

# Perceptions of Fear of Personal Victimisation: A General Population Study

B L HALL

PhD 2021

# Perceptions of Fear of Personal Victimisation: A General Population Study

BENJAMIN LEE HALL

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

Department of Psychology  
The Manchester Metropolitan University

2021



## Table of Contents

Table of Contents .....	2
List of Figures .....	9
List of Tables.....	11
List of Abbreviations .....	13
Statement of Original Authorship .....	14
Acknowledgements.....	15
Abstract .....	17
<b>Chapter 1: Overview.....</b>	<b>19</b>
1.1 Background.....	19
1.2 Definitions .....	21
1.2.1 Classifications of “Fear of crime” .....	22
1.2.2 “Fear of victimisation” and “fear of fear” .....	23
1.2.3 Criticism of definitions .....	24
1.3 Context.....	24
1.4 Rationale .....	25
1.5 Thesis outline.....	26
<b>Chapter 2: General introduction .....</b>	<b>28</b>
2.1 Historical background.....	28
2.2 Rationale of addressing the lacunae.....	30
2.3 Introduction to measures within the literature .....	32
2.4 The Multiplicative and Sensitivity models .....	33
2.5 Past victimisation and fearfulness.....	34
2.6 Life satisfaction and fear of victimisation .....	35

2.7	Vulnerability measures .....	38
2.8	The dimensions of personality and their link to fear of personal victimisation.....	42
2.9	Emotions and fear of crime .....	43
2.10	Fear of crime and perception of the police .....	46
2.11	Social and community perceptions .....	48
2.12	Limitations, summary and implications .....	50
2.13	Rationale of phases .....	51
2.14	General methodology .....	51
<b>Chapter 3: Key predictors of fear of personal victimisation .....</b>		<b>55</b>
3.1	Crime and its social implications .....	55
3.2	Fear of personal victimisation.....	56
3.3	Gender .....	56
3.4	Age .....	57
3.5	Living situation .....	58
3.6	“Self-defined ethnicity” .....	60
3.7	Sexual orientation .....	61
3.8	Income .....	62
3.9	Familiarity of surroundings .....	62
3.10	Mental health .....	63
3.11	Victimisation experience.....	63
3.12	Police perception .....	64
3.13	Other developments .....	65
3.14	Summary of key predictors.....	66
<b>Chapter 4: Exploring the nature of fear of personal victimisation .....</b>		<b>67</b>

4.1	Phase one – Exploring the nature of fear of personal victimisation using principal component analysis (PCA) .....	67
4.1.1	Introduction and background to phase one.....	67
4.2	Methodology and research design.....	68
4.2.1	Methodology.....	68
4.2.2	Research design .....	68
4.2.3	Participants.....	69
4.2.4	Measures.....	69
4.2.5	Perceptions of Police Scale .....	69
4.2.6	Social and Community Perceptions Scale .....	70
4.2.7	Fear of Crime Scale .....	71
4.2.8	Frequency and Intensity of Fearfulness Scale.....	72
4.2.9	Procedure.....	73
4.2.10	Ethics and limitations .....	74
4.2.11	Data analysis.....	75
4.3	Results .....	77
4.3.1	Aims of phase one analysis.....	77
4.3.2	Descriptive statistics .....	78
4.3.3	Summary of dummy coding.....	79
4.3.4	Aim one .....	80
4.3.5	Factorability and reliability .....	80
4.3.1	Aim two.....	82
4.3.2	ANOVA of individual differences .....	83
4.3.3	Regression analysis.....	85
4.3.4	Fear of Crime total .....	88
4.3.5	Violence subscale.....	89
4.3.6	Damage to Personal Property subscale.....	89
4.3.7	Fraud subscale.....	90
4.4	Phase one discussion.....	91
4.4.1	Relationship between fear of victimisation and gender .....	91
4.4.2	Relationship between fear of victimisation and age.....	92
4.4.3	Relationship between fear of victimisation and self-defined ethnicity .....	93

