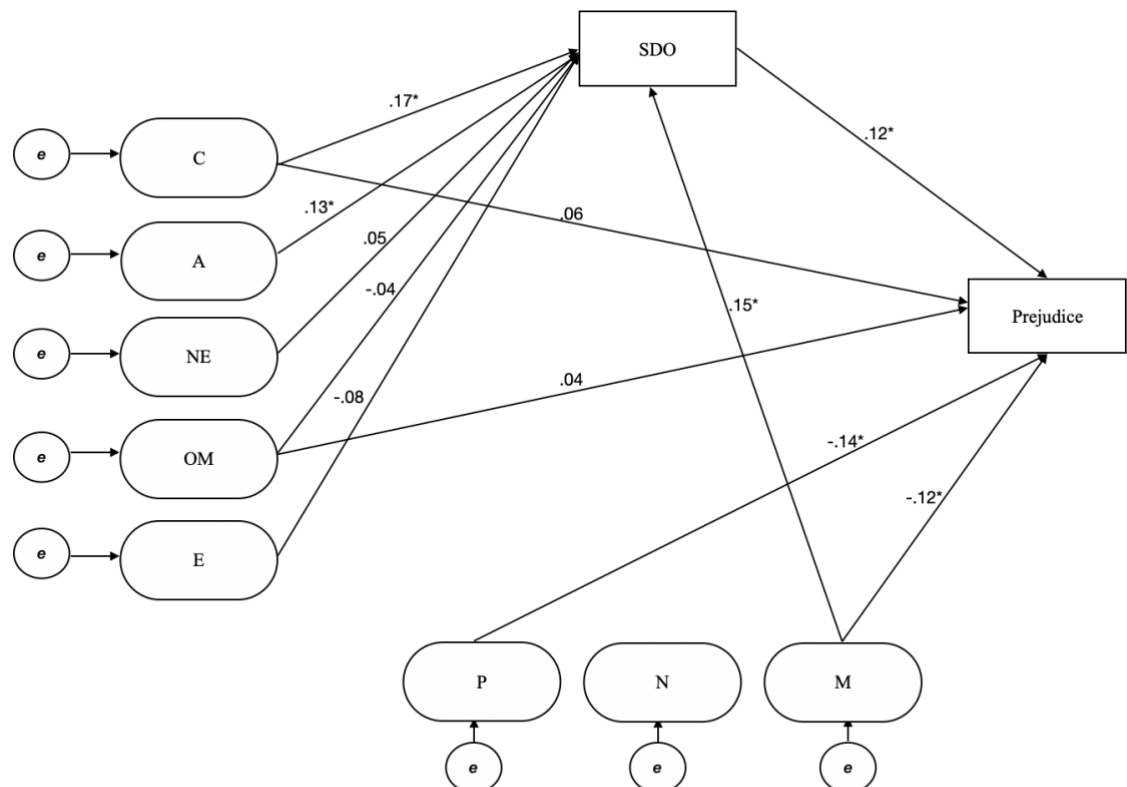


Figure 2. Structural equation modelling with mediation for Russian sample. Bold face errors indicate structural components.  $e$  = error; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ ; Latent personality variable were correlated; Error terms were correlated; C = Conscientiousness; A = Agreeableness; NE = Negative Emotionality; OM = Open Mindedness; E = Extraversion; P = Psychopathy; N = Narcissism; M = Machiavellianism; SDO = Social Dominance Orientation.

Indeed, some of the relationships between variables were in accordance with current established literature. For example, the Dark Triad strongly predicts prejudice via SDO. On the other hand, some of the variables were not in accordance with current literature. For example, prejudice was significantly negatively correlated with its predictor SDO.

**British model analysis:** The CFI for the British model before paths removal = 1, the TLI = .99, the RMSEA = .02, and  $\chi^2 = 8.7$  (df=7),  $p = .95$ . The comparative fit index for British model after removal of paths (SDO and conscientiousness; SDO and agreeableness) (CFI)

= 1, the TLI = 1, the RMSEA = .006, and  $\chi^2 = 9.34$  (df=9),  $p = .95$ . Those values indicate a particularly good fit between the model and the observed data. The squared multiple correlation coefficients (R<sup>2</sup>), describing the amount of variance the common factor accounts for in the observed variables. SDO had a significant positive relationship with open-mindedness. Similarly, extraversion shows a positive direction with SDO. All Dark Triad traits were significantly positively correlated with SDO.

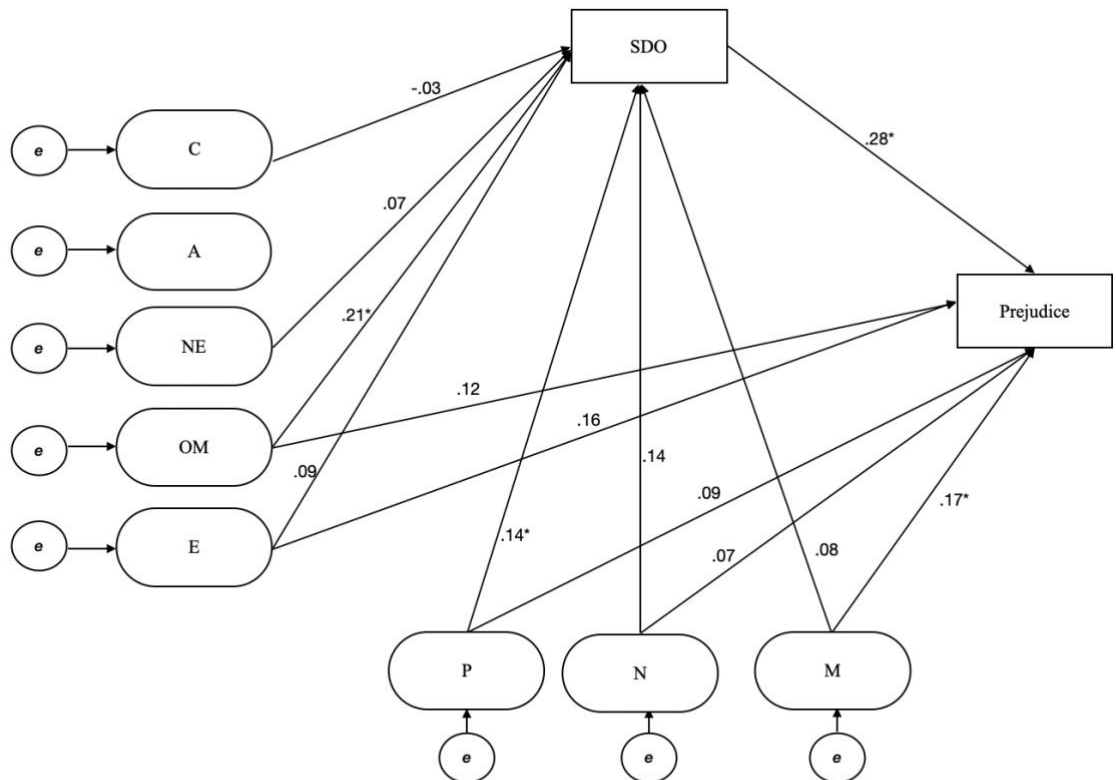


Figure 2. Structural equation modelling with mediation for British sample. Bold face errors indicate structural components. *e* = error; \* $p > .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ ; Latent personality variables were correlated; Error terms were correlated; C = Conscientiousness; A = Agreeableness; NE = Negative Emotionality; OM = Open Mindedness; E = Extraversion; P = Psychopathy; N = Narcissism; M = Machiavellianism; SDO = Social Dominance Orientation.

Both models showed underlying relationships that have previously not been seen in other studies, or not investigated by other researchers. Indeed, both Russian and British samples showed consistencies within model estimates. This was not in accordance with the hypothesis. The researchers hypothesised that there would be significant differences between the British and Russian samples based on SEM with mediation. This will be investigated further in the second part of the project. Further figures explain percentage of variance in both Russian and British samples.



Variance explained Study II Prejudice British

Variables	R <sup>2</sup>	% Variance
Social Dominance orientation	.336	33.6%
Prejudice	.478	47.8%

Variance explained Study II Prejudice Russian

Variables	R <sup>2</sup>	% Variance
Social Dominance orientation	.095	9.5%
Prejudice	.063	6.3%

Standardised parameter estimates for the Russian sample were as following: SDO and Machiavellianism  $\beta = .17$ ; negative emotionality and SDO  $\beta = .05$ ; extraversion and SDO  $\beta = -.08$ ; agreeableness and SDO  $\beta = .13$ ; SDO and narcissism  $\beta = .032$ ; open-mindedness and SDO  $\beta = -.04$ ; SDO and psychopathy  $\beta = -.001$ ; agreeableness and SDO  $\beta = .13$ ; conscientiousness and SDO  $\beta = .13$ ; prejudice and SDO  $\beta = -.19$ .

Standardised parameter estimates for the British sample were as following: SDO and Machiavellianism  $\beta = .14$ ; negative emotionality and SDO  $\beta = .08$ ; extraversion and SDO  $\beta = .12$ ; agreeableness and SDO  $\beta = -.002$ ; SDO and narcissism  $\beta = .11$ ; open-mindedness and SDO  $\beta = .16$ ; SDO and psychopathy  $\beta = .122$ ; agreeableness and SDO  $\beta = -.002$ ; conscientiousness and SDO  $\beta = -.03$ ; prejudice and SDO  $\beta = 1.13$ .

**Invariance analysis:** Invariance or multi-group analysis was performed to test the configurations of the relationships between Russian and British groups of participants. Multi group analysis showed that there is a strong difference between both groups, supporting the notion of cross-cultural differences between Russia and United Kingdom. First, unconstrained or baseline model was tested that can be seen in figure 7 (see appendix). The parameters of the unconstrained model were as following ( $\chi^2(0) = .000$ ; CFI = 1; TLI = 1; RMSEA = .081), some of the parameters could not be estimated as the

baseline model appears to be saturated, which in turn indicated that there are as many estimated parameters as data points. To improve this position, several paths were nested. These paths did not produce significant estimates, extraversion to Social Dominance Orientation, prejudice to conscientiousness, prejudice to Machiavellianism, and prejudice to Negative emotionality. Paths were removed due to non-significant estimates ( $p > .05$ ). Once the paths were nested, see figure 8 (appendix), the overall model fit improved for Russian and British models, respectively ( $\chi^2(6) = 5.64; p = .95, CFI = 1; TLI = 1; RMSEA = .00; \chi^2(4) = 4.48; p = .95, CFI = 1; TLI = 1; RMSEA = .01$ ). Comparison of CFI values reported a difference less than 0.02, confirming strong invariance. To ascertain the differences between the models, and as metric invariance model is nested within the baseline model,  $\chi^2$  difference test was performed by subtracting  $\chi^2$  for model 1 from  $\chi^2$  model 2:

1.  $\chi^2 \text{ diff} = 5.64 - 4.48 = 1.1$
2.  $df = 6 - 4 = 2$

By looking at the  $\chi^2$  table for  $df = 2$  and  $p < .05$  number was obtained (5.024), since  $1.1 < 5.024$  this indicates presence of differences between Russian and UK samples, thus supporting cross-cultural difference assumptions made earlier within this thesis. The difference between both samples was significant Russian ( $\chi^2(6, N = 2000) = 5.64, p < .05$ ) and British ( $\chi^2(4, N = 966) = 4.48, p < .05$ ).

To assess which of the two models (Model 1 and Model 2) is the best, we can use model comparisons. There are several measures for this purpose, including the chi-square difference test and the Akaike Information Criterion (AIC), Bayesian Information criterion (BIC). However, due to large sample, chi-square difference test might not show the most accurate differences between the models, hence the justified use of AIC and BIC criterions.

The AIC and BIC indices were used to compare the two models. The AIC values of Model 1 (British) and Model 2 (Russian) are 126.482 and 123.644, respectively.

Whereas the BIC values of Model 1 (British) and Model 2 (Russian) are 127.888 and 124.297, respectively. Model 2 (Russian) has the lowest AIC and BIC values of the three models, which indicates it is the best model according to these comparison measures.

In conclusion, the model comparison measures have unanimously established that Model 2 (Russian) is the better model. Thus, supporting previously established conclusion of the cultural differences between Russian and UK samples.

**Scatter plot:** As an addition to the invariance analysis, and as apart of the growing evidence of the cultural differences between samples, scatter plot was created using codes in R Studio (see figure 7 appendix). The scatter plot revealed differences in British and Russian samples on the relationship between personality and prejudice.

#### **4.6: Discussion**

The Study Two model was informed by the findings of Study One, and then further extended and tested in relation to the behavioural outcome of prejudice. The discussion is divided into three sections. The first part looks more deeply into the results from the SEM analysis, with mediation performed on both the Russian and British samples. The second part looks at the multilevel group analysis or invariance analysis performed in AMOS, comparing the United Kingdom and Russia. The third part assesses the methodological limitations of Study Two.

This investigation encompasses a methodology and theory that build upon past research while making novel contributions to the understanding of the role of personality in prejudice based on cross-cultural comparison. The aim was first to see if there is a relationship between personality traits and prejudice, whether that relationship is mediated by SDO, and then to see if such a relationship is affected by culture. The results confirmed the proposed hypothesis. AMOS version 25 was used to create and analyse the proposed models for all three studies. Structure equation modelling and invariance analysis were used throughout Study Two. There is, indeed, a positive relationship between personality traits and prejudice that is mediated by SDO. However, as with Study One, some models

had to be removed as they did not add significance to the existing analysis. Overall, the results for Study Two on the relationship between the Dark Triad, the Big Five models and prejudice showed that there is a strong relationship between personality traits and prejudice, and that such a relationship is affected by culture.

During more than five decades, prejudice and intergroup conflict have generated a substantial amount of literature within many areas of psychology. Researchers have presented numerous theories and approaches on the causation of prejudice – most often focusing on only one approach of causation at a time (Duckitt, 1992). However, there have been some attempts to bring together different explanations, at least theoretically. For example, studies in personality psychology have collected an extensive base of evidence on the relationship between personality and prejudice (Ashton et al., 2004; Borgatta, 1964; Chen & Palmer, 2017; Herman, Critchley, & Duka, 2018; McCrae & Costa, 1987; Paulhus & Williams, 2002; Turner & Reynolds, 2003). Among these, the most predominant personality theories used in understanding prejudice are the Big Five and the Dark Triad models of personality, which have been cross-culturally validated, and can be constituted as two well-known models in defining personality traits (O’Boyle, Forsyth, Banks, Story, & White, 2015).

From the beginning, research on prejudice has been strongly focused on personality and individual differences, thus starting with the classical work of Allport and the introduction of the concept of generalised prejudice (Allport, 1954), followed by the authoritarian personality theory (Adorno et al., 1950), the frustration-aggression hypothesis (Dollard et al., 1939), the dogmatism and close-mindedness theory (Rokeach, 1960), the RWA theory (Altemeyer, 1996), the social conformity and tough-mindedness concepts (Duckitt et al., 2002), and finally social dominance theory (*e.g.*, Sidanius & Pratto, 1999).

There are, however, four major explanatory variables that recent research within the personality approach have focused on: Big Five personality, the Dark Triad, RWA,

and SDO. These variables and theoretical lines of research represent the personality approach taken in the present study. Importantly, the current study is not an exception, with the data gathered from 2,000 Russian participants and 1,300 British participants, it assessed the in-depth relationship between the Big Five, Dark Triad and prejudice; the relationship between the personality traits and mediator in the form of SDO; and the relationship between prejudice and SDO. Selection of these variables is based on the results informed from research where several studies have shown that Big Five personality, Dark Triad and SDO together account for a substantial portion of the variance in prejudice and intergroup conflict (*e.g.*, McFarland, 2010).

Study Two has produced clear and consistent findings with regards to the relationship between the personality traits and prejudice. In line with the previous literature, the analysis indicated a strong relationship between the Dark Triad, the Big Five model and prejudice, by providing plausible description of human personality. More importantly for the present thesis, McCrae and Costa (1987) outlined a general framework for the causal relationships between the basic traits (personality factors), characteristics (*e.g.*, attitudes like RWA and SDO), and objective biography (*e.g.*, observable behaviour, like prejudice). Within this framework, basic tendencies and dark traits are assumed to affect characteristics, which in turn affect objective biography.

This framework offers a guideline to examining the implications of the Big Five personality and the Dark Triad for the study of prejudice. Surprisingly, despite the widespread use of the Big Five personality factors in explaining various social phenomena, the relation between personality and prejudice has not been subjected to as much attention as the relation of RWA and SDO with prejudice (Duriez, Soenens, & Beyers, 2004; Ekehammar & Akrami, 2003; McFarland, 2010; Saucier & Goldberg, 1998). This might be due to the focus of previous research on what could be defined as specific facets rather than broad Big Five and Dark Triad factors (Duckitt et al., 2002).

In more detail, the relation between Big Five personality traits and different types of prejudice has been examined in two studies (Duriez & Van Hiel, 2002; Ekehammar & Akrami, 2003). In one study, and in line with McFarland (2010), Ekehammar and Akrami (2003) found the two factors, openness to experience and agreeableness, to be powerful predictors of generalised prejudice (a composite measure of four types of prejudice, similar to the one used in this research). Also, Duriez et al., (2004), focusing on the relation between identity style, personality, and prejudice, found openness to experience and agreeableness to be correlated with racism. Although limited in number, these findings highlight the significance of Big Five personality traits, specifically the factors of openness to experience and agreeableness, in explaining prejudice.

Empirical research on the Dark Triad and prejudice relationship has previously failed to incorporate the understanding of generalised prejudice and the role of the Big Five model. To this day research on the Dark Triad and prejudice focuses on racism and sexism, only two out of the four variables within generalised prejudice. Anderson and Cheers (2018) looked at the role of the malevolent personality traits (*e.g.*, narcissism, Machiavellianism, and psychopathy) in accounting for prejudice, in the specific case of antipathy toward asylum seekers, which can be reduced to cases of racism. The sample consisted of 173 Australians and results showed that the implications of the relationships between sub-clinical personality traits and prejudice are intertwined, with ominous attitudes towards vulnerable social groups like asylum seekers. Furthermore, Machiavellianism is strongly related to classic attitudes, while psychopathy is related to modern attitudes (Anderson & Cheers, 2018).

A further study by Jonason et al. (2020) looked at how Dark Triad traits can predict race - and sex-based prejudice or just generalised antisocialism. Samples consisted of only MTurk workers and results showed that social dominance, narcissism, and psychopathy revealed a generalised pattern of prejudice towards members of both sexes and racial in-group and out-group members. In contrast, Machiavellianism and authoritarianism were

only linked to a limited approach towards racial out-group members. Both studies looked at specific types of prejudice and only the Dark Triad. Current project focused on Big Five, Dark Triad and prejudice with the addition of a mediator in the form of SDO.

The Russian and British samples had significant differences in the analysis, for example, agreeableness had a strong negative correlation with prejudice for the British sample, whereas for the Russian sample, the relationship was positive and significant. Furthermore, the British sample showed general consistency with previous literature, whereas the Russian sample showed significant deviations from previously discussed literature and theory. For example, the only relationships that were in line with previous literature were between SDO and extraversion, negative emotionality, narcissism, and Machiavellianism. Psychopathy and SDO showed a significant negative relationship that cannot be found anywhere else in the literature. SDO is a strong predictor of prejudice in the British sample but not in the Russian sample, where the relationship was negative and non-significant, which begs the question of whether Russian people tend to see prejudice not through intergroup attitudes, but through something else that has not yet been observed.

Within this study, some of the findings were inconsistent with existing literature. One such finding is a positive correlation between agreeableness and SDO. To understand this, an examination of the research on obedience is necessary. Understanding of the psychology of obedience is dominated by classic studies from the 1960s and 1970s, for example, Milgram's shock experiment on obedience to authority figures and Zimbardo's Stanford prison experiment. Supporting popular notions of the banality of evil, their research found that a positive relationship between agreeableness and SDO can be explained through conformity to both the instructions and the roles that authorities provide, however malevolent these may be (Haslam, 2006; Haslam & Loughnan, 2015).

During the SEM analysis with mediation for British and Russian samples to improve the overall model fit, the non-significant paths were removed. For example, for

the British sample, paths of SDO and conscientiousness, and agreeableness, were removed as they were not yielding anything meaningful for the overall model, and with the removal of such paths the model fit improved. In terms of the Russian sample, only the SDO and open-mindedness path was removed due to not adding any significant results or explanations of prejudice, which is in line with much of the literature.