4.4.4	Relationship between fear of victimisation and sexual orientation.....	94
4.4.5	Relationship between fear of victimisation and living situation....	94
4.4.6	Relationship between fear of victimisation and POPS .....	95
4.4.7	Results of regression analysis.....	95
4.5	Future research and limitations.....	97
4.6	Conclusion .....	101

**Chapter 5: Phase two - Developing a new fear of personal victimisation measure.....103**

5.1	General overview of phase two.....	103
5.1.1	Introduction and background to phase two .....	103
5.1.2	Item generation .....	104
5.1.3	Convergent and divergent validity measures.....	104
5.1.4	Life satisfaction scale.....	105
5.2	Methodology and Research Design.....	106
5.2.1	Participants.....	106
5.2.2	Measures.....	107
5.2.3	Victimisation, fear of crime and life satisfaction .....	107
5.2.4	The Big Five Inventory-2 Extra-Short Form (BFI-2-xs).....	109
5.2.5	Social and Community Perceptions Scale .....	111
5.2.6	Fear of Crime Scale .....	112
5.2.7	Intensity and Frequency of Fearfulness scale .....	113
5.2.8	Procedure.....	113
5.2.9	Ethics and limitations .....	114
5.2.10	Data analysis .....	115
5.3	Results .....	117
5.3.1	Aims of phase two analysis .....	117
5.3.2	Descriptive statistics .....	117
5.3.3	Aim one .....	120
5.3.4	Factorability and reliability .....	120
5.3.5	Convergent and divergent validity .....	122
5.3.6	Aim two.....	125

5.3.7	Regression analysis.....	126
5.3.8	Fear of Crime total .....	129
5.3.9	Violence subscale .....	130
5.3.10	Damage to Personal Property subscale.....	131
5.3.11	Fraud subscale.....	131
5.4	Phase two discussion.....	133
5.4.1	PCA analysis.....	133
5.4.2	Results of convergent and divergent validity .....	134
5.4.3	Results of regression analysis.....	134
5.5	Future research and limitations.....	136
5.6	Conclusion .....	138
<b>Chapter 6: Phase three - Refining and validating the fear of personal victimisation measure.....</b>		<b>140</b>
6.1	Phase three: Refining and validating the fear of personal victimisation measure (general overview).....	140
6.1.1	Introduction and background to phase three .....	140
6.1.2	Item Generation .....	141
6.2	Methodology and Research Design.....	142
6.2.1	Participants.....	142
6.2.2	Measures.....	143
6.2.3	Victimisation measures, fear of crime and life satisfaction .....	143
6.2.4	Social and Community Perceptions Scale .....	145
6.2.5	Fear of Personal Victimization Scale.....	145
6.2.6	Fear of Crime Scale .....	146
6.2.7	Intensity and Frequency of Fearfulness Scale.....	146
6.2.8	Procedure.....	147
6.2.9	Ethical considerations .....	147
6.2.10	Data analysis and item removal.....	148
6.3	Results .....	151
6.3.1	Aims of phase three analysis.....	151
6.3.2	Descriptive statistics .....	152

6.3.3	Aim one .....	154
6.3.4	PCA and reliability analysis .....	154
6.3.5	CFA .....	156
6.3.6	Reliability following CFA .....	160
6.3.7	Convergent validity .....	160
6.3.8	Aim two.....	162
6.3.9	Regression analysis.....	163
6.3.10	Fear of crime total .....	165
6.3.11	Violence subscale .....	166
6.3.12	Damage to Personal Property subscale.....	167
6.3.13	Fraud Subscale .....	168
6.3.14	Regression summary .....	168
6.4	Phase three discussion .....	170
6.4.1	Factorability analysis.....	170
6.4.2	Results of regression analysis.....	171
6.5	Future research and limitations.....	172
6.6	Conclusion .....	174
<b>Chapter 7: General Discussion.....</b>		<b>175</b>
7.1	Methodological interest.....	175
7.1.1	Overview .....	175
7.1.2	Item reversal and removal .....	176
7.1.3	Item generation .....	178
7.1.4	Scale development .....	179
7.1.5	Redevelopment of refined measure .....	180
7.1.6	Method of collection .....	181
7.1.7	Methodology of thesis.....	182
7.1.8	Limitations .....	183
7.2	Future research .....	185
7.2.1	Improvements to the Fear of Personal Victimization Scale.....	185
7.2.2	Risk perception and affect .....	189
7.2.3	Temporal bias .....	190
7.2.4	Social constructionism and cultural bias .....	191

7.2.5	Mental toughness.....	192
7.2.6	Mapping “fear of crime”.....	194
7.3	Scale effectiveness and applications .....	195
<b>Chapter 8:</b>	<b>General Conclusions .....</b>	<b>198</b>
8.1	Concluding comments .....	198
8.2	Significance and scope.....	201
<b>Chapter 9:</b>	<b>References .....</b>	<b>202</b>
<b>Chapter 10:</b>	<b>Appendices .....</b>	<b>232</b>
10.1	Phase one questionnaire booklet.....	232
10.2	Phase two questionnaire booklet .....	247
10.3	Phase three questionnaire booklet .....	277
10.4	National Crime Survey of England and Wales - Violent offences.....	305
10.5	National Crime Survey of England and Wales - Sexual assault.....	306
10.6	National Crime Survey of England and Wales - Damage to personal property .....	307
10.7	National Crime Survey of England and Wales - Fraud.....	308
10.8	Peripheral analyses – Phase One.....	309
	Frequency and intensity of fearfulness scale.....	309
	Perceptions of police scale .....	310
10.9	Items generated for phase two.....	311
10.10	Exploratory PCA for the phase two items .....	313
10.11	Items generated for phase three .....	316
10.12	Original items from phase three placed into CFA .....	318
10.13	Items removed based on modification indices .....	319
10.14	PCA to confirm factor structure before CFA .....	320
10.15	Diagram of CFA model for Fear of Personal Victimization Scale.....	322

10.16	Subscale definitions from (Mesko, Areh, & Kury, 2004) .....	323
10.17	Original van der Wurff et al. (1989) Social and Community Perceptions Scale .....	324
10.18	Frequency and intensity of fear of crime question from (Farrall & Gadd, 2004) .....	325
10.19	Perceptions of Police Scale from (Nadal & Davidoff, 2015) .....	326
10.20	BFI-2-xs from (Soto & John, 2017) .....	327
10.21	Phase three - PCA of Fear of Crime Scale items .....	328

Word Count: 56,469

## List of Figures

### **Phase one**

Figure 1

Diagram of general methodology applied by thesis.

### **Phase one**

Figure 1

Diagram of regression analysis.

### **Phase two**

Figure 1

Diagram of process of item generation and removal utilising PCA.

Figure 2

Diagram of regression analysis.

### **Phase three**

Figure 1

Diagram of process of item generation and removal utilising PCA and CFA.

Figure 2

Diagram of regression analysis.

Figure 3

Diagram of CFA structure of Fear of Personal Victimisation Scale.

## List of Tables

### Phase one

Table 1 - Phase one demographics.

Table 2 - PCA for Fear of Crime Scale.

Table 3 - Summary of ANOVA for predictors of fear of personal victimisation.

Table 4 - Summary of hierarchical regression for predictability of Fear of Crime Scale and subscales.

Table 5 - Beta scores for hierarchical regression for predictability of Fear of Crime Scale and subscales.

Table 6 - % of variance predicted at each stage of regression according to  $R^2$  score.

Table 7 - Pearson's correlations investigating relationship between POPS and fear of personal victimisation (appended records).

### Phase two

Table 1 - Phase two demographics.

Table 2 - Correlation analysis of Fear of Crime subscales.

Table 3 - Correlation analysis of the revised Social and Community Perceptions Scale.