It is important to understand that openness to experience includes characteristics such as active imagination, sensitivity, attentiveness to feelings, and intellectual curiosity, which is almost completely opposite to the SDO attitude (Kleppesto et al., 2019). Individuals who tend to score low on openness are often defined as conventional and unoriginal in behaviour and conservative in their outlook on society, which is positively correlated with SDO (Kleppesto et al., 2019). A study by Kleppesto et al. (2019) looked at whether the desire for intergroup dominance and inequality makes up a genetically grounded behavioural syndrome, and what role personality plays in this relationship. This study provides support for the removal of the path between SDO and open-mindedness for the Russian sample in the current research. As such, it is important to discuss the differences between the Russian and British samples, based on SDO.

Further during the analysis of the British sample, SDO and conscientiousness, and agreeableness paths were removed, as previously stated they did not yield any significant results. This is supported by much of the literature, as people with high levels of SDO tend to be argumentative, conservative and show support for a superior-inferior hierarchy. Ekehammar et al. (2004) supported such finding by stating that previous studies have found SDO to be correlated negatively with agreeableness (Heaven et al., 2006; Lippa & Arad, 1999) and conscientiousness (Heaven et al., 2006). This study supports the current research and validates the current hypothesis.

There have not been many studies investigating the cross-cultural aspect of the Dark Triad, the Big Five and prejudice relationship with the focus on comparative analysis. More importantly, there is no previous study investigating a relationship between



the Dark Triad, the Big Five personality model and prejudice comparing British and Russian populations. As such, the present study is pioneering, adding a significant contribution to the literature on the Dark Triad, the Big Five, prejudice and SDO with a focus on the cross-cultural comparative element.

The only research that has looked at prejudice cross-culturally in the past decade was by Fiske (2017) and it focused on a meta-analysis of the existing literature in relation to prejudice and how it differs across cultures. Fiske (2017) suggested that meta-analyses support the idea that prejudices share cross-cultural patterns, but some sub-variables are more culture specific. For example, social class stereotypes often share some similarities, whereas other stereotypes are more variable and culture-specific, such as ethnicity, race, religion (Fiske, 2017). The current research, as can be evidenced from the performed analysis, and the large sample of both Russian and British participants, takes this research further, not only achieving homogeneity, but also showing how prejudice varies between Western and non-Western cultures.

Several methodological limitations must be mentioned. The research into personality and individual differences explanations of prejudice has received repeated criticism, for example, for its tone of reductionism and context-independence (Duckitt, 1992; Heaven et al., 2006; Reynolds et al., 2001). Research has also questioned the stability of the widely accepted personality variable RWA, thus more appropriate use of SDO as a predictor of prejudice (Heaven et al., 2006; McCrae, 1996; Reynolds et al., 2001; Verhulst et al., 2012). Some, including the current project, would argue that prejudice is better explained by social position with personality variables like SDO functioning as moderators, or mediators (Guilford & Zimmerman, 1948), expanding to including both dark and normal personality traits.

First, as in Study One, it is important to understand the drawbacks of questionnaires. It is undeniable that certain differences between samples in the results of the analysis could be due to a lack of understanding of the questionnaires, and such

measures are often associated with low response rates (Dale & Bell, 1999). Saunders et al. (2007) stated that online questionnaires do not offer the researcher the opportunity to follow up ideas and clarify issues if they arise, for example, in the current study it would be ideal if there was an option to contact participants and ask them for clarification of their answers, especially in the Russian sample. Consideration needs to be given to all aspects of the questionnaire, from design to selecting the correct target group, to the format and order of questions, to obtain the maximum amount of reliable and valuable data (Dale & Bell, 1999).

Saunders et al. (2007) note that questionnaires are not particularly suited for research that requires a significant number of open-ended questions, for which a (semi-structured) interview might be a better method. Having said that, for the current project this was not an issue, as the questionnaires were structured with the use of established measures. Saunders et al. (2007) also describe the limitations of questionnaires with regards to the expected outcome, which might for example highlight trends or attitudes, but will fail to explain the underlying reasons for the outcome.

Kwak, Kim, and Kim (2019) conducted a study that reflected on a pilot study survey project in which 76 high school teachers answered questions to evaluate levels of prejudice against three distinct minority groups: Korean people, Brazilian people, and lesbian, gay, bisexual, and transgendered (LGBT) people. The author indicated that if questionnaires are used in the research, it leaves room for interpretation and too many questions for future research. As such, the current research can be evaluated with follow-up studies and used as an addition to the current measures, for example, add sadism as part of the Dark Triad and use the Honesty - Humility dimension in addition to the Big Five.

Further limitation is rooted in the criticisms of Pettigrew and Meertens' (1995) Blatant and Subtle Prejudice Scale. Arancibia-Martini, Ruiz, Blanco and Cardenas (2016) stated that the structure and wording of the items can be considered problematic. For

example, one of the main problems is the notion of the difficulty of distinguishing between the subtle and blatant scales (Arancibia-Martini et al., 2016). The Error category should be given specific attention, as instructed by the original authors. This can be included as a consideration for future research.

## **Chapter 5: The relationship between personality traits and aggression**

### **5.1: Overview**

The purpose of Study Three is to investigate the relationship between the Dark Triad and Big Five personality traits and aggression, and to compare these relationships in the British and Russian samples. The overall research question for Study Three was: How does the Dark Triad and the Big Five add to the understanding of aggression? Hypothesis for Study Three was divided into three parts, first personality traits of Dark Triad and Big Five will add significantly to variance explained in aggression, secondly, the relationship between the personality traits and outcome variable will be mediated by the presence of moral disengagement, and thirdly that this explanation will stand cross-culturally.

### **5.2: Literature review**

Research around aggression has increased in recent years and has attracted the interest of many fields. In particular, the increased interest is regarding the nature of aggression, and not just intervention (Chaves, 2006; DeWall, Anderson, & Bushman, 2011; Ferreira, 2011; Kristensen, Lima, Ferlin, Flores, & Hackmann, 2003). Human aggression is the result of multiple factors (Anderson & Bushman, 2002; Kristensen et al., 2003).

The study of aggression is guided by several theoretical perspectives that emphasise various aspects of such behaviour that range from the social context to strictly biological aspects (Kristensen et al., 2003; Rodrigues, Assmar, & Jablonski, 2012). These concepts are grouped into three general explanatory categories: 1) aggression appears to be an instinctive concept and originate from inner impulses (Kristensen et al., 2003); 2) aggression is a natural response to frustration, as the original concept proposed by Dollard et al., (1939) and subsequent revisions; and 3) learnt aggression theory of instrumental and observational learning (Rodrigues et al., 2012). In the 1990s, some theorists sought to develop a theoretical framework that would integrate existing theories of aggression into a unified whole theory of aggression (Kristensen et al., 2003). Among them, the most

famous theoretical framework is the general aggression model (Anderson & Bushman, 2002), which is the framework for this study.

For a long time, the study of personality was limited due to the lack of a systematic taxonomy of constructs to represent individual differences in aggression. However, this situation began to change when some of the main dimensions of personality were agreed upon: traits such as neuroticism, extraversion, and introversion. Within this framework, further psychometric studies and personality inventories have identified five major factors (McCrae & Costa, 1987) namely, agreeableness, extraversion, conscientiousness, neuroticism and openness, and evidence of the relationship between the traits and aggression (Nunes & Hutz, 2007; Santos, Sisto, & Martins, 2003).

The agreeableness dimension has often been associated with aggressive behaviour, as supported by a great deal of research (Gleason, Jensen-Campbell, & Richardson, 2004; Jones, Miller, & Lynam, 2011; Jovanovic, Lipovac, Stanojevic, & Stanojevic, 2011; Lee & Egan, 2013; Miller et al., 2010). Agreeableness refers to behaviours directed towards the needs of others, including aspects such as trust, honesty, altruism, thus such traits should have a negative relationship with aggression (Bettencourt, Talley, Benjamin, & Valentine, 2006). This dimension is related to the maintenance of positive interpersonal relationships and minimisation of conflicts (Benet-Martínez & John, 1998). For example, Miller et al. (2012) conducted a study to assess the association between the dimensions of the GAM and aggression. The results showed that the agreeableness factor was negatively related to aggression in much of the literature.

Theories and studies also suggest that there is a strong connection between aggression and the neuroticism trait (Bettencourt et al., 2006; Kamaluddin, Shariff, Othman, Hj Ismail, & Saat, 2014; Lee & Egan, 2013; Michel & Bowling, 2013). In a study conducted by Sharpe and Desai (2001), the neuroticism factor was positively related to aggressive behaviour, whereas the conscientiousness trait was negatively associated with aggression. The neuroticism dimension is connected to the characteristics of people prone

to psychological distress, who tend to have unrealistic ideas and a low tolerance for frustration and suffer from anxiety, depression, hostility, impulsivity, self-criticism, and vulnerability, and thus have a strong positive relationship with aggression. The conscientiousness trait is related to the degree of persistence, control, organisation, and motivation of the individual to achieve goals (Benet-Martínez & John, 1998). Extraversion is related to positive emotions and sociability, and as shown in previous research, extraversion was negatively correlated with aggression (Benet-Martínez & John, 1998).

Barlett and Anderson (2012) surveyed 1,220 college students and found that the openness and agreeableness factors were, directly and indirectly, related to physical aggression, but were only indirectly associated with aggressive attitudes and violent behaviour. The openness factor is related to giving importance to new experiences and exploratory behaviour, and it is assumed that people who obtain high scores on this factor tend to prefer new activities and emotions (Benet-Martínez & John, 1998). The neuroticism dimension was directly and indirectly related, via aggressive emotions, to physical aggression, but not violent behaviour.

The problem of aggressiveness and the aggressive behaviour of a person is increasingly attracting the attention of researchers of various specialities including psychologists, psychiatrists, sociologists, and criminologists, reflecting the social demands of a society that is experiencing the ever-increasing impact of violence and cruelty (Yao, Zhou, Li, & Gao, 2019). “Violence has become a characteristic feature of our time and permeates all spheres of life” according to Brundtland (2002), referring to the so-called “horizontal violence” between people in their daily communication. In the study of aggression, particular importance is given to the analysis of the individual aggression in certain social conditions. Within the framework of the study of individual aggression, there are two main lines of research. The first concerns the phenomenon of auto-aggression, represented by the study of suicidal behaviour (Ambrumova, 1997;

Morozova, Borisenko, Yu, & Evseenkova, 2019). The second is more devoted to hetero-aggressive human behaviour (Buss, 1991).

Many studies have shown evidence of numerous overlaps between the Dark Triad's many qualities and violence. First, a high cognitive empathy is related to a high score on Machiavellianism (Sutton, Smith, & Swettenham, 1999). Machiavellians tend to use a form of interpersonal aggression, by using manipulation and deception, which seem more discrete and undetectable (Kerig & Stellwagen, 2010; Salekin, 2006). It is attainable that when people predict and describe behaviours, they are also more able to manipulate others (Baughman et al., 2012). Children, who show indirect aggression, score higher on cognitive empathy (Renouf et al., 2010). Furthermore, Machiavellianism is positively related to adolescent bullying (Peeters et al., 2010).

However, in Jones and Paulhus (2013) it is seen that Machiavellianism is related to outright aggression. Machiavellians are more likely to use behaviour that avoids drawing attention to themselves (Kerig & Stellwagen, 2010). This is consistent with the concept of indirect aggression, as show in the previous studies. To bully other children, Machiavellian youngsters utilise methods such as social exclusion and creating rumours. At the same time, they stay socially successful with their peers (Sutton et al., 1999). Last, Machiavellianism is also related to bullying in school-aged children and the individuals have a lack of sympathy towards their victims (Sutton et al., 1999).

In the study of Barry, Frick, and Killian (2003) it was found that maladaptive narcissism is related to children's aggression and callous-unemotional traits. Narcissism possesses the characteristics to increase the risk of aggressive behaviour. Furthermore, Washburn, McMahon, King, Reinecke, and Silver (2004) propose that narcissism is directly related to aggression and could constitute as a defensive measure of a fragile self-esteem of an individual, and it only occurs when someone's self-esteem is in danger and it is expressed as direct aggression (Bushman & Baumeister, 1998; Kerig & Stellwagen, 2010). However, Baughman et al. (2012) found that individuals with a high score on

narcissism were more related to indirect bullying than to physical direct bullying. This way, narcissists can maintain their social status. Furthermore, Pailing et al. (2014) found that narcissism did not influence the prediction of violence in combination with psychopathy and Machiavellianism. Psychopathy is strongly associated with increased aggression (Hemphill, Hare, & Wong, 1998). Cornell et al. (1996) found that psychopaths use more proactive and goal-directed aggression. Kerig and Stellwagen (2010) identified three clusters of traits in psychopathy: impulsivity, callous-unemotional (CU) traits, and narcissism. Both impulsivity and CU traits are linked to aggression. CU traits are positively correlated with proactive and reactive aggression (Fanti, Frick, & Georgiou, 2009).

Aggression in combination with psychopathy is ordinarily impulsive and physical (Jones & Paulhus, 2013). The study of Pailing et al. (2014) concludes that psychopathy is the only trait of the Dark Triad that predicts violence. However, indirect aggression is also related to low empathy (Kaukiainen et al., 1999), which could be related to psychopathy (Warren & Clabour, 2009). It has been argued that socially skilled psychopaths are more likely to use indirect aggression over direct aggression, in a goal-directed way with low empathy, so the personal costs are reduced (Porter et al., 2014). Warren and Clabour (2009) found that psychopathy is related to indirect aggression in a noncriminal population. Smith and Lilienfeld (2013) found that the use of hard tactics (*e.g.*, threats of appeal or punishment, manipulating others or a situation) in the workplace has a positive correlation with psychopathy, which are indirect forms of aggression. Direct aggression in the workplace is relatively uncommon, even among narcissists.

Both psychopathy and narcissism correlate positively with aggression, although they are not related to bullying (Stickle, Kirkpatrick, & Brush, 2009). Jones and Paulhus (2013) conclude that the type of provocation predicts whether an individual respond aggressively. Psychopaths are more likely to react physically when provoked, but narcissists are more likely to react when their egos are threatened (Heym et al., 2019).



Psychopaths would also respond with more violence, implying a more direct aggression style (Heym et al., 2019). The study concludes that narcissistic aggression and psychopathic aggression are independent. Salekin (2006) stated that narcissism associated with psychopathy provides the motivation to harm other children, while Machiavellianism makes this possible without detection. Machiavellianism suppresses the use of physical, or direct, aggression (Kerig & Stellwagen, 2010). Frick and Hare (2001) use narcissism, along with impulsivity and callous-unemotional traits, to measure psychopathy. Machiavellians are more calculated in their response compared to psychopaths, although they are as vicious (Williams et al., 2010). However, when their ego is exhausted, they respond like psychopaths (Paulhus et al., 2018). McHoskey et al. (1998) suggest that Machiavellianism is the successful form of psychopathy. However, Machiavellianism is also seen as non-psychopathic because the behaviour is not always seen as maladaptive or disordered (Repacholi, Meltzoff, Toub, & Ruba, 2016).

All three traits of the Dark Triad are related to aggression in one way or another. Jones and Paulhus (2013), for instance, found that different types of provocations elicited aggression in narcissists and psychopaths (Burtăverde, Chraif, Aniței, & Mihăilă, 2016). Undergraduates with narcissistic traits responded aggressively when provoked by a threat to their egos, whereas undergraduates with psychopathic traits responded when threatened physically (Jones & Paulhus, 2013). Machiavellianism was not strongly related with direct (*i.e.*, openly hostile, physical, or verbal) aggression (Jones & Paulhus, 2013). Machiavellianism was associated with relational aggression (which is like indirect aggression as defined by Björkqvist, Lagerspetz, & Kaukiainen, 1992) in a study by Kerig and Stellwagen (2010). They considered the relation between callous-unemotional traits, narcissism, Machiavellianism, and physical and relational aggression in a group of middle school children. Callous-unemotional (CU) traits are considered a key part of psychopathy, and a few examples are a lack of empathy, a lack of guilt and limited, superficial emotions (Barry, Bradley, Britten, Stevenson, & Barber, 2000).

Kerig and Stellwagen (2010) found that relational aggression was associated most strongly with Machiavellianism, whereas physical aggression was associated with CU and narcissism in the absence of Machiavellianism. The three traits share common variance, and so Kerig and Stellwagen's (2010) results suggest that those aspects that are unique in CU and narcissism correlate most strongly with physical aggression. The finding that Machiavellianism is associated with indirect aggression in both studies is not surprising, because Machiavellians use relational manipulation to achieve an end goal (Wilson et al., 1996) in a covert (McIlwain, 2003). According to these studies, we might expect that psychopathy and narcissism are associated with direct aggression. However, Klimstra et al. (2014) found that Machiavellianism and narcissism were associated with indirect aggression, whereas psychopathy was associated with direct aggression. Other studies have found that narcissism is related to physical aggression, but not relational aggression (Kerig & Stellwagen, 2010). Klimstra et al.'s study (2014) considered the traits of the Dark Triad, as opposed to the clinical constructs which the other articles studied, which might also explain why narcissism was related to indirect aggression in their study, and not direct aggression as was found in the previous study. Another explanation might be found in unconsidered moderating variables, such as executive functioning.

Machiavellians score higher on indirect aggression. Narcissism shows a relationship with both direct and indirect aggression, but the relationship with indirect aggression seems more likely (Klimstra et al., 2014). Psychopathy is related to both direct and indirect aggression. However, direct aggression is more evident. Baughman et al. (2012) conclude that the order of the traits of the Dark Triad that are mostly related to bullying are psychopathy, then Machiavellianism, and finally narcissism.

While much of the personality research to date addressing aggression has focused on higher-order constructs (*e.g.*, narcissism, psychopathy: Blair, Mitchell, & Blair, 2005; Locke, 2009), in recent years a move toward understanding aggression through the basic dimensions of personality (*e.g.*, the Big Five model) has emerged (Jones et al., 2011). This

approach is important, as it allows theories of aggression to be situated in a rich body of work that examines the more foundational factors or constructs that may contribute to a temporally stable disposition toward aggression behaviour. This perspective is in line with several major personality models that conceptualise basic traits (*e.g.*, the Big Five) as the output of stable psychobiological systems reflecting low-level processes such as reward-sensitivity, sensitivity to punishment, and impulse control (*e.g.*, DeYoung et al., 2012; Costa & McCrae, 1992). In turn, these systems are argued to have downstream consequences either in additive or interactive ways on more complex trait constructs, such as trait anger.

Secondly, agreeableness shows a consistent inverse relationship with aggression (Egan, 2014; Graziano & Tobin, 2017; Herman et al., 2018; Jonason et al., 2010), and related constructs such as aggression (Fossati et al., 2009; Jones et al., 2011; Miller et al., 2010; Seibert, Miller, Pryor, Reidy, & Zeichner, 2010), in line with aggression often featuring as a facet of agreeableness (Costa & McCrae, 1992). Of the single study to address the role of agreeableness to sub-components of trait anger, agreeableness was seen to be inversely related to both internal ( $r = .36$ ) and external expressions ( $r = .55$ ; Martin, Moritz, & Hall, 1999), suggesting that not only does (low) agreeableness serve as a predictor for anger, but it also influences the affective style of anger, with an emphasis on avoiding outward expressions of anger.

Thirdly, several studies have demonstrated an inverse relationship between conscientiousness and both anger and aggression (Burton, Hafetz, & Henninger, 2007; Lee & Dow, 2011; Miller et al., 2017; Tremblay & Ewart, 2005). Moreover, Martin, Moritz, and Hall (1999) reported an inverse relationship between conscientiousness, and both inwardly expressed anger ( $r = .20$ ) and outwardly expressed anger ( $r = .24$ ).

The remaining two Big Five model' links to anger are less well established. Extraversion has rarely shown links to anger and aggression, although Martin et al., (1999) found an inverse relationship between inwardly expressed anger and extraversion, with

the facet of excitement-seeking bearing a significant relationship to reactive aggression ( $r = .31$ ). Finally, openness has received only modest attention with regards to anger and aggression, with limited evidence for an association (Bettencourt et al., 2006; Jones et al., 2011; Miller et al., 2017).

### **5.3: Current study**

While it has been well documented that the Big Five model, the Dark Triad and aggression are related to each other on different levels, most of the previous research focused on one aspect of the relationship or another, without including culture or mediators into the equation, such as moral disengagement. The current chapter assessed whether there is indeed a strong relationship between personality traits and aggression, whether such a relationship is stronger in the presence of SDO, and whether that relationship stands cross-culturally.