Table 4 - Correlation analysis of the van der Wurff et al. (1989) scale.

Table 5 - Summary of hierarchical regression for predictability of Fear of Crime Scale and subscales.

Table 6 - Beta scores for hierarchical regression for predictability of Fear of Crime Scale and subscales.

Table 7 - % of variance predicted at each stage of regression according to  $R^2$  score.

### **Phase three**

Table 1 - Phase three demographics.

Table 2 - Summary of regression values following Confirmatory Factor Analysis.

Table 3- Key of item labels for regression value table.

Table 4 - Correlation analysis of the van der Wurff et al. (1989) scale.

Table 5 - Summary of hierarchical regression for predictability of Fear of Crime Scale and subscales.

Table 6 - Beta scores for hierarchical regression for predictability of Fear of Crime Scale and subscales.

Table 7 - % of variance predicted at each stage of regression according to  $R^2$  score.

Table 8 - Showing a summary of % of variance predicted at each stage of regression according to  $R^2$  score at each phase of the thesis overall.

## List of Abbreviations

% - Percentage

ANOVA - Analysis of Variance

BFI - Big Five Inventory

BFI-2-xs - Big Five Inventory 2 Extra Short-Hand Version

CFA - Confirmatory Factor Analysis

CFI - Comparative Fit Index

EPQ-R - Eysenck Personality Questionnaire

*F* - F-Ratio, Used in ANOVA

*M* - Mean

MTQ- Mental Toughness Questionnaire

*p* - probability

PCA - Principal Component Analysis

POPS - Perceptions of Police Scale

*r* - Pearson's correlation

RMSEA - Root Mean Square of Approximation

*SD* - Standard Deviation

SPSS - Statistical Package for Social Sciences

SRMR - Standardised Root Mean Square Residual

*t* - t-test value

$\alpha$  - alpha, the probability of making a Type 1 error in hypothesis testing

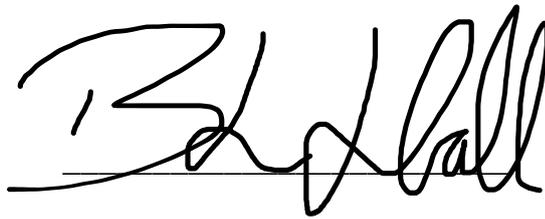
$\beta$  - beta, the probability of making a Type 2 error in hypothesis testing

$\chi^2$  - Chi square test value

## Statement of Original Authorship

The work contained in this thesis has not been previously submitted to meet requirements for an award at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

Signature: \_\_\_\_\_

A handwritten signature in black ink, appearing to read 'B. J. Hall', written over a horizontal line.

Date: 17<sup>th</sup> May 2021

## Acknowledgements

I would like to take this opportunity to acknowledge all who supported me during the writing of this thesis.

I could not have made it to this stage without Dr Neil Dagnall, who sat with me for countless hours even before this degree began helping me to refine my research area and plan out an appropriate plan of action.

Dr Kenneth Drinkwater and Dr Andrew Denovan, who I worked with for the first time on this project and who provided so much insight to the world of academia and how to conduct myself as a researcher. Their insight on research and statistics have been invaluable and I cannot put into words how much they have helped me. These three are truly the best supervisory team anyone could have asked for and I thank them truly for all their hard work.

I would like to extend a special thanks to Professor Francis Fatoye, Professor Iain Brennan and Dr Andrew Parker for their help following my Viva meeting. They turned what could have been a stressful experience into something I truly enjoyed and really helped the flow of this thesis.

I would also like to thank my family, my mother, Jen, without whom I would have never had anything. She is the reason I am where I am today. My father, Bob, who helped to support me throughout my studies. Lauren, who was always there to listen to all of my ideas, offer a friendly ear whenever needed and be a constant source of laughter. To these three I say thank you for how they supported me in every way imaginable. They all know how much they mean to me, but I wanted to be sure to thank them.



## Abstract

Fear of personal victimisation is a measurement of the self-perceived risk of a person that they will be the victim of law breaking in their daily life. Although there have been many attempts to measure this risk, there are several lacunae within the research field that stem from measurement invariance, temporal inconsistencies and a lack of generalisability (Pleysier, Pauwels, VerVaeke, & Goethals, 2005).

This thesis outlines the main lacunae associated with assessment of fear of victimisation and describes a set of innovative studies designed to produce a coherent measurement framework (Mesko, Areh, & Kury, 2004). Specifically, the analysis features an investigation of relationships between key factors of fearfulness. These include; demographics (e.g., gender, age), general perceptions of the local/social environment in the context of crime (e.g., distrusting strangers, fear for self/possessions), how often individuals think about the possibility of becoming a victim of crime, and concern about specific crime types (e.g., mugging) (Mesko et al., 2004).

The findings of this paper outline the issues with the “Social and Community Perceptions Scale” and attempt to make improvement to the construct breadth, internal consistency and predictability of fear of personal victimisation (Mesko et al., 2004; van der Wurff, van Staalduinen, & Stringer, 1989). This was accomplished by improving the psychometric properties in an iterative process of item creation and removal following Principal Component Analysis (PCA) and Confirmatory Factor Analysis (CFA) to determine the best model fit. The predictability of the scale utilised multiple hierarchical regression to assess the variance of a scale of crimes selected from the Crime Survey of England and Wales (United Kingdom Office for National Statistics, 2016).

By the end of phase three, following removal of items sharing excessive variance, analysis confirmed a 4-factor solution. The emergent Fear of Personal Victimisation Scale demonstrated good internal reliability and validity (face and convergent). The measure also displayed the capability to account for more predictability of variance for fear of personal victimisation scores than the original 8-item measure. (Words 326)

**Keywords:** Fear, Personal Victimization, Hierarchical Regression, Reliability, Factor Analysis, Fear of crime, Lacunae

### 1.1 Background

Across several related academic disciplines (i.e., criminology and forensic psychology) the concepts fear of crime and fear of victimisation are established, well-researched topics (Hale, 1996; Markowitz, Bellair, Liska, & Liu, 2001; Singer, Chouhy, Lehmann, Walzak, Gertz, & Biglin, 2019). Although, multiple studies use measurement instruments such as the items devised by Barberet, Fisher and Taylor (2004), generally, researchers have employed a variety of scales. Thus, despite sustained research interest the field still lacks a widely accepted standardised measure of fear of crime (Pleysier, Pauwels, VerVaeke, & Goethals, 2005). This lack of methodological consistency is problematic because it restricts the ability to conduct cross study comparisons (Birnbaum, 1981; Bilsky & Wetzels, 1997; Carifia & Perla, 2007; Pleysier et al., 2005).

Previous research has primarily employed self-report measures to investigate the causes of a fear of crime (Farrall & Gadd, 2004; van der Wurff, van Staalduinen, & Stringer, 1989). Many of these studies, lack rigorous psychometric evaluation (e.g., van der Wurff et al., 1989). This is problematic because the failure to establish validity or reliability undermines the credibility of measurement tools (Cronbach & Meehl, 1955; Kelley, 1927; Pleysier et al., 2005).

The absence of a standardised measure arises from a lack of conceptual clarity with regards to fear of crime (Hale, 1996). The main issue is that theorists acknowledge that a myriad of factors contribute to self-perceived risk of becoming the victim of a crime but fail to agree on the core elements (Dobbs, Waid, & Shelley, 2009; Russo & Ruccatto, 2010). Consequently, researchers have focused on diverse factors. This has resulted in generalised descriptive outcomes that fail to explain the psychological basis of fear of crime. Concomitantly, agreed remedies to address distorted perceptions remain largely unclear and obfuscated (Pleysier et al., 2005).