### **5.4: Method**

#### **5.4.1: Participants**

Participants were recruited via companies Smart Survey and Anketolog, as in Study One and Study Two. Participation in the study was voluntary, and participants at any point were able to withdraw their anonymous data. Participants were asked to create unique ID numbers up to six digits, in case they wanted to withdraw their answers from the survey. The final number of Russian participants was 2,000. The final number of British participants was 1,019. For the British sample, the researchers had 640 females (62.81 %), 384 males (37.68 %) and three preferred not to disclose their gender (0.29 %). For the Russian sample, the researchers had 722 males (36.10 %), 1274 females (63.70 %) and four (0.20 %) preferred not to disclose their gender. The age of participants for both samples range from 18 to 70, the British sample ( $M=39.44$ ,  $SD=14.39$ ), the Russian sample ( $M=38.56$ ,  $SD=11.12$ ). The educational level for the British sample was GCSE (29.44%), A-level (28.26%), undergraduate (30.62%), Master's degree or equivalent (13.25%), PhD or equivalent (2.45%). Demographics for the British participants in terms

of residency type were as follows: big city (27.67%), small city (15.11%), big town (22.67%), small town (23.65%), village (12.56%). The educational level for the Russian sample was pre-GSCE (0 %), GSCE (0.2%), A-levels (23.99%), undergraduate (72.08%), Master's degree, PhD, or equivalent (3,73%). The demographics for the Russian sample in terms of residency type were as follows: city (91.65%), small city (3.55%), small town (3.90%), village (0.90%). Similarly, as with Studies One and Two, participants were asked to create unique ID numbers up to six digits, in case they wanted to withdraw their answers from the survey.

#### Demographics Study Three

	British	Russian
<b>Gender</b>		
Male	37.7%	36.1%
Female	62.8%	63.7%
Prefer not to disclose	0.3%	0.2%
<b>Education</b>		
GCSE or equivalent	29.4%	0.2%
A-level	28.3%	24%
Undergraduate	30.6%	72.1%
Masters	13.3%	
PhD or equivalent	2.5%	3.7%
<b>Residency type</b>		
Big city	27.7%	91.7%
Small city	15.1%	3.6%
Big town	22.7%	
Small town	23.7%	3.9%
Village	12.6%	0.9%

In terms of inclusion and exclusion criteria, no parameters apart from age were set. Participants had to be eighteen and over. Similarly, as with study two, the biggest difference between Russian and British participants is that majority of Russian participants were from the Big City. It is worth noting that majority of British participants came from the big city too, however the difference between Russian and British sample is drastic.

#### 5.4.2: Design and measures

The study used a cross-sectional design (as different populations, Russian and British, were compared at a single point in time).

Study three showed alpha reliability of  $\alpha = .84$  for the British sample, and  $\alpha = .72$  for the Russian sample, for SD3. As can be seen from all the research mentioned previously in the literature review chapter, there has recently been a substantial increase in the examination of three constructs (Paulhus & Williams, 2002). The growing interest in the Dark Triad has led to the development of two short and efficient measures that substantially reduce the number of items from 124 to 12 in the dirty dozen (Jonason & Webster, 2010) and to 27 in SD3 (Jones & Paulhus, 2013).

The Big Five inventory scale 2, as mentioned earlier, is the most precise measure of personality dimensions to this day. In the current research, the reliability of BFI-2 for study two was  $\alpha = .92$  for Russian sample and was  $\alpha = .93$  for British sample.

By far the most popular measure of aggression, without much competition, is the Buss and Perry aggression questionnaire, BPAQ (Buss & Perry, 1992). Unlike its seven-factor predecessor, the Buss–Durkee hostility inventory, or BDHI (Buss & Durkee, 1957), the BPAQ focused on four facets of aggression: physical and verbal aggression, anger, and hostility. According to Webster et al. (2015), multiple studies revealed that BPQA found consistent support for a four-factor structure. Further, BPAQ not only removed several items, from 66 to 29, but also had high internal consistency. The BPAQ is the most widely used self-report measure of aggression in a variety of psychological research to this day. It is a 29-item measure consisting of the four dispositional sub-facets of aggression: physical, verbal, anger, and hostility (e.g., ‘*Some of my friends think I am a hothead*’) (Tremblay & Ewart, 2005).

A more recent version of the BPAQ with an additional section looking at indirect aggression is available, but only commercially (Buss & Warren, 2000). In this research, the focus is on the original BPAQ (1992). In general, the majority of the researchers have supported the psychometric qualities of this measure (Bernstein & Gesn, 1997; Harris,

1997; O'Connor, Archer, & Wu, 2001; Tremblay and Ewart, 2005; Bryant & Smith, 2001). Recently, Webster et al., (2015) proposed a new brief 12-item measure of aggression or BQA. However, the reliability and the internal consistency of the new proposed scale have not been tested extensively, in contrast to BPAQ. The alpha reliability for the total scale was  $\alpha = .80$ . The reliability of the aggression scale for Study Three was  $\alpha = .94$  for the British sample, and for the Russian sample it was  $\alpha = .89$ .

Bandura and his colleagues examined the concept of moral disengagement by developing the moral disengagement scale, or MDS (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996) and then evaluated whether moral disengagement is associated with transgressive behaviour. The measure consists of 32 items divided among the eight mechanisms of moral disengagement mentioned in the previous sections (four items for each). The scale measures attitudes in social contexts such as those involving education, family, community, and peers. An example of an item is '*Is it OK to treat badly somebody who behaved like a worm?*' (Bandura et al., 1996). Responses are provided using a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Responses are summed up to produce an overall score, and people who produce higher scores indicate higher levels of moral disengagement.

It is important to mention that even though their study was the first in the field (Bandura, 1977; Bandura, Caprara, Barbaranelli, Pastorelli, & Regalia, 2001; Bandura et al., 1996; Newton, Stapinski, Champion, Teesson, & Bussey, 2016), the correlation between moral disengagement and aggressive behaviour was found in only one sample drawn from children in Italy. MDS taps into each of the eight facets outlined by Bandura, nonetheless, factor analysis in the two studies by Bandura et al. (1996, 2001) revealed a one-factor structure, accounting for 16% of the variance. Reliability analyses for MDS in all studies conducted by Bandura and his colleagues were revealed to be high, alphas of  $\alpha = .82$  and  $\alpha = .86$  (Bandura, 1996; Bandura et al., 2001). Since the development of the scale, numerous studies in moral disengagement have been conducted. MDS has been

validated in Italy, America, Belgium, France, and China and resulted in similar findings to the original study, *i.e.*, one-factor structure, high internal reliability, and gender differences (Caravita, Strohmeier, Salmivalli, & Di Blasio, 2019; Wang et al., 2019). Reliability for moral disengagement for Study Three was  $\alpha = .97$  for the British sample, and for the Russian sample it was  $\alpha = .94$ .

#### **5.4.3: Procedure and ethical considerations**

As mentioned in Chapter One, the ethical application for Studies One, Two and Three was submitted simultaneously. The research conducted contained no major ethical dilemmas as all participants were able to give full informed consent, were able to keep their responses confidential and anonymous and were able to withdraw at any point before 1 February 2020 by simply contacting the researcher and quoting their unique participant ID number. The research was approved by the Manchester Metropolitan University ethics board and signed by Professor Carol Haigh. The researcher also completed an online data protection course and research integrity training provided by the Manchester Metropolitan University to ensure participant protection.

#### **5.4.4: Analysis**

The data screening process in Study Three was undertaken for both Russian and British data sets to check for assumptions, before performing SEM with mediation, for the presence of normality, linearity; absence of multicollinearity, outliers (Flora et al., 2012). As we had some missing data in the British sample, similarly, like in the Study Two, mean imputation with linear regression analysis was performed. During mean imputation, the mean of the variables that contain missing values is calculated and used to all missing values in those variables. Also, an analysis of descriptive statistics, *i.e.*, means, standard deviations and correlations, was performed to fully examine the data collected.

Traditional statistical methods normally utilise one statistical test to determine the significance of the analysis. Similarly, as with previous study, the chi-square test indicates the amount of difference between expected and observed covariance matrices and a chi-



square value close to zero indicates minor difference between the expected and observed covariance matrices (Suhr, 2000). In addition, the probability level must be greater than 0.05 when the chi-square is close to zero. The CFI is equal to the discrepancy function adjusted for sample size. CFI ranges from 0 to 1, with a larger value indicating a better model fit. An acceptable model fit is indicated by a CFI value of 0.90 or greater (Hu & Bentler, 1999).

The RMSEA is related to the residual in the model. RMSEA values range from 0 to 1, with a smaller RMSEA value indicating a better model fit. An acceptable model fit is indicated by an RMSEA value of 0.06 or less (Hu & Bentler, 1999). If the model fit is acceptable, the parameter estimates are examined. The ratio of each parameter estimate to its standard error is distributed as a z statistic and is significant at the 0.05 level if its value exceeds 1.96 and at the 0.01 level if its value exceeds 2.56 (Hoyle, 1995). Unstandardised parameter estimates retain scaling information of variables and can only be interpreted with reference to the scales of the variables. Standardised parameter estimates are transformations of unstandardised estimates that remove scaling and can be used for informal comparisons of parameters throughout the model. Standardised estimates correspond to effect size estimates. If an unacceptable model fit is found, the model could be revised when the modifications are meaningful. The model modification involves adjusting a specified and estimated model by either freeing parameters that were fixed or fixing free parameters. The Wald test provides information about the change in chi-square if free parameters are fixed (Hoyle, 1995).

## **5.5: Results**

SEM with mediation was performed for the British and Russian samples via AMOS version 25. SEM is a theory-driven approach, and it uses a conceptual model, path diagram and system of linked regression-style equations to capture complex and dynamic relationships within a web of observed and unobserved variables (Gunzler et al., 2013). In this case the relationships between the Big Five personality traits, the Dark Triad traits

and aggression were tested with the use of a mediation variable in the form of moral disengagement. To use SEM to assess our model, several assumptions had to be met: the error terms in the SEM model had to be independent of each other, which means that variances do not overlap; all pairs of factors are assumed to be covariates; multivariate normality; a sufficient sample size ( $n > 200$ ); the correct a priori model specification (Kline, 2013). Using box plots and Mahalanobis distance, no univariate or multivariate outliers were observed. According to Schreiber et al. (2006), the CFI should be  $\geq .95$  for the model to be acceptable; the TLI should be  $\geq .95$  or can be  $0 > TLI > 1$  for acceptance; the RMSEA should be  $< .06$  to  $.08$  with confidence interval.

**Correlations:** As part of the analysis, Pearson correlations were computed between all the variables for each sample, to see relationships between traits and behavioural outcomes in the form of aggression. Correlations for both the Russian and British samples will be discussed separately. There were no issues with multicollinearity, and all correlations were below .9. Correlations are significant at the 0.01 level (2-tailed).

**Russian:** Correlations revealed a significant relationship between the traits and behavioural outcome in the form of aggression, which was expected, however the following relationships stand out: all Big Five model were significantly positively correlated with aggression (extraversion  $r = .26$ ; agreeableness  $r = .35$ ; conscientiousness  $r = .33$ ; negative emotionality  $r = .34$ ; open-mindedness  $r = .31$ ). Moral disengagement in turn, as predicted, had significant positive correlations with all the Dark Triad traits (Machiavellianism  $r = .31$ ; narcissism  $r = .27$ ; psychopathy  $r = .44$ ). SDO had a significant positive relationship with all Big Five model as well (extraversion  $r = .24$ ; agreeableness  $r = .24$ ; conscientious  $r = .21$ ; negative emotionality  $r = .25$ ; open-mindedness  $r = .26$ ), which in turn confirms the use of moral disengagement as a mediator for the relationship between personality traits and aggression.

Table 16 Bivariate correlations among study variables for Russian sample (N=2000)

Variables	N	P	M	C	NE	OM	E	A	Moral disengagement	Aggression
Narcissism	1	.45**	.47**	.33**	.36**	.33**	.37**	.37**	.27**	.33**
Psychopathy		1	.49**	.23**	.28**	.31**	.26**	.27**	.44**	.39**
Machiavellianism			1	.30**	.29**	.26**	.25**	.29**	.31**	.36**
Conscientiousness				1	.68**	.68**	.66**	.72**	.21**	.33**
Negative_Emotions					1	.68**	.67**	.68**	.25**	.34**
Open_Mindedness						1	.70**	.67**	.26**	.31**
Extraversion							1	.72**	.24**	.26**
Agreeableness								1	.24**	.35**
Moral disengagement									1	.58**
Aggression										1

\*\*Correlation is significant at the 0.01 level (2-tailed)

**British:** As with the Russian sample, correlations revealed a significant relationship between the personality traits and aggression, which was as expected. However, the following relationships stand out: aggression was significantly positively correlated with all Big Five model (extraversion  $r = .54$ ; agreeableness  $r = .55$ ; conscientious  $r = .51$ ; negative emotionality  $r = .55$ ; open-mindedness  $r = .53$ ). The British sample showed that moral disengagement had a significant positive correlation with all Big Five model (extraversion  $r = .48$ ; agreeableness  $r = .32$ ; conscientious  $r = .34$ ; negative emotionality  $r = .43$ ; open-mindedness  $r = .42$ ), which in turn confirms the use of moral disengagement as a mediator for the relationship between personality traits and aggression.

Table 15 Bivariate correlations among study variables for British sample (N=966)

Variables	N	P	M	C	NE	OM	E	A	Moral disengagement	Aggression
Narcissism	1	.72**	.61**	.51**	.55**	.59**	.63**	.53**	.55**	.57**
Psychopathy		1	.58**	.50**	.51**	.53**	.57**	.51**	.63**	.63**
Machiavellianism			1	.41**	.43**	.46**	.45**	.47**	.37**	.48**
Conscientiousness				1	.74**	.72**	.72**	.76**	.35**	.51**
Negative_Emotions					1	.73**	.72**	.74**	.43**	.55**
Open_Mindedness						1	.76**	.70**	.42**	.53**
Extraversion							1	.73**	.48**	.54**
Agreeableness								1	.32**	.55**
Moral disengagement									1	.69**
Aggression										1

\*\*Correlation is significant at the 0.01 level (2-tailed)

**Results of SEM with mediation analysis:** Prior to analysis, the data were screened. There were no issues with multivariate normality, linearity, or multicollinearity (*i.e.*, all correlations were below .9). No multivariate outliers existed; data values were greater than .001 relative to Mahalanobis distance and chi-square distribution (Tabachnick & Fidell, 2001).

Inspection of descriptive statistics and intercorrelation preceded tests of mediation. Mediation analysis used AMOS (Model 1 for British and Model 2 for Russian) with bootstrapping (1000 resamples) to generate indirect effect estimates with 95% bias-corrected confidence intervals.

In Study Three, the mediation model examined aggression as the outcome variable, Big Five and Dark Triad traits as the predictor variables and moral disengagement as a mediator. In Study Three, the models were assessed on both Russian and British participants. Both direct and indirect relationships were assessed in relation to the outcome variable of aggression. For assessing mediation, various effects and statistical weights exist. The total effect (c weight) of a predictor on an outcome comprises an indirect effect (a\*b weight) and a direct effect controlling for the influence of a mediator (c weight). Weight a relates to the effect of the predictor on the mediator. Weight b is the

effect of the mediator on the outcome while excluding the effect of the predictor. An indirect effect represents a combination of the regression weight of the predictor on the mediator and the regression weight of the mediator on the outcome.

Inspection of descriptive statistics and intercorrelations revealed significant relationships for the British sample. Descriptive statistics for British participants were as follows: moral disengagement ( $M = 74.23$ ,  $SD = 29.61$ ), aggression ( $M = 81.56$ ,  $SD = 20.89$ ), Machiavellianism ( $M = 30.01$ ,  $SD = 5.9$ ), narcissism ( $M = 29.8$ ,  $SD = 6.1$ ), psychopathy ( $M = 22$ ,  $SD = 5.45$ ), extraversion ( $M = 38.34$ ,  $SD = 5.86$ ), agreeableness ( $M = 40.51$ ,  $SD = 5.6$ ), conscientiousness ( $M = 39.6$ ,  $SD = 5.61$ ), negative emotionality ( $M = 38.95$ ,  $SD = 5.64$ ), and open-mindedness ( $M = 39$ ,  $SD = 5.85$ ). Inspection of descriptive statistics and intercorrelations also revealed some significant relationships for the Russian sample. Descriptive statistics for the Russian group were as follows: moral disengagement ( $M = 70.56$ ,  $SD = 18.04$ ), aggression ( $M = 78.49$ ,  $SD = 15.78$ ), Machiavellianism ( $M = 29.3$ ,  $SD = 5.9$ ), narcissism ( $M = 27.51$ ,  $SD = 4.2$ ), psychopathy ( $M = 21.8$ ,  $SD = 5.3$ ), extraversion ( $M = 37.61$ ,  $SD = 4.84$ ), agreeableness ( $M = 39$ ,  $SD = 5.15$ ), conscientiousness ( $M = 39.3$ ,  $SD = 5.05$ ), negative emotionality ( $M = 37.94$ ,  $SD = 5.25$ ), and open-mindedness ( $M = 36.9$ ,  $SD = 5.01$ ). Upon conducting bivariate Pearson's correlation analysis, both samples revealed significant relationships.

Table 13 Means and standard deviation for study III British (N=966)

Variables	M	SD
Dark Triad	81.68	15.29
Big Five	196.39	25.32
Aggression	81.56	20.89
Moral Disengagement	74.23	29.61

Table 14 Means and standard deviation for study III Russian (N=2000)

Variables	M	SD
Dark Triad	78.58	12.36
Big Five	190.65	21.92
Aggression	78.49	15.78
Moral Disengagement	70.56	18.04

The total effect of one variable on another can be divided into direct effects (no intervening variables involved) and indirect effects (through one or more intervening variables). In the case of this study, moral disengagement was used as a mediator or intervening variable. Indirect effects are best tested with bootstrapping methods. Hence bootstrap was used with 1,000 bootstrap samples and 95% confidence. The standardised indirect effect is what Preacher and Hayes (2008) called the index of mediation. It is computed by taking the unstandardised indirect effect coefficient and multiplying it by the ratio of the standard deviation of X to the standard deviation of Y.

Firstly, the indirect effect should consider independent variable  $\rightarrow$  mediator variable  $\rightarrow$  dependent variable, whose value of standardised regression weight for both paths should be multiplied (e.g.: the value of the independent and mediator \* value of mediator and dependent). In accordance with Baron and Kenny (1986), who apply the Sobel (1982) technique, the indirect effect should be higher than the direct effect to indicate the mediation effect occurs in structural modelling. This means that any value related to the mediator variable should be higher than the causal effect. Logically, the mediation variable is deemed to have an influence to increase or decrease the causal effect of independent on dependent variables. If some of the cases do not change in the presence of mediator variable (P-value > 0.05) this can be defined as non-mediation. Thus, this

variable might perform as an independent variable since it does not give any contribution, which can give a tremendous advantage in analysis.

**SEM British:** The analysis of Model 1 for the British sample found that moral disengagement mediates the relationship between both the Dark Triad and Big Five, and the aggression variable. The overall model fit prior to adjustments was unsatisfactory, as indicated by the following results: RMSEA (.405), CFI (1) and CMIN (0), and the model was fully saturated. During the analysis, paths between aggression and narcissism, moral disengagement and open-mindedness, aggression and negative emotionality were removed due to being insignificant in the analysis. Once these paths were removed the model started to move in the desired direction. Further analysis revealed significant relationships between the mediator, moral disengagement, and predictor variables. This not only showed the good overall model fit as indicated by RMSEA (.00), CFI (1) and CMIN (.866), but also the presence of significant mediating effects (standardised indirect effects) for all variables.

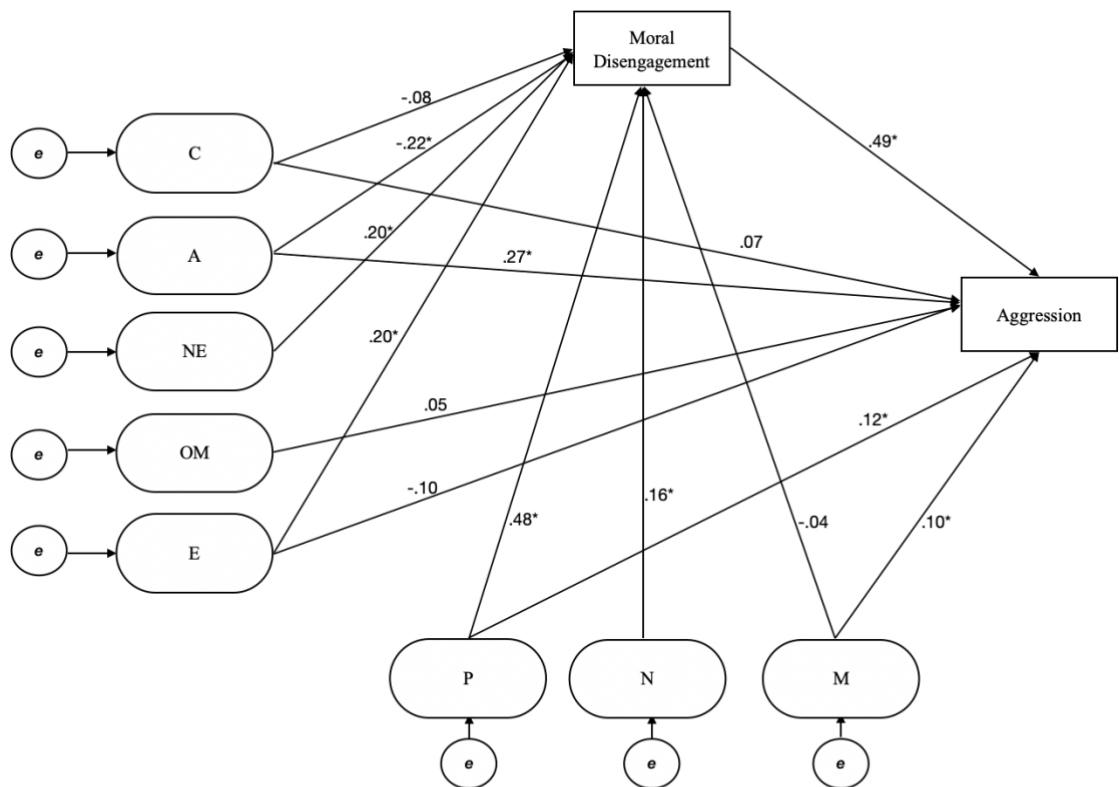


Figure 3. Structural equation modelling with mediation for British sample. Bold face errors indicate structural components. *e* = error; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ ; Latent personality variable were correlated; Error terms were correlated; C = Conscientiousness; A = Agreeableness; NE = Negative Emotionality; OM = Open Mindedness; E = Extraversion; P = Psychopathy; N = Narcissism; M = Machiavellianism; SDO = Social Dominance Orientation.