These “lacunae” originate from the largely outdated methodology utilised by researchers (Pleysier et al., 2005). The measurement invariance within the

field has been present for a number of years (Pleysier et al., 2005). According to Pleysier et al. (2005) the issue is only going to worsen without the emergence of a measure capable of measuring the complex phenomenon of fear of personal victimisation, whilst also addressing the lacunae that have plagued the research field.

Accordingly, this thesis explored the nature of fear of personal victimisation (including consideration of incidence, intensity, and causation) in order to develop a new scale, which addressed the inadequacies of previous measures (van der Wurff et al., 1989). In order to achieve this, a literature review was undertaken, which identified predominant extant measures. This process also informed the development of the demographic section based on predictors of fear of personal victimisation, established from previous research within the literature (Dobbs et al., 2009; Frey & Stutzer, 2002; Michalos & Zumbo, 2000).

This included the Social and Community Perceptions measure (van der Wurff et al., 1989), the Perceptions of Police Scale (Nadal & Davidoff, 2015), the Fear of Crime Scale created from crimes listed as commonly feared by the public in the National Crime Survey of England and Wales of 2016 (UK Office For National Statistics, 2016), and finally questions from a paper by Farrall et al. (2004), the full surveys generated for the purposes of this doctoral thesis are available in the appended records (pp. 232-304).

The measures for this research were chosen, as they are some of the most established measures within the field of fear of personal victimisation. The measures for both social factors and demographics are presented alongside the crimes feared most in the surveyed population. This allows exploration of the factors affecting fear of personal victimisation as well as construct development in relation to determining which factors (demographic or social) will be most influential.

Replication of these studies, as with any other is widely speaking a worthwhile endeavour (Lavrakas, 2008). Evolving and refining on any study allows for the models to be tested on a different population in which conditions could be different for participants, it is also an opportunity to determine to what level the findings of a study can be generalised (Mesko et al., 2004). For example, the Social and Community Perceptions Scale was used largely on a sample in Slovenia and the Netherlands so a similar result on a UK population would

indicate that the measures used are at least valid (Matell & Jacoby, 1971; Mesko et al., 2004). There were also issues with the scale's reliability, meaning expanding the measure was necessary to expand the construct breadth (Morgado, Meireles, & Neves, 2018). This also allows for disambiguation between previous research and the current thesis.

## **1.2 Definitions**

When looking into the area of "fearfulness" it is important to note that there are several classifications throughout the literature often leading to some confusion (Pleysier et al., 2005). Providing some sense of clarity in relation to the concept of "fear" has at times proven difficult with several aspects such as "worry" mentioned as potential contributors (Jackson & Gouseti, 2013). When relating to the specific concept of "fear of crime" Jackson et al. (2013) states that the immediate threat of "fear" can be related to the different set of emotions linked to an individual's self-perceived likelihood of victimisation. This has helped to clarify the difference between the concepts of immediate threat "fear" and "worry" (Jackson et al., 2013). Jackson et al. (2013) asserts that immediate threat "fear" is the physical response, which is most often associated with the repetitive thought about "future uncertain harm". From this suggested definition, the concept of "worry" can be distinguished; Jackson et al. (2013) suggest, "worry" as a low-level and more widespread emotion rather than a response to specific stimuli.

Mesch (2000) states there is a correlation between a higher perceived likelihood of victimisation and fear of crime. Though there are other factors suggested as potential contributors, this strongly suggests that an increased perceived risk of personal victimisation will in turn led to a greater fear of crime (Ferraro, 1995; Mesch, 2000). Rountree and Land (1996) do point out that different predictors can also explain dimensions. Ferraro and LaGrange (1987) report in their work that there is currently no clear definition of fear of crime.

As a result of this, three key concepts from the literature surrounding the topic of "fear of crime" have become clear often leading to confusion within the field.