Further scrutiny of the individual paths through the bias-corrected percentile method revealed significant indirect effects of moral disengagement on individual variables of the Dark Triad through psychopathy,  $a*b = .039$ , 95% CI [.016, .067], Machiavellianism,  $a*b = .023$ , 95% CI [.001, .050], and narcissism  $a*b = .040$ , 95% CI [.008, .077]. Similarly, a scrutiny of the individual paths revealed significant indirect effects of moral disengagement on individual variables of the Big Five model through extraversion,  $a*b = .022$ , 95% CI [-.005, .060], negative emotionality,  $a*b = .016$ , 95% CI [-.005, .040], open-mindedness,  $a*b = .057$ , 95% CI [.030, .092]. All individual variables of both the Dark Triad and the Big Five models were in the expected direction.

**SEM Russian:** Similarly, as with the British sample, an analysis of Model 2 for the Russian sample found that moral disengagement mediates the relationship between both the Dark Triad and the Big Five variables and aggression. The overall model fit before the removal of the non-significant paths was unsatisfactory, and the model was fully saturated, as evidenced by the following results: RMSEA (.33), CFI (1) and CMIN (0). During the analysis, it was agreed to remove certain paths, such as aggression and open-mindedness, moral disengagement and narcissism, moral disengagement and conscientiousness, moral disengagement, and agreeableness, as these paths were insignificant. Once these paths were removed the model started to move in the desired direction. Removal of non-significant paths only partially improved the overall model fit, as indicated by RMSEA (.00), CFI (1), however CMIN (.459), which indicated that not too many paths have been removed and it goes in line with the analysis.



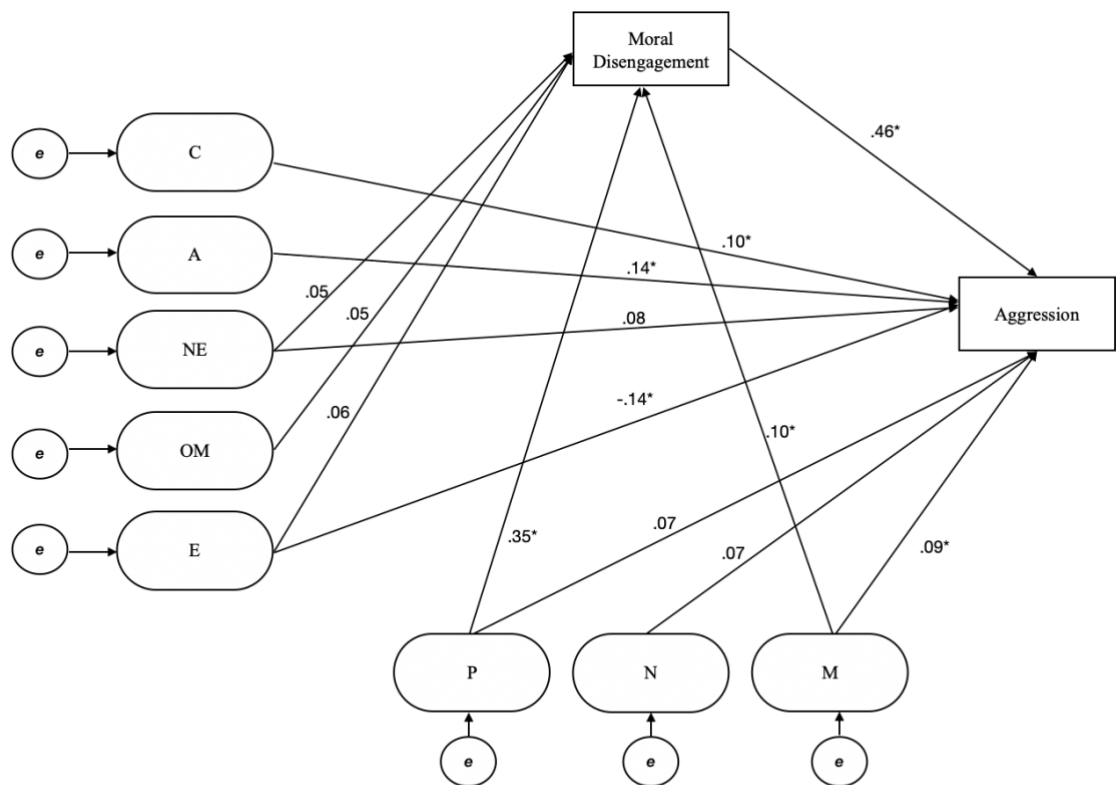


Figure 3. Structural equation modelling with mediation for Russian sample. Bold face errors indicate structural components.  $e$  = error; \* $p > .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ ; Latent personality variables were correlated; Error terms were correlated; C = Conscientiousness; A = Agreeableness; NE = Negative Emotionality; OM = Open Mindedness; E = Extraversion; P = Psychopathy; N = Narcissism; M = Machiavellianism; SDO = Social Dominance Orientation.

Individual paths through the bias-corrected percentile method revealed significant indirect effects of moral disengagement on individual variables of the Dark Triad through psychopathy,  $a*b = .000$ , 95% CI [.00, .00], Machiavellianism,  $a*b = .017$ , 95% CI [.006, .031]; as previously mentioned, the narcissism paths were non-significant. Similarly, a scrutiny of the individual paths revealed significant indirect effects of moral disengagement on individual variables of the Big Five model through extraversion,  $a*b = -.009$ , 95% CI [-.02, -.001], conscientiousness,  $a*b = .020$ , 95% CI [.008, .037], open-mindedness,  $a*b = .00$ , 95% CI [.00, .00], agreeableness,  $a*b = .016$ , 95% CI [.005, .030]. Some individual variables of both the Dark Triad and the Big Five models were in the expected direction, apart from open-mindedness, as it has a significant positive mediating effect on aggression via moral disengagement.

As evidenced by the figures above, moral disengagement indeed has a mediating effect between the outcome variable in the form of aggression and predictor variable of the Dark Triad and Big Five, and in turn indicates that moral disengagement inflated the

link between aggression and personality traits. This is true for both the British and Russian samples. Below are the figures for percentage of variance explained in aggression.

Variance explained Study III Aggression British

Variables	R <sup>2</sup>	% Variance
Moral Disengagement	.453	45.3%
Aggression	.621	62.1%

Variance explained Study III Aggression Russian

Variables	R <sup>2</sup>	% Variance
Moral Disengagement	.220	22%
Aggression	.424	42.4%

Standardised parameter estimates for the Russian sample were as follows: moral disengagement and narcissism  $\beta = .045$ ; moral disengagement and psychopathy  $\beta = .26$ ; moral disengagement and Machiavellianism  $\beta = .11$ ; moral disengagement and negative emotionality  $\beta = .07$ ; moral disengagement and extraversion  $\beta = -.042$ ; moral disengagement and agreeableness  $\beta = .101$ ; moral disengagement and conscientiousness  $\beta = .043$ ; moral disengagement and open-mindedness  $\beta = .04$ ; moral disengagement and aggression  $\beta = 1.10$ .

Standardised parameter estimates for the British sample were as follows: moral disengagement and narcissism  $\beta = .11$ ; moral disengagement and psychopathy  $\beta = .40$ ; moral disengagement and Machiavellianism  $\beta = .02$ ; moral disengagement and negative emotionality  $\beta = .15$ ; moral disengagement and extraversion  $\beta = .06$ ; moral disengagement and agreeableness  $\beta = -.005$ ; moral disengagement and conscientiousness  $\beta = -.025$ ; moral disengagement and open-mindedness  $\beta = .06$ ; moral disengagement and aggression  $\beta = 1.07$ .

**Invariance analysis:** multi-group analysis was performed to test the configurations of the relationships between Russian and British groups of participants. Multi group analysis showed that there is a strong difference between both groups, supporting the notion of cross-cultural differences between Russia and United Kingdom in relation to aggression. Initially, the unconstrained or baseline model was tested (see figure 9 appendix). The parameters of the unconstrained model were as following ( $\chi^2(0) = .000$ ; CFI = 1; TLI = 1; RMSEA = .048), some of the parameters could not be estimated as the baseline model was saturated, which in turn indicates that there are as many estimated parameters as data points. To improve this position, several paths were nested. Chosen paths were nested due to non-significant estimates ( $p > .05$ ). Paths that were nested are as following extraversion to agreeableness to moral disengagement, conscientiousness to moral disengagement, open mindedness to aggression, and narcissism to moral disengagement. Once the paths were nested, see figure 10 (appendix), the overall model fit improved for Russian and British models, respectively ( $\chi^2(4) = 1.80$ ;  $p = .95$ , CFI = 1; TLI = 1; RMSEA = .00;  $\chi^2(3) = 2.59$ ;  $p = .95$ , CFI = 1; TLI = 1; RMSEA = .00). Comparison of CFI values reported a difference less than 0.02, confirming strong invariance between the models. To ascertain the differences between the models, and as metric invariance model is nested within the baseline model,  $\chi^2$  difference test was performed by subtracting  $\chi^2$  for model 1 from  $\chi^2$  model 2:

1.  $\chi^2 \text{ diff} = 2.59 - 1.80 = 0.8$
2.  $df = 4 - 3 = 1$
3. By looking at the  $\chi^2$  table for  $df = 1$  and  $p < .05$  number was obtained (5.024), since  $0.8 < 5.024$ , suggests that there are differences between Russian and UK samples, thus supporting cross-cultural difference assumptions made earlier within this thesis. The difference between both samples was significant Russian ( $\chi^2(4, N = 2000) = 1.80$ ,  $p < .05$ ) and British ( $\chi^2(3, N = 966) = 2.59$ ,  $p < .05$ ).

To assess which of the two models (Model 1 and Model 2) is the best, we can use model comparisons. There are several measures for this purpose, including the chi-square difference test and the Akaike Information Criterion (AIC), Bayesian Information criterion (BIC). However, due to large sample, chi-square difference test might not show the most accurate differences between the models, hence the justified use of AIC and BIC criteria.

The AIC and BIC indices were used to compare the two models. The AIC values of Model 1 (British) and Model 2 (Russian) are 126.599 and 123.802, respectively. Whereas the BIC values of Model 1 (British) and Model 2 (Russian) are 128.029 and 124.177, respectively. Model 2 (Russian) has the lowest AIC and BIC values of the three models, which indicates it is the best model according to these model comparison measures.

In conclusion, the model comparison measures have unanimously established that Model 2 (Russian) is the better model. Hence again showing that there are differences between samples on the cross-cultural level.

**Scatter plot:** As an addition to the invariance analysis, and as a part of the growing evidence of the cultural differences between samples, scatter plot was created using codes in R Studio (see figure 8 appendix). The scatter plot revealed differences in British and Russian samples on the relationship between personality and aggression.

## **5.6: Discussion**

Study Three was informed by the findings of Study One, and then further extended and tested in relation to the behavioural outcome of aggression. The discussion is divided into three sections. The first part looks more deeply into the results from the SEM analysis, with mediation performed on both the Russian and British samples. The second part looks at the results of the multilevel group analysis or invariance analysis performed in AMOS, comparing the United Kingdom and Russia. The third part assesses the methodological limitations of Study Three.

This research encompasses a methodology and theory that build upon past research while making novel contributions to the understanding role of personality in aggression based on a cross-cultural comparison. The aim was first to see if there is a relationship between personality traits and aggression, and whether that relationship is mediated by moral disengagement, and secondly to see if such a relationship is affected by culture. The results confirmed the proposed hypothesis. AMOS version 25 was used to create and analyse the proposed models for all three studies. Structure equation modelling and invariance analysis were used throughout this study. This confirmed that there is a positive relationship between personality traits and aggression that is mediated by moral disengagement. However, as with Studies One and Two, some models had to be removed as they did not add any significance to the existing analysis. Overall, Study Three on the relationship between the Dark Triad, Big Five and the aggression models provided support that there is a strong relationship between personality traits and aggression, and that such a relationship is affected by culture.

The study of aggression is guided by several theoretical perspectives that emphasise different aspects that range from the social context to strictly biological aspects (Kristensen et al., 2003; Rodrigues et al., 2012). Research on aggression has been influenced by several major theories, such as frustration-aggression theory, cognitive neoassociation, social learning theory and the social information processing model. These concepts can be grouped into three general explanatory categories: aggression associated with human nature and considered to be an instinctive concept of aggression (Kristensen et al., 2003); aggression as a natural response to frustration, as the original concept proposed by Dollard et al., (1939) and subsequent revisions; and learnt aggression through instrumental and observational learning (Bandura, Ross, & Ross, 1961; Rodrigues et al., 2012). In the 1990s, however, some theorists sought to develop a theoretical framework that would integrate existing theories of aggression into a unified field (Kristensen et al., 2003). Among them is one of the best-known theories that is highly regarded in the field

of personality psychology and aggression, the general aggression model (GAM) (Anderson & Bushman, 2002).

Some theorists argue that personality variables are important predictors of aggressive behaviour, as was previously discussed in both the literature review and the introduction to this chapter (Anderson & Bushman, 2002; Carvalho & Nobre, 2013; Djeriouat & Trémolière, 2014; Jones et al., 2011; Lau, 2017). Currently, the most common approach used to explain aggression within personality research is the use of the GAM model (Hosie, Gilbert, Simpson, & Daffern, 2013; McCrae & Costa, 1987). It is vital to note that the research on personality has long been hampered by a lack of a systematic taxonomy of constructs to reflect individual differences, particularly in the realm of aggression (Abrams, 2010). However, this situation began to improve when some of the main dimensions of personality were agreed upon by the researchers, for example, traits such as neuroticism, extraversion, and introversion. Within this framework, further psychometric studies and personality inventories have identified five major factors (McCrae & Costa, 1987), namely, agreeableness, extraversion, conscientiousness, neuroticism and openness, and evidence of these has been found in numerous studies across the globe (Nunes & Hutz, 2007; Santos et al., 2003).

The agreeableness dimension has often been associated with aggressive behaviour, as evidenced from various studies including the current one (Gleason et al., 2004; Jones et al., 2011; Jovanovic et al., 2011; Lee & Egan, 2013; Miller et al., 2010). Agreeableness refers to behaviours directed toward the needs of others, including aspects such as trust, honesty, altruism (Bettencourt et al., 2006), and it is related to the maintenance of positive interpersonal relationships and minimisation of conflicts. which directly contradicts the basic idea of aggression (Benet-Martínez & John, 1998). For example, Miller et al. (2010) conducted a study to assess the association between the dimensions of the GAM and aggression. The results showed, consistent with preceding research, that the agreeableness was negatively related to aggressive behaviour. It is implied that if people score highly on

agreeableness, they are more likely to score low on the aggression questionnaire, including both physical and verbal aggression.

Research also suggests that there is a strong link between aggression and neuroticism (Bettencourt et al., 2006; Kamaluddin et al., 2014; Lee & Egan, 2013; Michel & Bowling, 2013). In a study conducted by Sharpe and Desai (2001), also mentioned in Chapter one, the neuroticism factor was positively related to aggressive behaviour, whereas the conscientiousness dimension was negatively associated with aggression. The neuroticism dimension is related to the characteristics of people prone to psychological distress, who tend to have unrealistic ideas and a low tolerance for frustration and suffer from anxiety, depression, hostility, impulsivity, self-criticism, and vulnerability, which can be seen in people with aggressive attitudes and behaviours (Sharpe & Desai, 2001).

There has not been a vast amount of research done on the relationship between conscientiousness and aggression. However, it is widely accepted that conscientiousness is related to the degree of persistence, control, organisation, and motivation of the individual to achieve goals; aggression seems not to have a direct relationship with this trait (Benet-Martínez & John, 1998). In this research, extraversion was negatively correlated with aggression.

In an endeavour to understand the relationship between aggression and personality, and whether these have direct and/or indirect effects on aggressive attitudes and emotions (integrating hostility and anger), Barlett and Anderson (2012) conducted a survey with college students, and the findings showed that the openness and agreeableness factors were, directly and indirectly, related to physical aggression, but were only indirectly associated with aggressive attitudes and violent behaviour. The openness factor is related to giving importance to new experiences and exploratory behaviour, thus, people who obtain high scores on this factor tend to prefer new activities and emotions and score lower on aggression and violence (Benet-Martínez & John, 1998).

According to the results of a recent survey of offenders, the qualities of agreeableness and conscientiousness were strong indicators of an aggressive life history. (Hosie et al., 2013). Once again, this supports the importance of the five major personality factors for understanding aggression. Most research emphasises the relationship between personality traits and aggression, thus providing a strong supporting base for the current research. There is also a lack of research in cross-cultural understanding of personality and aggression that has encouraged the present study.

Previous research in the area observed a significant relationship between psychopathy and aggression. For example, Warren and Clabour (2009) found that psychopathy is strongly related to indirect aggression in a noncriminal population. Furthermore, research by Porter et al. (2014) brought to light the result that socially skilled psychopaths use indirect aggression over direct aggression. Previous research in the area showed that only psychopathy predicted antisocial behaviour, not Machiavellianism or narcissism (Paulhus & Williams, 2002). The question remains, whether Machiavellians' relationship with aggression differs on multiple levels. As previously seen, in the studies described in Chapter One, only psychopaths score low on neuroticism (Paulhus & Williams, 2002). Moreover, Machiavellianism is also seen as non-psychopathic because the behaviour is not always seen as maladaptive or disordered (Repacholi et al., 2016). Furthermore, Smith and Lilienfeld (2013) argued that direct aggression in the workplace is relatively uncommon and therefore the relationship with indirect aggression should be examined, suggesting psychopathy is related to both types of aggression.

In line with the previous literature, the results of the analysis indicated a strong relationship between the Dark Triad, the Big Five models and aggression for both the Russian and British samples. Empirical research within the normal population range has a long standing in several fields and has been at the core of workplaces, learning and social discourse, with implications for mismanaging them (Gallagher & Ashford, 2016). To gain a deeper understanding it is vital to explore the analysis for both the Russian and British



samples. There is extensive empirical support for the view that the Big Five personality model and the Dark Triad traits offer a plausible description of human personality, especially when it comes to behavioural outcomes such as aggression. The present study looked at the relationship between the Dark Triad traits, the Big Five model and aggression, and whether that relationship is mediated by moral disengagement.

Historically, Russian society has been enveloped by aggression. Aggression was part of the society in Russia even before the First World War and the two revolutions of 1917, with international war (Russo-Japanese War (1904–05)), insurrection during the revolution of 1905, state repression and anti-Semitism. In addition, Russian progressives saw tsarist society as resting on a bedrock of aggression due to its exclusion of most of its population (such as the lower classes and non-Russian nations) from the political process (Carey, 2015). In reaction to this, in the 19th and early 20th centuries, underground cells of conspiratorial intellectuals and revolutionary martyrs assassinated thousands of figures associated with the state, including Tsar Alexander II himself in 1881. Such terrorism was effectively ‘propaganda of the deed’, aspiring to rouse the people against the government by example. Along with these isolated acts of conspirators, pre-war Russian society also saw different types of collective aggression, including working-class aggression linked to strikes and other forms of labour unrest.

From this, the results of the project showed that Russian and British samples had several significant similarities, for example, all the Dark Triad traits had a significant positive relationship with moral disengagement, thus indicating consistencies when predicting aggression through moral disengagement. Similarly, moral disengagement was shown to be a strong predictor of aggression for both samples. Further, both British and Russian samples showed general consistency with previous literature, indicating that certain personality traits with a combination of moral disengagement led to aggressive outcomes. The Big Five model for both samples also showed a general consistency, however, for the Russian sample moral disengagement seems to have a positive significant

relationship with agreeableness and open-mindedness, which is not in line with most of the existing literature. Such a discovery begs the question of whether there is an underlying factor affecting such relationships, or is it simply that Russian people are so oppressed by the state of political and social affairs in the country that aggression started to go hand in hand with agreeableness, as possibly they have no other choice but to agree?

During the SEM analysis with mediation for British and Russian samples to improve the overall model fit, the non-significant paths were removed. For example, in the Russian sample the paths between moral disengagement, extraversion, narcissism and conscientiousness were removed, as they were non-significant and did not yield anything significant. Similarly, in the British sample, the paths between moral disengagement, Machiavellianism, agreeableness, extraversion, and conscientiousness were removed as they were not yielding any significant results for the overall model, and with the removal of these paths the model fit improved. It is important to understand that traits such as openness to experience, extraversion and conscientiousness include characteristics such as active imagination, sensitivity, attentiveness to feelings, and intellectual curiosity, which are almost complete opposites to moral disengagement and aggression. Individuals who tend to score low on positive traits often are defined as conventional and unoriginal in behaviour and conservative in their outlook on society, which is positively correlated with SDO (Kleppesto et al., 2019).

There have not been many studies investigating the cross-cultural aspects of the relationship between the Dark Triad traits, Big Five model and aggression with a focus on comparative analysis. More importantly, there has not been a study investigating the relationship between the Dark Triad, the Big Five personality model and aggression comparing British and Russian populations. As such, the present study makes a significant contribution to the literature on the Dark Triad, Big Five, aggression and moral disengagement, with a focus on the cross-cultural comparative element. The only recent research that has looked at aggression cross-culturally was by Catalá-Miñana, Walker,

Bowen, and Lila (2014) and it focused on three main aims: compare the self-reported IPV (physical, psychological, and sexual aggression) of English and Spanish offenders, comparing the Millon Clinical Multiaxial Inventory III (MCMI-III) scores of the two groups, and examining the association between country of origin, psychopathology, and IPV.

Catalá-Miñana et al. (2014) suggested that higher frequencies of physical and psychological aggression were found in the English group compared with the Spanish group, and several differences in personality patterns and psychopathology between the groups. And some MCMI-III subscales also interact with nationality and predict physical and psychological aggression (Catalá-Miñana et al., 2014). Current research, as can be evidenced from the performed analysis, and the large sample of both Russian and British participants, takes this research further, not only achieving homogeneity, but also showing how aggression varies between Western and non-Western cultures.

Several methodological limitations must be mentioned, that are similar to Chapter Four of this thesis. First, it is important to understand the drawbacks of questionnaires. Questionnaires are often associated with a low response rate (Dale & Bell, 1999). Gilbert (2001) reports that response rates, specifically for postal questionnaires, can be as low as 20%, while incorrectly or illegibly filled out questionnaires and missing answers will inevitably influence the quality of the data collected. Saunders et al. (2007) stated that online questionnaires do not offer the researcher the opportunity to follow up ideas and clarify issues if any arise. Consideration needs to be given to all aspects of the questionnaire, from design to selecting the correct target group, to the format and order of questions, to obtain the maximum amount of reliable and valuable data (Dale & Bell, 1999).

Similarly, as with Study Two, further limitation of questionnaires is in the method of construction. Fixed-choice questionnaires make unstated assumptions about general knowledge of the topic, forcing the respondent to answer questions about which he or she

may be unaware, have a different understanding based, or are influenced by exogenous factors like education, culture, age, or societal status. (Hyman, 1957).

Further limitation is focused on the Buss and Perry aggression questionnaire. First, findings indicate that the structure of the Aggression Questionnaire is similar for both men and women and does not differentiate between cultures and ages. However, previous research in the area suggests that the expression of cognitive and emotional components of aggression might be different across cultures and age (Reyna, Ivacevich, Sanchez, & Brussino, 2011). This is especially vital, when it comes to cross-cultural studies with emphasis on the cultural differences between the samples. Saying that, BPAQ to date is the most dependable and highly validated measure of aggression.

Indeed, the use of SEM with mediation opens a vast variety of possibilities for the researcher. For instance, SEM enables the analysis of latent variables and their relationships, offering the opportunity to analyse the dependencies of psychological constructs without measurement errors, which is vitally important in our current research. Tomarken and Waller (2005) outlined several SEM limitations that are worth mentioning. For example, the main limitations include but are not limited to the necessity of lower-order model components, the potential limitations of well-fitting models, the inaccuracy of several commonly used rules of thumb, and the importance of the study design. Similarly, Kroehne, Funke, and Steyer (2003) suggested that relationships between latent variables such as results estimations can bear severe problems, as factor scores may be derived in different ways and are ambiguous. However, despite several disadvantages, if conducted skilfully, SEM offers more than mere removing of measurement errors, but the true score variables, containing situational factors, can be further divided into trait variables and corresponding residuals, which will provide a fuller picture of the findings (Kroehne et al., 2003).

## Chapter Six: General Discussion

### 6.1: Overview

Chapter One of this dissertation presented the review of the existing literature in relation to personality traits, prejudice, and aggression. In the chapters that followed, chapters three, four and five, outlined the studies, their empirical findings and conclusion, as well as an in-depth discussion of the undertaken methodology. Chapter Six looked at the synthesis of the findings presented in chapters three to five, as well as, limitations and future of this research, followed by overall conclusion.

The research presented two main outcome statements:

1. There is a relationship between individual personality traits, the Dark Triad and the Big Five, and malevolent social outcomes, such as prejudice and aggression.

2. And such relationship does extend across different cultures for both prejudice and aggression.

To obtain these statements, in phase one, the emphasis was placed on understanding an in-depth relationship between the Dark Triad and the Big Five personality model in a cross-cultural setting, by comparing the United Kingdom and Russia to be precise. Phase two of the project involved using the first phase as a baseline to inform a predictive model to understand the relationship between the personality traits and behavioural outcome variables in the form of prejudice and aggression.

### 6.2: Synthesis of the findings

One of the main aims of this thesis was to investigate whether there is a relationship between individual personality traits, such the Dark Triad and the Big Five, and prejudice and aggression. For this to be ascertained, first, the in-depth relationship between the Dark Triad and the Big Five personality traits were examined, by using CFA analysis with path constraint.

Significant relationships between individual personality traits in both Russia and the United Kingdom were uncovered. Within the identified relationships, the Dark Triad

and the Big Five model, there were significant correlations between Machiavellianism, psychopathy and agreeableness. Also, narcissism positively significantly correlated with extraversion.

The relationship between personality traits of the Dark Triad and the Big Five model was in line with previous literature, though results partially indicated that some of the existing relationships are not consistent within the Russian sample. This indicates that there is indeed a difference between the Russian and British samples, which in turn supports the cross-cultural hypothesis of this thesis. One such relationship is focused on Machiavellianism, which showed a negative relationship with agreeableness and conscientiousness traits, as supported by previous studies (Austin et al., 2007; Jakobwitz & Egan, 2006; Lee & Ashton, 2004; Paulhus & Williams, 2002; Vernon et al., 2008) and with openness to new experience (Rauthmann, 2011), while it was positively related to neuroticism (Austin et al., 2007; Jakobwitz & Egan, 2006; Vernon et al., 2008).

Within the Russian sample, there was evidence of a relationship between Machiavellianism and extroversion, and open-mindedness. There are several cultural explanations that can define such positive relationships, and one is associated with societal change within the Russian political environment. A study by Herman et al. (2018) supported such findings, suggesting that impulsivity could be at the heart of such a positive relationship in Russian culture. Such a theme can be seen throughout the whole of this thesis, for all three studies and individual relationships. Such relationships tend to deviate from the literature only in the Russian sample, which indicates the effect of culture.

Further relationships that were used as a baseline for Study Two and Study Three seemed not to be adding anything significant, so the path concerning negative emotionality was removed from both the Russian and British models in the following studies. However, the analysis showed that there was a difference between the British and Russian samples on negative emotionality. The Russian data indicated that negative

emotionality is not studied in a general population, but only researched as a clinical condition. Hence the relationship between negative emotionality or neuroticism is not only weak in the Russian sample, but almost non-existent. This indicates that there is a potential for future studies to understand why neuroticism perceived as a clinical in Russia but perceived as both clinical and non-clinical in United Kingdom.

From Study One, a clear picture of Studies Two and Three emerged. Study Two was aimed at understanding the relationship between personality traits and prejudice in both Russia and the UK. Study Two confirmed the hypothesis that there are strong relationships between certain personality traits and prejudice and, that such relationships differ across cultures. When examining the influence of individual personality traits on prejudice in Chapter Two, the most striking finding was that within the Russian sample agreeableness was positively associated with prejudice and SDO, however, there was a negative relationship between SDO and prejudice. This is a significant finding, as this has never been reported before in the literature. On the other hand, no such finding or anything out of the ordinary was found in the British data analysis. This is a crucial finding, as it confirms the importance of culture in results presented in Chapter Four.

Certainly, it seems plausible to suppose that the difference in found relationships between personality traits and prejudice lies with the perceptions of prejudice, SDO and personality traits rather than the alternative explanation, that participants simply did not understand the westernised measures used in this research. This is an area of research that needs to be explored in much more detail in future studies by potentially incorporating the two-dimensional model of prejudice suggested by Son Hing, Chung-Yan, Hamilton, and Zanna (2008) or adjusting measures even more to suit non-Western, Russian participants. Nonetheless, findings do support one of the main aims of this project regarding the role of culture in the relationship between prejudice and personality traits.

In addition to the already explored relationships, SDO had positive associations with all the Dark Triad traits. This finding is prevalent in the literature (*e.g.*, Brigham &

Barkowitz, 1978; Carroo, 1987; Lavrakas & Lewis, 1980) and supports the notion that malevolent aspects of prejudice and its predictors such as SDO have a positive correlation with the Dark Triad. On the other hand, the British sample showed negative relationships between the majority of the Big Five model, prejudice and SDO, which is supported by the literature discussed in Chapter one and Chapter Four. However, the Russian samples showed some significant deviations; in particular, conscientiousness and SDO showed a significant positive relationship that is out of the ordinary and has not been found in the literature before.

It is worth noting that even though both the Russian and the British samples had positive correlations with the Dark Triad traits and SDO, the core those relationships had distinct levels of strength in the Russian and British samples, which supports the original aim of this thesis. Future research in this area will undoubtedly benefit from further exploration of the differences in strength of the relationships between personality traits and predictors of prejudice. Overall, Study Two of this thesis appeared to show evidence for the role of personality traits in understanding prejudice and showed additional support for the role of culture in explaining malevolent behavioural outcomes.

Similarly, Study Three was informed by the results of Study One. The goal of Study Three was to determine whether there is a relationship between aggression and personality traits such as the Dark Triad and Big Five. This study indicated that aggression does, in fact, have a significant relationship with personality traits; however, that relationship is different in Russia and the UK. Furthermore, Big Five personality model and Dark Triad traits are significantly correlated with moral disengagement, which is a strong predictor of aggression. More specifically, in the Russian sample, moral disengagement had positive associations with agreeableness, conscientiousness and open-mindedness. On the other hand, the British sample, as with Study Two, showed no significant deviation from existing literature. This in turn supports one of the main hypotheses of this thesis, that culture plays a key role in understanding the relationships



between individual personality traits and aggression. However, another explanation can be rooted in an understanding of instruments and the difference between Western and non-Western understanding of personality traits. In terms of the Dark Triad traits, and their relationship with aggression and moral disengagement, for both Russian and British samples there was no deviation from the existing literature, as both samples showed consistently positive correlations between personality traits, aggression, and moral disengagement.

Additionally, little if any research has looked at the relationship between aggression and the Big Five personality factors with this specific population, the Russian. This study also demonstrated that there is a relationship between these constructs in the Russian sample and as such supports the aim of this thesis and adds to the existing literature.

One of the most fascinating findings was a positive relationship between moral disengagement and extraversion in the British sample. The majority the existing literature suggests that there should be a negative relationship between extraversion and moral disengagement. However, a study by Mazzone and Camodeca (2019) showed that extraversion was positively associated with bullying and moral disengagement. This finding is particularly important in this research because it suggests that extraversion may not have a negative connotation and it could be associated with negative outcomes based on contextual characteristics, hence being positively related to aggression. In the current study, this could be explained by ongoing political instability within Western societies, although an additional explanation could simply be rooted in the outdated understanding of moral disengagement, or the need for further research to include situational measures such as environment or political beliefs. By validating Bandura's (1999) theorisation, the findings of Study Three showed that aggression can be understood through personality traits, and it supports the notion that moral disengagement is indeed a strong predictor of aggression across both Russia and the UK.

The findings of these studies supported the first aim of this research by displaying both new and exciting results, but also supporting the existing literature on the relationship between personality traits, prejudice, and aggression. In addition, clear support for cross-cultural factors can be noted throughout this thesis, as both the Russian and UK samples showed significant differences in all three studies.

### **6.3: Limitations**

One of the biggest strengths of the current project is the large sample size. Overall, for all three studies there were 3,900 Russian and 2,600 British participants. With a large sample size, there are several advantages such as reduced margin of error, and more precise mean estimates to the base population. Thus, having a large sample size for a cross-cultural study allows for a more precise understanding of the behaviours studied.

On the other hand, response bias, which is described as a systematic tendency to respond in a certain way to items or scales, is a significant flaw. Several types of response bias are a potential risk in a cross-cultural comparison. The urge to give replies that make oneself look good is known as socially desirable response. (Paulhus, 1998). Within current research, the Russian sample might tend to respond with bias due to the current political climate. People of certain cultures may have greater concern about responding in socially desirable ways compared with people of other cultures. Since the survey questions presented in the thesis clearly indicated a negative connotation, there is a high risk that participants did not answer honestly so as not to associate themselves with a negative statement. Thus, this could lead to significant biases in the interpretation of results. There are two facets of socially desirable responding, self-deceptive enhancement (seeing oneself in a positive light) and impression management. Jonason et al. (2009), for example, showed that European American university students outperformed Korean Americans and Singaporean students on self-deception enhancement, but that the latter two groups outperformed European Americans on impression management. It is worth considering recent research on the limitation of the SD3 measure. Rogoza and Ciecuch

(2019) looked revalidation SD3 measure in Poland. Their results indicated the following issues, first, narcissism is the autonomous member and the one least related to Machiavellianism and psychopathy. Secondly, differentiation between Machiavellianism and psychopathy is highly hindered, as using small measure such as SD3, does not allow the room for conceptual differences. Finally, assertive, and grandiose aspects of narcissism are not strongly associated with the Dark Triad (Rogoza & Ciecuch, 2019). These issues suggest the potential for a new measure with use of antagonistic and exploitative aspects of narcissism, and stronger differentiation between Machiavellianism and psychopathy.

In terms of other limitations, it is important to understand the drawbacks of questionnaires. Questionnaires are often associated with a low response rate (Dale & Bell, 1999). Gilbert (2001) reports that response rates for postal questionnaires can be as low as 20%, and incorrectly or illegibly filled out questionnaires, will inevitably influence the quality of the data collected. Akinci and Saunders (2015) stated that online questionnaires do not offer the researcher the opportunity to follow up on ideas and clarify issues if they arise. To collect the most amount of trustworthy and meaningful data, all components of the questionnaire must be considered, from design to selecting the suitable target group to the structure and order of questions (Dale & Bell, 1999). Akinci and Saunders (2015) Note that questionnaires are not well-suited to research with a large number of open-ended questions, for which a (semi-structured) interview may be a better option. Having said that, for the current project this was not an issue, as the questionnaires were structured with the use of established measures. Saunders et al. (2007) also describe the limitations of questionnaires with regards to the expected outcome, which might for example highlight trends or attitudes, but will fail to explain the underlying reasons for the outcome. Both points are valid and worth noting, however, due to the large sample size, therefore large response rate, this research avoids such a problem.

Another limitation can be found in the structure of the method itself. Fixed-choice questionnaires, for example, make unstated assumptions about the respondent's general knowledge of the topic under investigation and force him or her to answer questions about which they may be unaware, have a different understanding based on personal perception, or are influenced by exogenous factors like education, culture, age, or societal status. (Hyman, 1957). A questionnaire has no way of correcting this, therefore the results could be slightly skewed at best, or completely deceptive at worst.

Of course, as the study was correlational, it does not allow us to establish causal relationships between personality traits, prejudice, and aggression. Correlational study data, like the one described in this thesis, provides a useful starting point for researchers exploring a phenomenon for the first time. In this case, no previous research has been conducted on such a large scale in Russia in relation to personality, prejudice, and aggression. Furthermore, researchers can establish the direction and strength of a relationship between variables, enabling further research to be conducted, as an empirical relationship between relevant variables must be established before causality can be explored (Polit & Beck, 2012). In this case, the relationship between the personality traits, prejudice and aggression had a strong positive relationship with the presence of mediators. Finally, even though correlational studies tend to be disadvantageous, the results from correlational research can be used to generate hypotheses to be tested in quasi-experimental and further experimental designs in order to gain a full picture of the relationship between personality models, prejudice and aggression in a cross-cultural setting.

The fact that correlational research does not mean causation is regarded as a disadvantage (Sousa, Driessnack, & Mendes, 2007; Talbot, 2014). From such studies only associations can be produced. However, acknowledging this disadvantage does not detract from the significance of correlational studies and their contribution to research. Typically, the relationships are affected by multiple variables, and many of the relationships are

bidirectional. Even though in this research we have not established cause and effect, as previously mentioned, this project can be a steppingstone for further research looking at the causal pathways of the proposed mediation model. It could also be used to investigate other variables that can potentially affect the relationship.

Further limitation that is widely associated with cross-sectional designs and correlational based methods of analysis is the presence of common method variance (CMV). Cross-sectional studies of attitude - behaviour relationships, specifically like the current project on the relationships between personality traits and behaviours, are vulnerable to the inflation of correlations through common method variance (CMV) and the inability to draw causal conclusions (Lindell & Whitney, 2001). Nonetheless, present study did adopt certain strategies to circumvent typical issues associated with the use of a single time point. For example, the use of mediators in the Study Two and Three, help counter act CMV. As well as the use of clear procedures for the participants, by showing that measures simply assessed different constructs.

By far one of the biggest limitations of cross-sectional design is inability to guarantee the time snapshot to be representative of the sample in the future. Indeed, current research had a large sample of both Russian and British participants, nonetheless, in few months or years this sample pool might not be representative of the true population in Russia and United Kingdom. Thus, making the results of this project not generalisable to the future. To counteract future researchers should consider longitudinal studies, repeated measure design or time-series analysis. Interestingly, Twenge (2009) looked at Burgers replication of Milgram's (1974) obedience experiment. Replication study showed changes in personality traits over time and generations, including an increase in non-conformity such as assertiveness and narcissism. Further study by Perry, Brannigan, Wanner and Stam (2020), similarly as Twenge (2009), showed changes in perception of pain and obedience overtime.

In addition to limitation mentioned above, Sedgwick (2014) stated that if future researchers attempt to repeat cross-sectional studies, caution is needed. This is due to the notion that if different participants are included at each time point, it may be difficult to assess whether changes in attitudes, traits or behaviours reflect a trend or simply differences between different groups of participants, thus making results not generalisable.

By construction, mediation analysis implies a causal process that connects two variables. The mediation model considers the impact of an intervening variable or mediator, such as in the case of this project, moral disengagement or SDO, which is posited to transmit the influence of an independent variable, the Dark Triad and five-factor personality model onto outcome variables, prejudice, and aggression. Examining mediation in cross-sectional data that are observational (*i.e.*, not experimental) is generally not recommended. The main argument against the use of mediation in cross-sectional studies is the fact that cross-sectional data undermines an assumption of the statistical mediation model: the presumption that temporary ordering of variables in the causal chain of mediation is correct, cause and effect. Any estimations of a mediation effect in such data are thus correlational in nature.

The notion that correlation coefficients do not imply causation and cannot offer insight into the directionality of a relation between variables, is fundamental. However, the use of mediation in a cross-sectional study is a very well-known and used method of analysis. For example, in the current study the use of SEM that incorporated latent variables to estimate mediation effects may overcome the issues, because measurement error can be modelled in the analysis, and future studies should consider using a longitudinal design to avoid any potential biases.