### **1.2.1 Classifications of “Fear of crime”**

The first of the three is “fear of crime”, which has led to the most confusion due to the number of sub-definitions present. Winkel (1998) reports it is how fearful someone is of crime in general without any specific crime in mind or any kind of thought towards their own personal well-being in relation to crime or fearfulness in general. Researchers suggest that there are two possible distinctions for the concept of “fear of crime”. One implies “fear of crime” is an emotional component suggesting that “fear of crime” consists of affective, cognitive and behavioural elements (Ferraro et al., 1987; Warr, 2000). The other is a wider multi-dimensional view (Warr, 2000).

In research conducted so far, there has been a consistent attempt to make a distinction between affective and cognitive dimensions due to a difference in the nature that characterises each dimension (Jackson et al., 2013; Jackson, Bradford, Hohl, & Farrall, 2009; Mesch, 2000).

The affective aspect of fear of crime is the range of emotions associated with the possibility of victimisation (Warr, 2000). These are the general negative emotions associated with the potential of possible victimisation in an individual’s daily life (Warr, 2000). Warr (2000) postulates that there are two dimensions to this emotional response, the first is everyday moments of risk where an individual is likely to feel threatened, the second is general anxiety about risk.

Ferraro et al. (1987) offered a description of the cognitive dimension, stating it is an assessment of personal threat and the judgment made by an individual in relation to their likelihood of personal victimisation with no specific crime in mind. This could be an individual believing they will be the victim of crime due to their perceptions of self (Ferraro et al., 1987). Warr (2000) adds to this that the cognitive component is relating to an individual’s risk of victimisation as an estimate of how likely they perceive this victimisation to be. Warr (2000) simplifies this by stating the greater the cognitive component, the higher the self-perceived risk. Individuals who experience the cognitive component could theoretically experience it on behalf of a third party (i.e., one person can fear for the safety of a relative or loved one and deem them to be at risk of victimisation) (Warr, 2000).

The behavioural dimension is the preventative measures that individuals will take in order to reduce their self-perceived risk of victimisation (Mesch, 2000).

This can involve changing a routine or avoiding a certain area an individual deems to be riskier (Mesch, 2000; Warr, 2000).

Russo et al. (2010) report that a distinction is present between “abstract fear of crime” (the belief that crime will happen but not particularly to one’s self or to their belongings) and “concrete fear of crime” (a person’s belief that they or their possessions will become the victim of criminal activity). Abstract fear in relation to “fear of crime” is more of a fear of crime as a social issue (Furstenberg, 1971, 1972). Concrete fear of crime is the anxiety based around one’s own safety or personal property (Levy & Guttman, 1982; Russo et al., 2010).

### ***1.2.2 “Fear of victimisation” and “fear of fear”***

The second concept is “fear of victimisation”, which is more of a measure of how likely an individual believes it is that they will become the victim of a crime at some point in their daily life. Winkel (1998) believes this is a relationship between specific crimes and fear rather than just crime in general and has several key demographic factors that can influence it. Winkel, Blaauw, Sheridan and Baldry (2003) found that a repeat of victimisation can create a lack of coping with the threat of crime in the future. Though there are parallels to cognitive “fear of crime” the distinction between the two is the cognitive element lacks specific stimuli and is a general fear of criminal activity (Ferraro et al., 1987). Fear of victimisation is a more multi-dimensional measure of the fear of becoming the victim of specific crimes and in different situations (Mesko et al., 2004).

The third and final classification is “fear of fear”, which is often the most confusing of the three, as it is how fearful an individual is of fear itself (Saxbe, 2005; Skogan, 1993). This can further break down into trait and state fear but is more a measure of how likely an individual is of being more generally fearful rather than relating fear to crime or their self-perceived risk of personal victimisation (Saxbe, 2005; Sylvers, Lilienfield, & LaPrarie, 2011; van der Heijden, 1984).

### **1.2.3 Criticism of definitions**

Generally speaking, the confusion lies with an overlap between the definitions and their interchangeable use of the term “fear of crime” without specifying which of the aforementioned phenomena is specifically being targeted within the research (Pleysier et al., 2005). This lack of conceptual clarity leads to a confusion between the appropriate methodology to measure and understand the different levels of fear of criminal activity (Pleysier et al., 2005).