This study was in the form of a survey that was adapted into culture-specific attitudes and behaviours related to personality (Gardner, Gabriel, & Lee, 1999; Oyserman & Lee, 2008). The survey's scales were verified, although they were designed with Western cultures in mind, who scored higher on levels of individualism, in contrast to

those who score higher on levels of collectivism, from Eastern populations (Hofstede, 2001; Markus & Kitayama, 1991). This is an important note, and it has previously been raised by several researchers, however, cultural adaptation of measures is still a long way away from being ideal. Therefore, item equivalence needed to be maintained in both cultures to identify any “true” cultural differences between Russia and the United Kingdom.

Such equivalence in instrument design can only be achieved when researchers are mindful of the various idioms, phrases, and grammatical details to be found in a particular location and, more generally, how respondents make inferences in different cultures (Sekaran, 1983). The inferences we make are highly influenced by our cultural background, which influences how we think, perceive, and react to situations around us (Cunningham et al., 1995; Dake, 1991; Kühnen & Oyserman, 2002; Oyserman & Lee, 2008). While acknowledging cultural influences on participant responses, a culturally fit instrument and an understanding of cultural demands can help interpret results correctly.

Using agencies specialising in participant recruitment has become a shared practice in psychological research. Companies such Survey Monkey, Anketolog, Qualtrics and MTurk are known within research circles, however, the drawbacks of using companies that specialise in recruiting participants need to be addressed. Two of the biggest drawbacks are that such companies are expensive and can contribute to confirmation bias. Having said that, using these companies also comes with advantages such as a higher participant response rate, the high quality of responses and most importantly, it is possible to achieve a representative sample. In the current project, Anketolog and Survey Monkey were used as participant recruitment tools, the quality of responses was exceedingly high, there was minimal missing data, and participants were obtained quickly and efficiently.

The use of internet-mediated research is an accepted practice in the psychology field, and it is often referred to as a robust method of participant recruitment. An

immediate benefit of internet-mediated research methods is the access to a wider population who were previously unavailable before this approach, when most research in psychology was limited to an institution's population of students or faculty, the majority of whom were Western and white. Using primarily students is not a true representation of the population, hence can lead to significant problems within the research. In addition, using internet-mediated research allows the researcher, such as in the current project, to compare different cultures.

For example, in the current research, data was gathered from 3,900 Russian participants and 2,600 British participants, which in the past would not have been possible. Importantly, internet-mediated research as in this case leads to bigger samples, and bigger samples provide a better generalisation to the studied populations, reduce variance, and increase power in statistical analyses while providing more flexibility when it comes to the violation of assumptions in parametric tests. On the other hand, in internet-mediated research, financial compensation may have some negative side effects depending on participants' expectations. Participants are usually made aware that they will be receiving compensation, therefore they want to maximise their pay and time ratio, thus, many of them will rush through a study just to collect their payment. Furthermore, many online tools do not provide the researcher with knowledge of the participants' identity, making it impossible to invite them back for another study (Furnham & Crump, 2005). In this case, future longitudinal studies will benefit from the understanding of prejudice and aggression, however, using the same participants is out of the question.

There are several methodological limitations or indeed improvements that future research need to consider. First of all, the addition of attention to check into the surveys could filter out careless respondents, or in other words respondents that are too quick to answer. However, despite the wide use and numerous positives, Kung, Kwok and Brown (2017) suggested that because attention checks can promote a more purposeful mindset in survey respondents, it might change the overall way respondents answer survey questions,



posing a great threat to the validity of the scales. Further addition that could be used to improve quality of the data, is social desirability or impression management scales. Such scales are created to screen individuals who bias self-reports in a self-favouring manner. Uziel (2010) stated that these scales are widely used among research to determine biases in self-report measures. Considering current research was solely focused on self-report measures it would be beneficial for future studies to considering using the following social desirability scales by Crowne and Marlowe (1960). Further addition to the analysis could be the use of Little's MCAR test, which determines whether the data is missing completely at random. Future studies would need to perform MCAR test and to either reject the null hypothesis or accept the null hypothesis, if the researcher fails to reject the null hypothesis i.e., the test is not statistically significant then the data is indeed missing at random. Such test could benefit in understanding the data at a deeper level, by looking directly at where the data is missing and possibly even determining which of the subscales within Dark Triad and Big Five perform worse in Russia compared to UK. In particularly the interest should be place on agreeableness and neuroticism or negative emotionality.

Final suggestion for future studies is around potentially avoiding using mean imputation with linear regression to substitute the missing data. One of the most significant disadvantages for mean imputation is that mean imputation does not preserve the relationships among variables, which is crucial in study that looks at the in-depth relationships between the variables. In fact, mean imputation is great at preserving unbiased estimates for the mean, however, it is not good for unbiased estimates of relationships, and can even drastically underestimate such relationships. Secondly, mean imputation can lead to an underestimation of standard errors. In other words, such disadvantage can lead to making Type I error without even realising it by having low standard errors and in turn low p-values. Future studies can considering either using complete case analysis (CCA) or Frequent Category Imputation.

#### **6.4: Future research**

Despite these limitations, this dissertation contributed to the wider literature, with several avenues for future research. The first of these avenues could be the measurement of prejudiced attitudes and behaviours. In Chapter Two of this thesis, the measure of prejudice was assessed on reliability, internal consistency, and predictive validity. Even though it had relative reliability, however, not every aspect of prejudice was adherent to that, and in particular, the traditional values factor seems to have lower reliability and internal consistency, which could be due to the measure being created by Western psychologists for a Western understanding of prejudice. In the context of this study, prejudice might be portrayed differently in Russia, compared to the United Kingdom. It might be the case that there is never a single gold standard measure of prejudice, but future research can strive to develop one. It is important to understand that this would not be unique to psychology, as even well-researched concepts can be subject to reduced reliability and validity in different cultures. Thus, if a gold standard cannot be found, future research needs to focus on iterative development and adaptation of existing instruments.

There were other avenues of research for examining how personality could be associated with aggression and prejudice that future research could take. Firstly, there is a new measure of personality traits, HEXACO, and there is some research into how the HEXACO model could be associated with aggression and prejudice, but it is limited in comparison to the amount of research done on the Big Five. More research is needed to address HEXACO in relation to prejudice and aggression in a cross-cultural setting. The Honesty - Humility domain is unique to HEXACO and given its strong association with prejudice and aggression, greater research is needed in this domain to understand how people can disengage with aggressive and prejudicial behaviours. Similarly, regarding the Dark Triad, some researchers suggest using it in combination with the so-called light triad.

Some researchers noted that there has been a lack of research literature on positive traits and fulfilling and growth-oriented outcomes in life.

Kaufman et al. (2019) created a first draft measure of a loving and beneficent orientation toward others (light triad) that consists of three facets: Kantianism (treating people like they treat themselves), humanism (valuing the dignity and worth of everyone), and faith in humanity. The light triad was found to have excellent reliability and validity, predicting life satisfaction and a wide range of growth-oriented and self-transcendent outcomes above and beyond existing personality measures, whereas the Dark Triad was found to be negatively associated with life satisfaction and growth-oriented outcomes, as well as having stronger links to selfishness, exploitativeness and aggression (Kaufman et al., 2019). There is some research that would argue that including both dark and light triads expand the scope of personality and gives us a better picture (Kaufman et al., 2019).

A further addition could be related to the inclusion of moral reasoning in addition to moral disengagement in the study. As shown above by the current research, personality traits are indeed associated with mechanisms of moral disengagement (openness, agreeableness, neuroticism, and conscientiousness). Previous literature has also shown that moral reasoning is related to personality traits and aggression. Chovan (2007) suggested that moral reasoning is the process of how people think once they are faced with moral dilemmas, in which case the relationship between personality and moral reasoning becomes valid. Further research by Zhang (2006) found a significant relationship between thinking styles and personality traits. Further research showed explained variance of 9% between moral reasoning and the personality traits openness and conscientiousness (Dollinger & LaMartina, 1998). Derryberry, Wilson, Snyder, Norman, and Barger (2005) observed a statistically significant, positive correlation between openness and post-conventional moral reasoning. Such inclusion of moral reasoning could aid in understanding aggression to a fuller extent through a personality perspective.

One of the biggest changes to Study Three could be adding a new aggression measure. As some researchers point out, a key problem facing aggression research is how to measure individual differences in aggression accurately and efficiently without sacrificing reliability or validity. Researchers are increasingly demanding brief measures of aggression for use in applied settings, field studies, pre-test screening, longitudinal, and daily diary studies. Buss and Perry (1992) selected the three highest loading items from each of their aggression questionnaire's four subscales, physical aggression, verbal aggression, anger, and hostility, and developed an efficient 12-item measure of aggression, the brief aggression questionnaire (BAQ). Across five studies (N 1/4 3,996), the BAQ showed theoretically consistent patterns of convergent and discriminant validity with other self-report measures, consistent four-factor structures using factor analyses, adequate recovery of information using item response theory methods, stable test/retest reliability, and convergent validity with behavioural measures of aggression. The authors discuss the reliability, validity, and efficiency of the BAQ, along with its many potential applications (Webster et al., 2015; Webster et al., 2013). Indeed, such an instrument is more concise and precise when it comes to aggression, however, not only has it not been widely used yet, it also has not been translated into many languages, hence the cultural validity of this measure is very questionable.

An adjustment that future research can consider is to use, instead of the subtle and blatant prejudice scale, the Godfrey-Richman ISM Scale (GRISMS), which was designed by Godfrey, Richman, and Withers (2000) to assess stereotypes, discriminatory behaviours, and prejudice towards religious and racial/ethnic groups and sexism and heterosexism. A unique feature of the GRISMS is that it can be scored based on the inclusion of all items or by excluding those items that are reflective of a person's identity (Godfrey et al., 2000), which allows for comparisons of an individual's score with or without those items that are personally relevant. Throughout previous research, the 90-item GRISMS was found to be highly reliable, and its racism, sexism, and heterosexism

subscales were validated with three other measures; however, due to its size, it can be extremely time-consuming for participants to complete.

Indeed, correlations are a widely used in psychology field, with large proportion of the researchers using Cohen's guidelines (1988) from an empirical perspective on correlations. Future research worth noting to use potential alternatives to the Cohen's effect size. For example, Ellis (2010) recommended that researchers should interpret effect sizes in the context of the research, for example, which may involve consultation of unstandardised effects, rather than standardised effects. Alternatives to Cohen's effect size should be researched thoroughly before being applied, especially when it comes to cross-cultural research. Gignac and Szodorai (2016) research suggested that Cohen's guidelines are too constraining, and in fact less than 3% of correlations in the literature were found to be as large as  $r = 0.50$ , therefore, individual differences researchers are recommended to consider correlations of 0.10 as small, 0.20 standard, and 0.30 large in the context of a power analysis, as well as the interpretation of statistical results.

Multiculturalism emphasises the appreciation of different cultural values, traditions, and lifestyles, in contrast to colour-blindness, which reflects a preference towards ignoring cultural differences (Morris, Chiu, & Liu, 2015). Research, especially in European contexts, has found that minorities, rather than majority group members, tend to appreciate the multicultural ideologies of society. This relates to the current project and future research, as in simple terms future cross-cultural studies might not play as important a role as they do now, due to the world moving towards becoming increasingly multicultural in nature. Does this mean the findings of this thesis will withstand the next 50 years of change? At this moment it is difficult to say, hence future research could potentially look at prejudice and aggression as multicultural phenomena.

The current thesis did provide evidence that prejudice and aggression are cultural phenomena, but they can become multicultural, and this is what future research needs to consider. Further, cultural homogenisation is indeed a phenomenon that needs to be

considered. One suggestion for future research can be found in Hofstede's (2001) cultural dimension theory, a framework used to understand the differences in culture across countries. This can be a useful tool to understand the phenomenon of aggression and prejudice across different cultures, by looking at the relationship of such behaviour and Hofstede's (2001) indices.

Further suggestion for future research is to use, instead of a cross-sectional study, a longitudinal design, to test whether findings stand over time. Longitudinal studies allow researchers to explore patterns of change and the dynamics of individual behaviour as longitudinal data allows researchers to explore dynamic rather than static concepts. This is important for understanding how people move from one situation to another, for example, in the case of the current study, longitudinal research would have helped establish a causal relationship between personality traits and behavioural outcomes in the form of prejudice and aggression. In addition, the use of a longitudinal design would allow for better causal control, hence being more appropriate for mediation analysis.

Finally, in addition to longitudinal research, the use of multiple time points or time-series analysis, can be extremely helpful to understand how cross-cultural phenomena changes over time. As the culture changes, such dispositions and phenomenon are altered, and the premises of the research are often invalidated (Gergen, 1976). Considering current research and the rise of multiculturalism, it is important for future research to use several timepoints or implement longitudinal research.

## **6.5: Conclusion**

In conclusion, this thesis examined the relationship between personality traits and behavioural outcomes, and whether such relationships stand cross-culturally. The literature review of this thesis identified gaps within the existing field and attempted to fill in those gaps, and even went further, to extend some literature branches. Phase One examined the interrelationship between the Dark Triad and the Big Five personality models. As per previous literature, indeed there is a strong relationship between individual

traits, and as such these relationships stand cross-culturally. Psychometric properties of the used measure such as BFI-2 and SD3 both showed strong reliability and validity in both cultures, however, agreeableness seemed to perform worse compared to other traits. This could be because agreeableness may be perceived as submissiveness in Russia, however, this needs further evaluation. Phase Two focused on the relationship between the Dark Triad, the Big Five model, and behavioural outcomes, prejudice and aggression.

Psychopathy, narcissism, and neuroticism had the strongest positive relationship with prejudice in Study Two. In addition to previously mentioned relationships, the Russian data showed that prejudice was positively linked with agreeableness, both directly and in the presence of SDO. Collectively these personality traits had strong relationships with prejudice, both in the presence of a mediator and directly. Correspondingly, Study Three examined the relationship between the Dark Triad, the Big Five model and aggression. Neuroticism and agreeableness had the strongest correlation to aggression in both the Russian and British samples. Conscientiousness and extraversion, on the other hand, yield no relationship as predicted for both the Russian and British samples. Moral disengagement indeed was a strong mediator, as was shown in Study Three.

This thesis achieved an in-depth understanding of the role of culture in the relationship between personality traits and behavioural outcomes. It answered the long-standing question of whether these relationships can be validated cross-culturally, and indeed, showed the importance of cross-cultural studies in the field of individual differences psychology. Although there were limitations to this work, there were also significant advantages as it provided valuable insights into how the individual differences of personality and malevolent behaviours were associated and contributed to an understanding of how culture affects such relationships, across a large sample.

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## Appendixes

### Appendix 1: Dark Triad (SD3) scale

#### Machiavellianism:

1. It's not wise to tell your secrets.
2. I like to use clever manipulation to get my way.
3. Whatever it takes, you must get the important people on your side.
4. Avoid direct conflict with others because they may be useful in the future.
5. It's wise to keep track of information that you can use against people later.
6. You should wait for the right time to get back at people.
7. There are things you should hide from other people to preserve your reputation.
8. Make sure your plans benefit yourself, not others.
9. Most people can be manipulated.

#### Narcissism:

1. People see me as a natural leader.
2. I hate being the center of attention. (R)
3. Many group activities tend to be dull without me.
4. I know that I am special because everyone keeps telling me so.
5. I like to get acquainted with important people.
6. I feel embarrassed if someone compliments me. (R)
7. I have been compared to famous people.

8. I am an average person. (R)
9. I insist on getting the respect I deserve.

Psychopathy:

1. I like to get revenge on authorities.
2. I avoid dangerous situations. (R)
3. Payback needs to be quick and nasty.
4. People often say I'm out of control.
5. It's true that I can be mean to others.
6. People who mess with me always regret it.
7. I have never gotten into trouble with the law. (R)
8. I enjoy having sex with people I hardly know
9. I'll say anything to get what I want.



## Appendix 1. A: Big Five personality measure (BFI-2)

I am someone who . . .

1. Is outgoing, sociable
2. Is compassionate, has a soft heart
3. Tends to be disorganised
4. Is relaxed, handles stress well
5. Has few artistic interests
6. Has an assertive personality
7. Is respectful, treats others with respect
8. Tends to be lazy
9. Stays optimistic after experiencing a setback
10. Is curious about many different things
11. Rarely feels excited or eager
12. Tends to find fault with others
13. Is dependable, steady
14. Is moody, has up and down mood swings
15. Is inventive, finds clever ways to do things
16. Tends to be quiet
17. Feels little sympathy for others
18. Is systematic, likes to keep things in order
19. Can be tense
20. Is fascinated by art, music, or literature
21. Is dominant, acts as a leader
22. Starts arguments with others
23. Has difficulty getting started on tasks

24. Feels secure, comfortable with self
25. Avoids intellectual, philosophical discussions
26. Is less active than other people
27. Has a forgiving nature
28. Can be somewhat careless
29. Is emotionally stable, not easily upset
30. Has little creativity
31. Is sometimes shy, introverted
32. Is helpful and unselfish with others
33. Keeps things neat and tidy
34. Worries a lot
35. Values art and beauty
36. Finds it hard to influence people
37. Is sometimes rude to others
38. Is efficient, gets things done
39. Often feels sad
40. Is complex, a deep thinker
41. Is full of energy
42. Is suspicious of others' intentions
43. Is reliable, can always be counted on
44. Keeps their emotions under control
45. Has difficulty imagining things
46. Is talkative
47. Can be cold and uncaring
48. Leaves a mess, doesn't clean up
49. Rarely feels anxious or afraid
50. Thinks poetry and plays are boring

51. Prefers to have others take charge
52. Is polite, courteous to others
53. Is persistent, works until the task is finished
54. Tends to feel depressed, blue
55. Has little interest in abstract Ideas
56. Shows a lot of Enthusiasm
57. Assumes the best about people
58. Sometimes behaves irresponsibly
59. Is temperamental, gets emotional easily
60. Is original, comes up with new Ideas

## Appendix 1.B: SDO (social dominance orientation)

1. Some groups of people are simply inferior to other groups.
2. In getting what you want, it is sometimes necessary to use force against other groups.
3. It's OK if some groups have more of a chance in life than others.
4. To get ahead in life, it is sometimes necessary to step on other groups.
5. If certain groups stayed in their place, we would have fewer problems.
6. It's probably a good thing that certain groups are at the top and other groups are at the bottom.
7. Inferior groups should stay in their place.
8. Some times other groups must be kept in their place.
9. It would be good if groups could be equal.
10. Group equality should be our ideal.
11. All groups should be given an equal chance in life.
12. We should do what we can to equalise conditions for different groups.
13. Increased social equality.
14. We would have fewer problems if we treated people more equally.
15. We should strive to make incomes as equal as possible.
16. No one group should dominate in society.

## Appendix 1.C: Moral Disengagement

1. It is alright to fight to protect your friends.
2. Slapping and shoving someone is just a way of joking.
3. Damaging some property is no big deal when you consider that others are beating people up.
4. A kid in a gang should not be blamed for the trouble the gang causes.
5. If kids are living under bad conditions they cannot be blamed for behaving aggressively.
6. It is okay to tell small lies because they don't really do any harm.
7. Some people deserve to be treated like animals.
8. If kids fight and misbehave in school it is their teacher's fault.
9. It is alright to beat someone who bad mouths your family.
10. To hit obnoxious classmates is just giving them "a lesson."
11. Stealing some money is not too serious compared to those who steal a lot of money.
12. A kid who only suggests breaking rules should not be blamed if other kids go ahead and do it.
13. If kids are not disciplined they should not be blamed for misbehaving.
14. Children do not mind being teased because it shows interest in them.
15. It is okay to treat badly somebody who behaved like a "worm."
16. If people are careless where they leave their things it is their own fault if they get stolen.
17. It is alright to fight when your group's honour is threatened.
18. Taking someone's bicycle without their permission is just "borrow - ing it."
19. It is okay to insult a classmate because beating him/her is worse.
20. If a group decides together to do something harmful it is unfair to blame any kid in the group for it.
21. Kids cannot be blamed for using bad words when all their friends do it.

22. Teasing someone does not really hurt them.
23. Someone who is obnoxious does not deserve to be treated like a human being.
24. Kids who get mistreated usually do things that deserve it.
25. It is alright to lie to keep your friends out of trouble.
26. It is not a bad thing to "get high" once in a while.
27. Compared to the illegal things people do, taking some things from a store without paying for them is not very serious.
28. It is unfair to blame a child who had only a small part in the harm caused by a group.
29. Kids cannot be blamed for misbehaving if their friends pressured them to do it.
30. Insults among children do not hurt anyone.
31. Some people have to be treated roughly because they lack feelings that can be hurt.
32. Children are not at fault for misbehaving if their parents force them too much.

## Appendix 1.D: Buss and Perry (1992) aggression questionnaire

1. Some of my friends think I am a hothead A
2. If I have to resort to violence to protect my rights, I will. PA
3. When people are especially nice to me, I wonder what they want. H
4. I tell my friends openly when I disagree with them. VA
5. I have become so mad that I have broken things. PA
6. I can't help getting into arguments when people disagree with me. VA
7. I wonder why sometimes I feel so bitter about things. H
8. Once in a while, I can't control the urge to strike another person. PA
- 9.\* I am an even-tempered person. A
10. I am suspicious of overly friendly strangers. H
11. I have threatened people I know. PA
12. I flare up quickly but get over it quickly. A
13. Given enough provocation, I may hit another person. PA
14. When people annoy me, I may tell them what I think of them. VA
15. I am sometimes eaten up with jealousy. H
- 16.\* I can think of no good reason for ever hitting a person. PA
17. At times I feel I have gotten a raw deal out of life. H
18. I have trouble controlling my temper.
19. When frustrated, I let my irritation show.
20. I sometimes feel that people are laughing at
21. I often find myself disagreeing with people.
22. If somebody hits me, I hit back.
23. I sometimes feel like a powder keg ready to explode
24. Other people always seem to get the breaks.
25. There are people who pushed me so far that we came to blows. PA

26. I know that “friends” talk about me behind my back. H
27. My friends say that I’m somewhat argumentative. VA
28. Sometimes I fly off the handle for no good reason. A
29. I get into fights a little more than the average person. PA



## Appendix 1.E: Subtle and blatant prejudice scale

### Threat and rejection factor items: the Blatant Scale:

1. Other nationalities have jobs that the British should have. (strongly agree to strongly disagree)
2. Most people of other nationalities living here who receive support from welfare could get along without it if they tried. (strongly agree to strongly disagree)
3. British people and Other nationalities can never be really comfortable with each other, even if they are close friends. (strongly agree to strongly disagree)
4. Most politicians in Britain care too much about Other nationalities and not enough about the average British person. (strongly agree to strongly disagree)
5. Other nationalities come from less able races and this explains why they are not as well off as most British people. (strongly agree to strongly disagree)
6. How different or similar do you think Other nationalities living here are to other British people like yourself-in how honest they are? (very different, somewhat different, some - what similar, or very similar)

### Intimacy factor items: the Blatant Scale:

1. Suppose that a child of yours had children with a person of very different colour and physical characteristics than your own. Do you think you would be very bothered, bothered, bothered a little, or not bothered at all, if your grandchildren did not physically resemble the people on your side of the family?
2. I would be willing to have sexual relationships with a person of Other nationalities. (strongly agree to strongly disagree)
3. I would not mind if a suitably qualified different nationality person was appointed as

my boss. (strongly agree to strongly disagree)

4. I would not mind if a Other nationality person who had a similar economic background as mine joined my close family by marriage, (strongly agree to strongly disagree)

Traditional values factor items: Subtle Scale:

1. Other nationalities living here should not push themselves where they are not wanted. (strongly agree to strongly disagree)

2. Many other groups have come to Britain and overcome prejudice and worked their way up. Other nationalities s should do the same without special favour. (strongly agree to strongly disagree)

3. It is just a matter of some people not trying hard enough. If Other nationalities would only try harder they could be as well off as British people. (strongly agree to strongly disagree)

4. Other nationalities living here teach their children values and skills different from those required to be successful in Britain. (strongly agree to strongly disagree)

Cultural differences factor items: Subtle Scale:

How different or similar do you think Other nationalities living here are to other British people

like yourself.. .(very different, somewhat different, somewhat similar, or very similar)

1. In the values that they teach their children?

2. In the irreligious beliefs and practices?

3. In their sexual values or sexual practices?

4. In the language that they speak?

Positive emotions factor items: Subtle Scale:

... Have you ever felt the following ways about Other nationalities and their families living here.. .

(very often, fairly often, not too often, or never)

1. How often have you felt sympathy for Other nationalities s living here?
2. How often have you felt admiration for Other nationalities s living here?

## Appendix 2: Translation of the Dark Triad

### Макивелианизм:

1. Не умно - рассказывать свои секреты.
2. Мне нравится использовать умелые манипуляции, чтобы добиться своего.
3. Чего бы это ни стоило, нужно заполучить важных людей на свою сторону.
4. Избегайте прямых конфликтов с другими людьми, потому что они могут оказаться полезными в будущем.
5. Умно следить за информацией, которую Вы можете потом использовать против людей.
6. Вы должны дождаться правильного момента, чтобы отомстить людям.
7. Есть вещи, которые следует скрывать от других людей, чтобы сохранить свою репутацию.
8. Убедитесь, что от Ваших планов выигрываете Вы, а не другие.
9. Большинство людей можно

### Нарциссизм:

1. Люди видят во мне прирожденного лидера.
2. Я ненавижу быть в центре внимания. (R)
3. Многие коллективные дела скучны, если я не принимаю в них участие.
4. Я знаю, что я особенный, потому что все не перестают мне об этом говорить.
5. Мне нравится знакомиться с важными людьми.
6. Я смущаюсь, если кто-то делает мне комплимент. (R)
7. Меня сравнивали со знаменитыми людьми.
8. Я обычный человек. (R)
9. Я настаиваю, чтобы люди относились ко мне с уважением, которого я заслуживаю.

Психопатия:

1. Мне нравится мстить авторитетам.
2. Я избегаю опасных ситуаций. ®
3. Расплата должна быть скорой и ужасной.
4. Люди часто говорят, что я не управляем.
5. Это правда, что я могу подло вести себя с другими.
6. Люди, которые связываются со мной, всегда жалеют об этом.
7. У меня никогда не было неприятностей с законом. (R)
8. Мне нравится заниматься сексом с людьми, которых я едва знаю
9. Я скажу, что угодно, чтобы получить, что хочу.

## Appendix 2.A: Translation of the Big Five personality measure (BFI-2)

Я тот, кто. . .

1. дружелюбен и общителен
2. отзывчив, у кого мягкое сердце
3. склонен к дезорганизованности
4. не напрягается, хорошо переносит стресс
5. имеет мало творческих интересов
6. уверен в себе
7. почтителен, относится к другим с уважением
8. склонен к лени
9. остается оптимистом после неудачи
10. любопытен в отношении множества разных вещей
11. редко увлекается или испытывает азарт
12. склонен винить во всем других
13. заслуживает доверия, надежен
14. зависит от настроения, испытывает перепады настроения
15. изобретателен, находит умные способы что-то сделать
16. склонен к молчаливости
17. не особо сочувствует другим
18. последователен, любит, когда все на своих местах
19. может быть напряженным
20. увлекается искусством, музыкой или литературой
21. доминирует, выступает в качестве лидера
22. затевает споры с другими
23. с трудностью приступает к новым задачам

24. чувствует себя в безопасности, уютно сам с собой
25. избегает интеллектуальных, философских дискуссий
26. менее активен, по сравнению с другими
27. не злопамятен
28. может быть немного неаккуратен
29. эмоционально устойчив, кого трудно расстроить
30. не отличается креативностью
31. немного застенчив, интроверт
32. рад помочь и неэгоистичен с другими
33. поддерживает чистоту и порядок
34. много беспокоится
35. ценит искусство и красоту
36. не знает, как влиять на людей
37. иногда груб с другими
38. квалифицирован, хорошо управляется с делами
39. часто испытывает грусть
40. сложный, вдумчивый
41. полон энергии
42. подозрительно относится к намерениям других людей
43. надежен, на кого всегда можно рассчитывать
44. держит эмоции под контролем
45. с трудом может что-то себе представить
46. разговорчив
47. может быть холоден и равнодушен
48. оставляет после себя бардак, не убирает за собой
49. редко испытывает волнение или страх

50. считает поэзию и пьесы скучными
51. предпочитает, чтобы другие принимали на себя ответственность
52. вежлив, учтив с другими
53. настойчив, работает, пока задача не будет выполнена
54. склонен к депрессии, унынию
55. мало интересуется абстрактными идеями
56. проявляет много энтузиазма
57. видит в людях только хорошее
58. иногда ведет себя безответственно
59. импульсивен, легко может расчувствоваться
60. оригинален, предлагает новые идеи



## Appendix 2.B: Translation of the Social Dominance Orientation (SDO)

1. Некоторые группы людей просто ниже других групп.
2. Добиваясь того, что ты хочешь, иногда необходимо применить силу в отношении других групп.
3. Это нормально, если некоторые группы имеют больше шансов в жизни, чем другие.
4. Чтобы пробиться в жизни, иногда необходимо вытереть ноги об другие группы.
5. Если бы определенные группы оставались на своем месте, у нас было бы меньше проблем. 6. Возможно, хорошо, что одни группы наверху, а другие группы внизу.
7. Низшие группы должны оставаться на своем месте.
8. Иногда другие группы нужно держать на своем месте.
9. Было бы хорошо, если бы группы могли быть равными.
10. Равноправие групп должно быть нашим идеалом.
11. Всем группам нужно дать равные шансы в жизни.
12. Мы должны делать, что можем, чтобы уравнивать условия для разных групп.
13. Усиленное социальное равенство.
14. У нас было бы меньше проблем, если бы мы обращались с людьми более равноправно. 15. Мы должны стремиться к тому, чтобы сделать доход максимально равным.
16. Ни одна группа не должна доминировать в обществе.

## Appendix 2.C: Translation of the Moral Disengagement

1. Драться, чтобы защитить своих друзей, - это нормально.
2. Шлепать и толкать кого-то - это просто своего рода подшучивание.
3. Наносить вред чьему-то имуществу - это ерунда, если учесть, что другие вообще бьют людей.
4. Нельзя возлагать вину за беспорядки, которые творит банда, на состоящего в банде парня. 5. Если дети живут в плохих условиях, не нужно винить их за агрессивное поведение.
6. Мелкая ложь не страшна, потому что она никому не приносит никакого вреда.
7. Некоторые люди заслуживают того, чтобы с ними обращались, как с животными.
8. Если дети дерутся и плохо себя ведут в школе, это вина их учителя.
9. Отметелить того, кто обливает грязью твою семью, - это нормально.
10. Наподдать назойливым одноклассникам - это просто «преподать им урок».
11. Украсть немного денег - это не особо серьезно, по сравнению с теми, кто крадет много денег.
12. Ребенка, который только предлагает нарушить правила, не стоит винить, если другие дети берут и делают это.
13. Если дети не дисциплинированы, их не стоит винить за плохое поведение.
14. Дети не против, чтобы их дразнили, потому что это - просто проявление интереса к ним. 15. Обращаться плохо с тем, кто вел себя, как «червяк», - это нормально.
16. Если люди бросают свои вещи, где попало, то они сами будут виноваты, если их украдут. 17. Драться, когда под угрозой честь твоей группы, - это нормально.
18. Взять чей-то велосипед без разрешения - это просто «позаимствовать» его.
19. Оскорбить одноклассника/цу - это лучше, чем побить его/ее.

20. Если группа вместе принимает решение сделать что-то плохое, нечестно возлагать вину за это на любого из членов группы.
21. Нельзя винить детей за то, что они выражаются, если все их друзья делают это.
22. Дразнить кого-то - это на самом деле безобидно.
23. Отвратительный наглец не заслуживает, чтобы с ним обращались, как с человеком.
  
24. Дети, с которыми плохо обращаются, обычно сами выпрашивают.
25. Соврать, чтобы выгородить друзей, - это нормально.
26. Время от времени «словить кайф» - это не предосудительно.
27. По сравнению с незаконными вещами, которые делают другие люди, взять что-то в магазине не заплатив - не так уж и серьезно.
28. Нечестно винить ребенка, который сыграл совсем незначительную роль, в неприятностях, причиненных группой.
29. Нельзя винить детей в хулиганстве, если их друзья заставили их сделать это.
30. Оскорбления среди детей никому не причиняют вреда.
31. С некоторыми людьми приходится обращаться грубо, потому что у них нет чувств, которые можно задеть.
32. Дети не виноваты, что плохо ведут себя, если их родители слишком сильно на них давят.

## Appendix 2.D: Translation of the Buss and Perry (1992) aggression questionnaire

1. Некоторые мои друзья считают, что я вспыльчив А
2. Если для защиты моих прав мне надо применить физическую силу, я так и сделаю. РА
3. Если человек слишком мил со мной, значит, он от меня что-то хочет. Н
4. Я открыто говорю своим друзьям, когда я не согласен с ними. ВА
5. Иногда я настолько выходил из себя, что ломал вещи. РА
6. Я не могу удержаться от спора, когда люди не согласны со мной. ВА
7. Я не понимаю, почему иной раз мне бывает так горько. Н
8. Иногда я не могу сдержать желание ударить другого человека. РА
9. У меня спокойный характер. А
10. Я не доверяю слишком доброжелательным незнакомцам. Н
11. Бывало, что я угрожал своим знакомым. РА
12. Я быстро вспыхиваю, но и быстро остываю. А
13. Если меня спровоцировать, я могу ударить другого человека. РА
14. Когда люди раздражают меня, я могу сказать им все, что я о них думаю. ВА
15. Бывает, что я просто схожу с ума от ревности. Н
16. Я не могу представить себе причину, достаточную, чтобы ударить другого человека. РА
17. Временами мне кажется, что жизнь мне что-то недодала. Н
18. Мне трудно контролировать себя.
19. Когда я расстроен, мне трудно сдерживать раздражение.
20. Иногда мне кажется, что люди насмеются надо мной за глаза
21. Я часто ссорюсь с людьми.
22. Если кто-то ударит меня, я дам сдачи.
23. Иногда я чувствую, что вот-вот взорвусь.

24. Другим постоянно везет.
25. Некоторые люди своим обращением ко мне доводили меня до драки. РА
26. Я знаю, что мои так называемые друзья сплетничают обо мне. Н
27. Мои друзья говорят, что я люблю поспорить. ВА
28. Иногда я выхожу из себя без особой причины. А
29. Я дерусь немного чаще, чем окружающие. РА

## Appendix 2.E: Translation of the Prejudice measure

Аспект угрозы и неприятия: Явная шкала:

1. Представители других национальностей занимают те рабочие места, которые должны занимать британцы. (от полностью согласен до полностью не согласен)
2. Большинство проживающих здесь представителей других национальностей, получающих благотворительную помощь, могли бы обойтись и без нее, если бы попытались. (от полностью согласен до полностью не согласен)
3. Британцы и представители других национальностей никогда не чувствуют себя полностью комфортно друг с другом, даже если они близкие друзья. (от полностью согласен до полностью не согласен)
4. Большинство политиков в Британии слишком много внимания уделяют представителям других национальностей и недостаточно - среднему британцу. (от полностью согласен до полностью не согласен)
5. Представители других национальностей происходят из менее способных рас, и это объясняет, почему они не так успешны, как большинство британцев. (от полностью согласен до полностью не согласен)
6. Насколько, по Вашему мнению, отличаются или похожи проживающие здесь представители других национальностей и другие британцы, такие как Вы, в своей честности? (очень отличаются, немного отличаются, немного похожи или сильно похожи)

Аспект интимных отношений: Явная шкала:

1. Предположим, что у Вашего ребенка появились дети от человека, имеющего другой цвет кожи и другие физические характеристики, чем у Вас.

По Вашему мнению, Вы будете сильно обеспокоены, обеспокоены, немного обеспокоены или вообще не обеспокоены, что Ваши внуки физически не похожи на родню по Вашей линии?

2. Я бы хотел иметь сексуальные отношения с представителем другой национальности. (от полностью согласен до полностью не согласен)

3. Я бы не возражал, если бы представителя другой национальности, имеющего соответствующую квалификацию, назначили моим начальником. (от полностью согласен до полностью не согласен)

4. Я бы не возражал, если бы представитель другой национальности с таким же материальным положением, как у меня, стал супругом моего ближайшего родственника. (от полностью согласен до полностью не согласен)

Аспект традиционных ценностей: Скрытая шкала:

1. Проживающие здесь представители других национальностей не должны лезть туда, где они не нужны. (от полностью согласен до полностью не согласен)

2. Многие другие группы приехали в Британию, преодолели предубеждение и пробились наверх. Представители других национальностей должны делать то же без особых льгот. (от полностью согласен до полностью не согласен)

3. Дело просто в том, что некоторые люди недостаточно сильно стараются. Если бы представители других национальностей больше старались, они могли бы быть так же успешны, как и британцы. (от полностью согласен до полностью не согласен)

4. Проживающие здесь представители других национальностей учат своих детей ценностям и навыкам, которые не помогут добиться успеха в Британии. (от полностью согласен до полностью не согласен)

Аспект культурных отличий: Скрытая шкала:

Насколько, по Вашему мнению, отличаются или похожи проживающие здесь представители других национальностей и другие британцы, такие как Вы... (очень отличаются, немного отличаются, немного похожи или сильно похожи)

1. В аспекте ценностей, которым они учат своих детей?
2. В аспекте нерелигиозных убеждений и обычаев?
3. В аспекте сексуальных ценностей или сексуальных обычаев?
4. В аспекте языка, на котором они говорят?

Аспект положительных эмоций: Скрытая шкала:

... Вы когда-нибудь чувствовали следующее в отношении проживающих здесь представителей других национальностей и членов их семей...  
(очень часто, достаточно часто, нечасто или никогда)

1. Как часто Вы испытывали сочувствие к проживающим здесь представителям других национальностей?
2. Как часто Вы испытывали восхищение проживающими здесь представителями других национальностей?



## Appendix 3.A: Unstandardised CFA coefficients for Study 1

Table 5 Unstandardised Coefficients for CFA for British sample (N=1255)

Variables	N	Estimates
<b>Machiavellianism</b>	Conscientiousness	0.122
<b>Machiavellianism</b>	Negative_Emotions	0.185
<b>Machiavellianism</b>	Extraversion	-0.223
<b>Machiavellianism</b>	Agreeableness	-0.085
<b>Narcissism</b>	Conscientiousness	0.161
<b>Narcissism</b>	Negative_Emotions	-0.237
<b>Narcissism</b>	Open_Mindedness	0.270
<b>Narcissism</b>	Extraversion	0.710
<b>Narcissism</b>	Agreeableness	0.112
<b>Psychopathy</b>	Conscientiousness	-0.474
<b>Psychopathy</b>	Open_Mindedness	0.215
<b>Psychopathy</b>	Extraversion	-0.116
<b>Psychopathy</b>	Agreeableness	-0.237
<b>Psychopathy</b>	Negative_Emotions	-0.628

Table 6 Unstandardised Coefficients for CFA for Russian sample (N=1996)

Variables	N	Estimates
<b>Machiavellianism</b>	Conscientiousness	0.087
<b>Machiavellianism</b>	Negative_Emotions	0.165
<b>Machiavellianism</b>	Extraversion	-0.115
<b>Machiavellianism</b>	Agreeableness	-0.197
<b>Narcissism</b>	Conscientiousness	0.225
<b>Narcissism</b>	Negative_Emotions	-0.162
<b>Narcissism</b>	Open_Mindedness	0.272
<b>Narcissism</b>	Extraversion	0.559
<b>Narcissism</b>	Agreeableness	0.142
<b>Psychopathy</b>	Conscientiousness	-0.331
<b>Psychopathy</b>	Open_Mindedness	-0.141
<b>Psychopathy</b>	Extraversion	-0.084
<b>Psychopathy</b>	Agreeableness	-0.409

Table 11 Unstandardised Coefficients for SEM with mediation for British sample N=966

	Full mediation model with Social Dominance Orientation	Direct model
<b>Structural paths</b>		
Psychopathy to Prejudice	0.14	0.09
Machiavellianism to Prejudice	0.08	0.17
Narcissism to Prejudice	0.14	0.07
Conscientiousness to Prejudice	-0.03	..
Negative_Emotions to Prejudice	0.07	..
Open_Mindedness to Prejudice	0.21	0.12
Extraversion to Prejudice	0.09	0.16
Agreeableness to Prejudice	..	..
<b>Model fit statistics</b>		
$\chi^2$	4.48	
d.f.	4	
CFI	1	
RMSEA	0.011	
TLI	0.99	
<i>p</i>	< .05	

$p < .05$

Appendix 4.B: Unstandardised SEM with mediation coefficients for Russian sample  
Study 2

Table 12 Unstandardised Coefficients for SEM with mediation for Russian sample N=2000

	Full mediation model with Social Dominance Orientation	Direct model
<b>Structural paths</b>		
Psychopathy to Prejudice	..	-0.14
Machiavellianism to Prejudice	0.15	-0.12
Narcissism to Prejudice	..	..
Conscientiousness to Prejudice	0.17	0.06
Negative_Emotions to Prejudice	0.05	..
Open_Mindedness to Prejudice	-0.04	0.04
Extraversion to Prejudice	-0.08	..
Agreeableness to Prejudice	0.14	..
<b>Model fit statistics</b>		
$\chi^2$	5.64	
d.f.	6	
CFI	1	
RMSEA	0.00	
TLI	1	
<i>p</i>	$p < .05$	

$p < .05$

## 4.C: Model comparison for British and Russian samples Study 2

Table 19 Model comparison for British and Russian samples study II

	<i>df</i>	$\chi^2$	CFI	TLI	RMSEA	p	AIC	BIC
Russian	6	5.64	1	1	0.00	< .05	123.644	124.297
British	4	4.48	1	0.99	0.01	< .05	126.482	127.888

\*p<.05; \*\*p<.001; *df* = degrees of freedom;  $\chi^2$  = chi-square; CFI = Comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation; AIC = Akaike's information criterion; BIC = Bayesian Information Criteria

Table 17 Unstandardised Coefficients for SEM with mediation for British sample N=966

	Full mediation model with Moral disengagement	Direct model
<b>Structural paths</b>		
Psychopathy to Aggression	0.48	0.12
Machiavellianism to Aggression	-0.04	0.10
Narcissism to Aggression	0.16	..
Conscientiousness to Aggression	-0.08	0.07
Negative_Emotions to Aggression	0.20	..
Open_Mindedness to Aggression	..	0.05
Extraversion to Aggression	0.20	-0.10
Agreeableness to Aggression	-0.22	0.27
<b>Model fit statistics</b>		
$\chi^2$	2.59	
d.f.	3	
CFI	1	
RMSEA	0.00	
TLI	1	
$p$	$p < .05$	

$p < .05$

Appendix 5.B: Unstandardised SEM with mediation coefficients for Russian sample  
Study 3

Table 18 Unstandardised Coefficients for SEM with mediation for Russian sample N=2000

	Full mediation model with Moral disengagement	Direct model
<b>Structural paths</b>		
Psychopathy to Aggression	0.35	0.07
Machiavellianism to Aggression	0.10	0.09
Narcissism to Aggression	..	0.07
Conscientiousness to Aggression	..	0.10
Negative_Emotions to Aggression	0.05	0.08
Open_Mindedness to Aggression	0.05	..
Extraversion to Aggression	0.06	-0.14
Agreeableness to Aggression	..	0.14
<b>Model fit statistics</b>		
$\chi^2$	1.80	
d.f.	4	
CFI	1	
RMSEA	0.00	
TLI	1	
$p$	$p < .05$	

$p < .05$

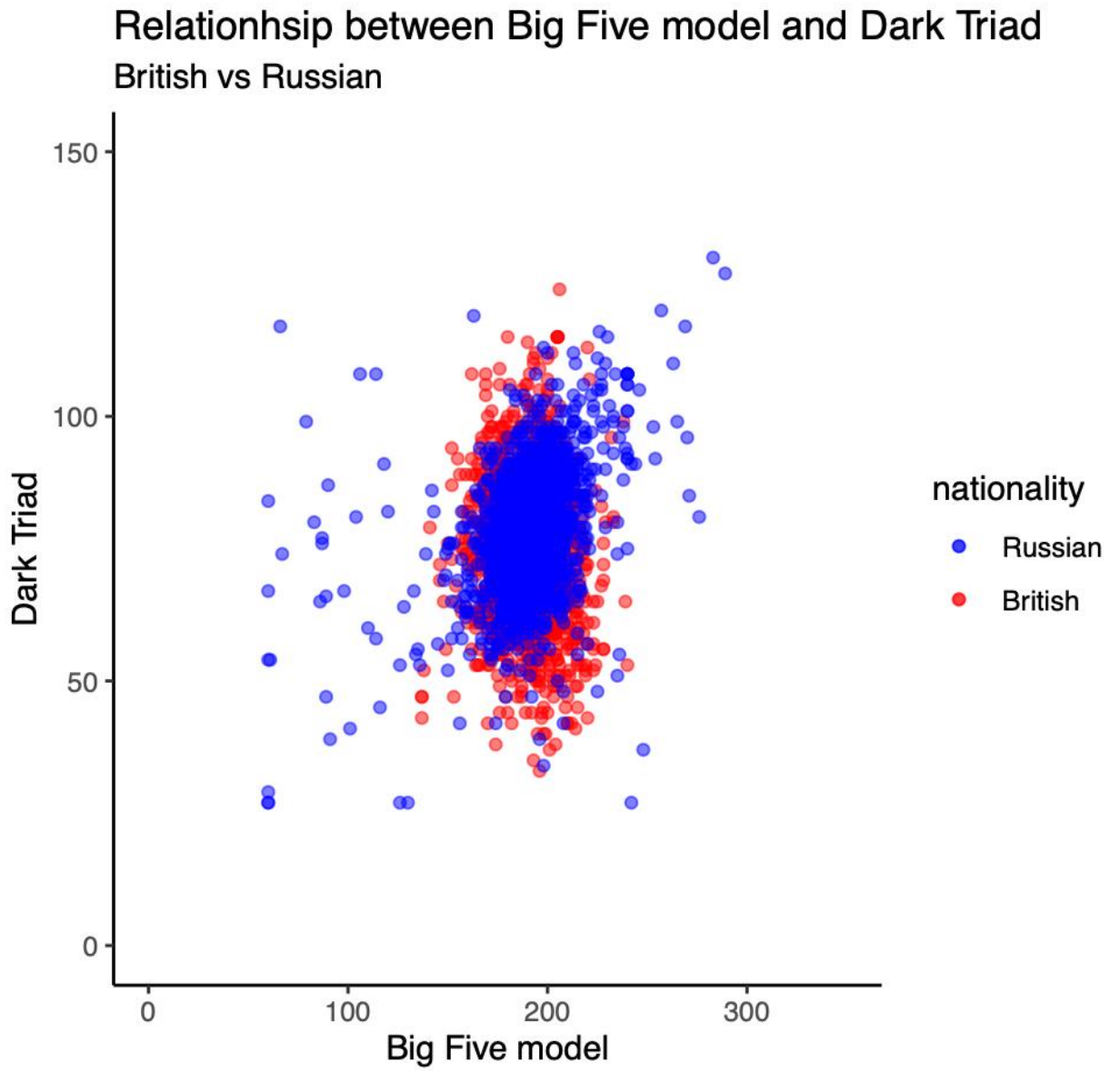
## 5.C: Model comparison for British and Russian samples Study 3

Table 20 Model comparison for British and Russian samples study III

	<i>df</i>	$\chi^2$	CFI	TLI	RMSEA	p	AIC	BIC
Russian	4	1.80	1	1	0.00	< .05	123.802	124.177
British	3	2.59	1	1	0.00	< .05	126.599	128.029

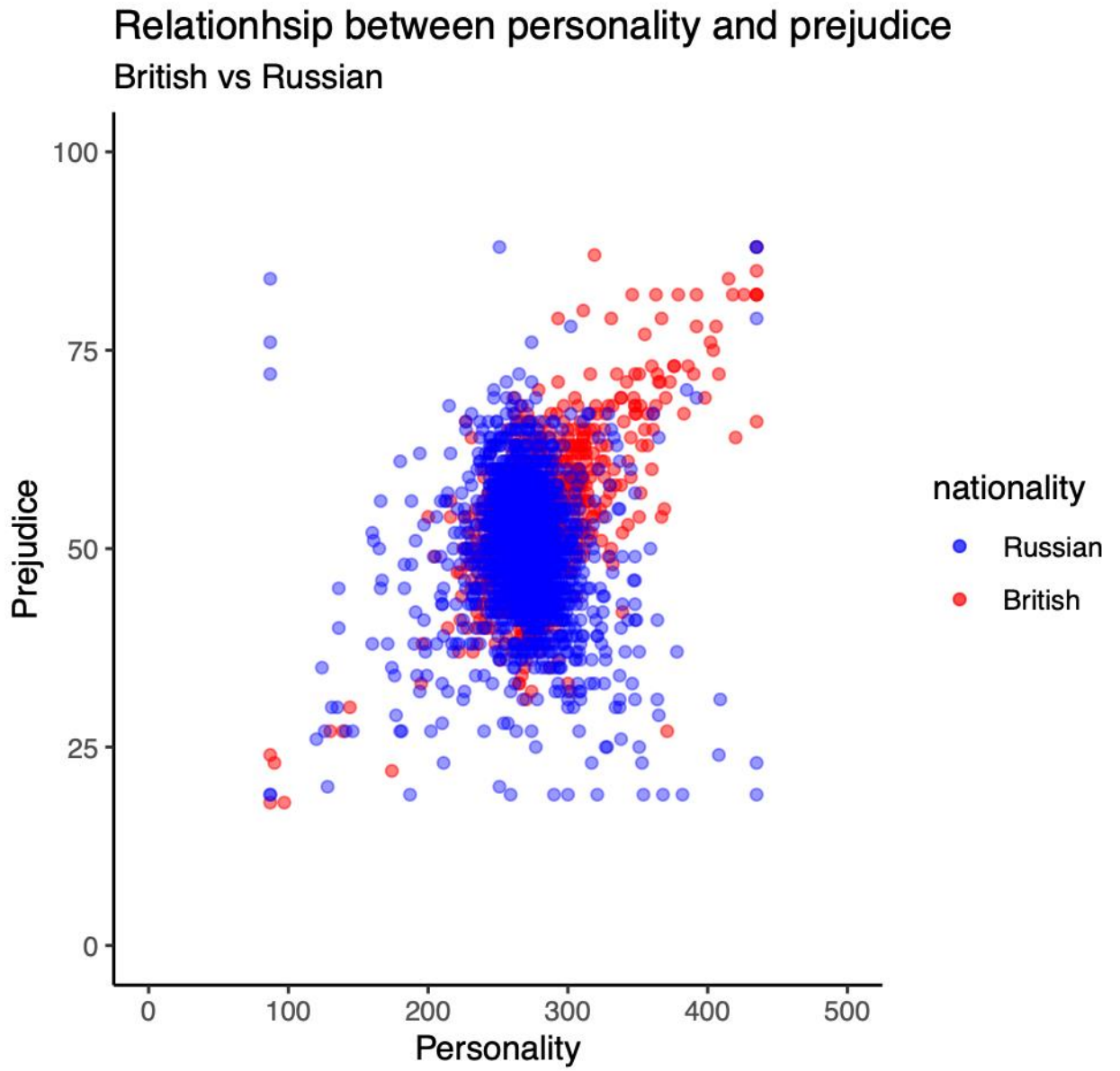
\*p<.05; \*\*p<.001; *df* = degrees of freedom;  $\chi^2$  = chi-square; CFI = Comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation; AIC = Akaike's information criterion; BIC = Bayesian Information Criteria

Appendix 6: Scatter plot of the relationship between Dark Triad traits and Big Five model for British and Russian

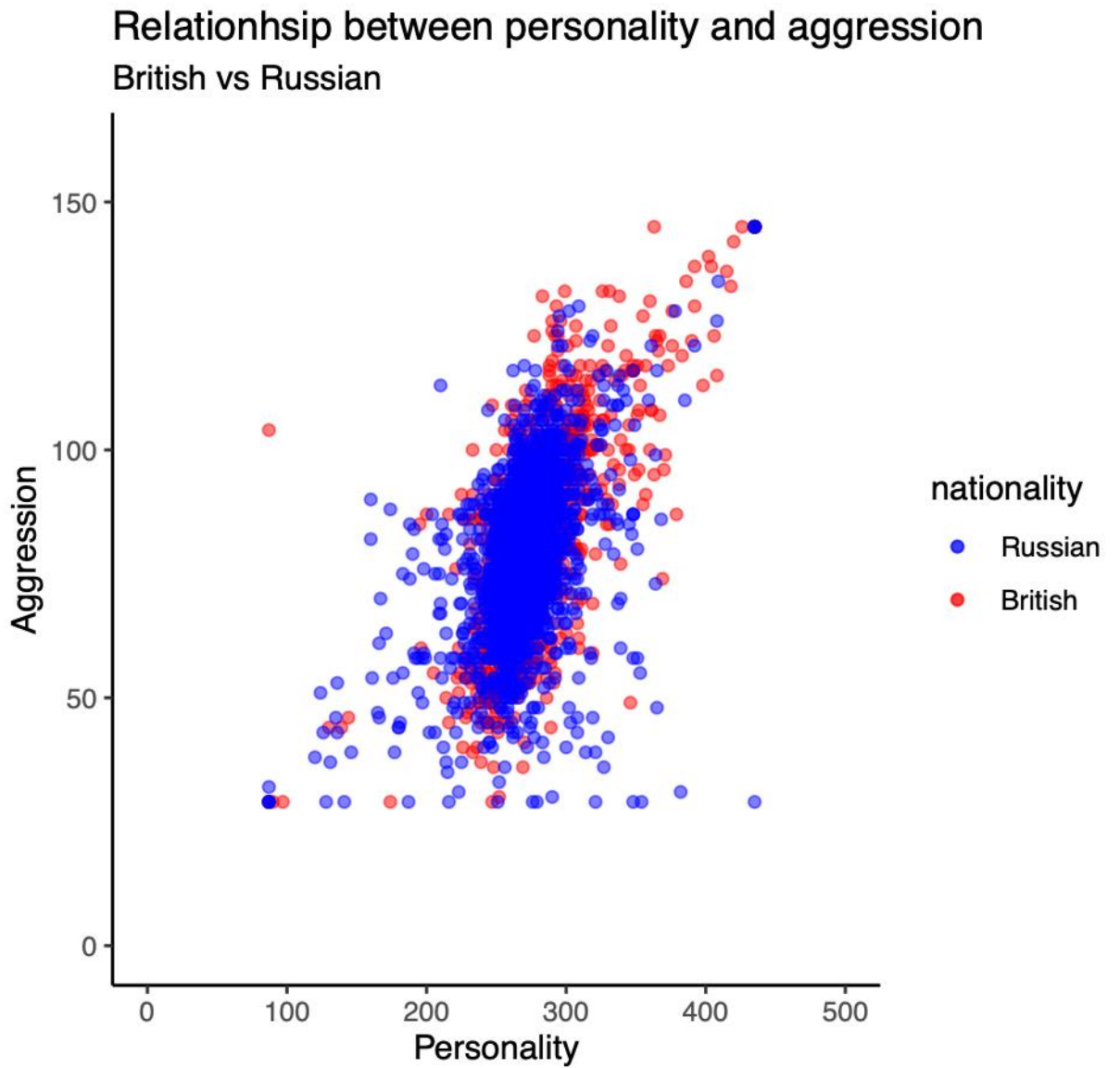




Appendix 7: Scatter plot of the relationship between personality and prejudice for British and Russian



Appendix 8: Scatter plot of the relationship between personality and aggression for British and Russian



## Appendix 9: Ethical approval

13/11/2018



**Project Title:** A cross-cultural study of the dark triad and five-factor personality model

**EthOS Reference Number:** 1211

### Ethical Opinion

Dear Elena Artamonova,

The above application was reviewed by the Health, Psychology and Social Care Research Ethics and Governance Committee and, on the 13/11/2018, was given a favourable ethical opinion. The approval is in place until 02/05/2022 .

### Conditions of favourable ethical opinion

#### Application Documents

Document Type	File Name	Date	Version
Project Proposal	Proposal RD1 main version	22/08/2018	1
Consent Form	online consent phase 1 (Elena)	05/09/2018	1
Consent Form	online consent phase 2 (Elena)	05/09/2018	1
Consent Form	Consent russian Translation phase 1	17/10/2018	1
Consent Form	Consent Russian translation consent phase 2	17/10/2018	1
Recruitment Media	Russian Translation advertising phase 1	30/10/2018	1
Recruitment Media	Russian translation advertising phase 2	30/10/2018	1
Recruitment Media	Advertising phase 1 (elena)	30/10/2018	1
Recruitment Media	Advertising phase 2 (elena)	30/10/2018	1
Information Sheet	Information sheet Phase 2 (elena) 2	30/10/2018	1
Information Sheet	Russian translation of PIS phase 2	30/10/2018	1
Information Sheet	Information sheet phase 1_ (elena) 2	03/11/2018	1
Information Sheet	Russian Transalation of PIS phase 1	03/11/2018	1

The Health, Psychology and Social Care Research Ethics and Governance Committee favourable ethical opinion is granted with the following conditions

#### Adherence to Manchester Metropolitan University's Policies and procedures

This ethical approval is conditional on adherence to Manchester Metropolitan University's Policies, Procedures, guidance and Standard Operating procedures. These can be found on the Manchester Metropolitan University Research Ethics and Governance webpages.

#### Amendments

If you wish to make a change to this approved application, you will be required to submit an amendment. Please visit the Manchester Metropolitan University Research Ethics and Governance webpages or contact your Faculty research officer for advice around how to do this.

We wish you every success with your project.

HPSC Research Ethics and Governance Committee

## Appendix 10: Consent form

**Online Implied Consent for Participants (V1, 3/07/2018)**

**This is a standard form that will be used in studies 1 to 3.**

Prior to commencing the survey, please confirm the following:

- You have read the brief contained within the Information Sheet for Participants.
- You are at least 18 years of age.
- The researchers have answered questions to your satisfaction.
- You agree to participate in this activity,
- You are aware that you may withdraw during completion or up to four-weeks after completing the survey providing you submit a unique identifier.
- You understand that no name or signature is required.
- You consent to your anonymised data appearing within the completed research project.
- Once the survey is complete, you may withdraw your data up to four-weeks after completing the survey providing you submit a unique identifier.
- You agree that research data gathered for the study may appear in published outputs.

By clicking to continue to the next page, you agree to participate in this study.

CONTINUE (1)

**Unique Identifier**

Please create a unique, six digit code that can be used to identify you with should you wish to withdraw your data.

The first two digits should consist of the day of your birthday (e.g. 24) followed by the last two digits of your postcode (e.g. AB), with the final two digits being the last two numbers of your home phone number (e.g. 12), so there is a full six digit code (e.g. 24AB12).

Without this code, it is impossible to remove data. If you would like to withdraw your data, you will need to email [elena.artamonova@stu.mmu.ac.uk](mailto:elena.artamonova@stu.mmu.ac.uk) with your unique code. The cut-off date for withdrawal of data is four weeks after survey completion.

## Appendix 11: Participant information sheet phase one

### **Participant Information Sheet: Phase 1**

#### **Study Title**

**A cross-cultural comparative study of the dark triad and five-factor personality model in relation to aggression and prejudice.**

#### **Invitation paragraph**

I would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done and what it would involve for you. Please take time to read the following information carefully. Ask questions if anything you read is not clear or would like more information. Take time to decide whether or not to take part.

#### **What is the purpose of the study?**

This research project aims to provide a fuller understanding of the role of narcissism, psychopathy, machiavellinism and five-factor personality model in explaining prejudice and aggression. Phase one will include comparative analysis of dark triad and big five factor model in Russia and United Kingdom.

#### **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.

#### **What would happen to me if I take part in the study?**

The current research will consist of two phases. The first phase will examine interrelationships between dark triad traits and big five personality variables. Analysis will consider a cross-cultural comparison of UK and Russian samples.

#### **What are the possible disadvantages and risks of taking part?**

There are no risks involved in taking a part in this study.

#### **What are the possible benefits of taking part?**

We cannot promise the study will help you but the information we get from the study will help to increase understanding of malevolent behaviours.

#### **What if there is a problem?**

If you have a concern about any aspect of this study, you should ask to speak to the researchers who will do their best to answer your questions (Contact Elena Artamonova on [elena.artamonova@stu.mmu.ac.uk](mailto:elena.artamonova@stu.mmu.ac.uk)).

## Appendix 12: Participant information sheet phase two

### **Participant Information Sheet: Phase 2**

#### **Study Title**

A cross-cultural comparative study of the dark triad and five-factor personality model in relation to aggression and prejudice.

#### **Invitation paragraph**

I would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done and what it would involve for you. Please take time to read the following information carefully. Ask questions if anything you read is not clear or would like more information. Take time to decide whether or not to take part.

#### **What is the purpose of the study?**

This research project aims to provide a fuller understanding of the role of narcissism, psychopathy, machiavellinism and five-factor personality model in explaining prejudice and aggression. The second phase will use the results from the first phase to inform the baseline of a predictive model, which will be extended and tested in relation to outcomes of prejudice and aggression. Both phases will use cross-sectional designs, and correlation-based methods of analysis.

#### **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.

#### **What would happen to me if I take part in the study?**

The current research will consist of two phases. The first phase will examine interrelationships between dark triad traits and big five personality variables. Analysis will consider a cross-cultural comparison of UK and Russian samples.

#### **What are the possible disadvantages and risks of taking part?**

There are no risks involved in taking a part in this study.

#### **What are the possible benefits of taking part?**

We cannot promise the study will help you but the information we get from the study will help to increase understanding of malevolent behaviours.

#### **What if there is a problem?**

If you have a concern about any aspect of this study, you should ask to speak to the researchers who will do their best to answer your questions (Contact Elena Artamonova on [elena.artamonova@stu.mmu.ac.uk](mailto:elena.artamonova@stu.mmu.ac.uk)).