This, combined with the sheer number of definitions outlines the issue within the research field as a whole. Though there is a significant amount of research that criminologists have conducted there is a lack of any widely accepted model or definitions in place (Pleysier et al., 2005). The methodology utilised has also been at times inappropriate for the type of fearfulness (such as attempting to measure fearfulness of child abduction using self-report measures). To eliminate these issues it is necessary for researchers to understand the different types of fearfulness and identify which they are attempting to measure (Pleysier et al., 2005). For this reason, this thesis develops a psychometrically robust self-report tool, which will advance theory and measurement of fear of personal victimisation. The reasoning behind the use of this type of fear was due to the nature of self-report measures and fear of personal victimisation being the only phenomenon that is experienced in response to specific crime stimuli and on a first person basis (Winkel et al., 2003).

### **1.3 Context**

This thesis addressed gaps in the literature in order to develop a standardised measure of fear of personal victimisation that researchers can use in order to provide an accurate picture of any individual’s level of fearfulness that they will become the victim of a crime. Currently there is no measure present within the literature that fits these criteria in a way that has been tested psychometrically.

## 1.4 Rationale

The current thesis used different measures from the literature in order to create a new tool that is useful when attempting to assess the level to which an individual suffers “fear of personal victimisation”, this has been done as other measures are inadequate and without the proper psychometric testing. This will also enable construct breadth to be established, concepts established within this thesis will allow for construct development to take place, particularly in relation to fear of victimisation and factors that can influence an individual experiencing this complex phenomenon.

Several important studies motivated the current doctoral research: Farrall et al. (2004); Mesko et al. (2004); Pleysier et al. (2005); Prieto Curiel and Bishop (2017, 2018 & 2020); van der Wurff et al. (1989). Specifically, this thesis extends the research of van der Wurff et al. (1989) and Mesko et al. (2004) by constructing a comprehensive measure of factors which may create a fear of personal victimisation. Principally, this required refinement of factors extracted originally from the van der Wurff et al. (1989) paper. This entailed psychometric evaluation of the original measurement tool and refinement to improve reliability by increasing the construct breadth (by adding additional items). This also involved further assessing the predictability of subscales and examining relationships with demographic predictors. The intention being, to produce a coherent measurement tool capable to measure overall fear or personal victimisation, while maintaining individual facets act as discrete, standalone subscales (Criminalisable Space, Attractivity, Power and Evil Intent) (Mesko et al., 2004).

Specifically, the aims overall were:

- 1) To review and assess the socio-demographic factors that can affect a fear of personal victimisation.
- 2) To review the literature and assess the currently established measures within the field fear of crime and fear of personal victimisation.
- 3) To refine, improve and establish an existing measure in order to assess an individual’s self-reported fearfulness of becoming the victim of a crime.
- 4) To produce a robust, psychometrically validated self-measurement tool for fear of personal victimisation capable of assessing the factors both

socio-demographically and socially that affect the levels of an individual's fearfulness.

In fulfilling these aims the current thesis will address the lacunae that is currently in the literature. As previously mentioned, there have been multiple attempts to measure this fearfulness utilising different measurement tools with little statistical support for any claims made, such as van der Wurff et al. (1989). Although an attempt to measure fearfulness took place, there was no analysis in terms of the reliability of the scale, instead factors were "assumed" as having links to fearfulness. This has also stretched to only one crime (such as sexual assault) measured against one demographic factor (such as gender). One such example was Dobbs et al. (2009), which established that in a student population a female would be more fearful than a male of sexual assault. This approach does not consider any other of the demographic factors that could be having an impact on an individual perceiving their risk to be higher (such as age, ethnicity and other predictors). A further breakdown and discussion of the effect of these demographics on an individual's level of fearfulness takes place in chapter two.

The issue with this approach is that, although it may prove that certain individuals perceive they may be at risk of a certain crime, it does not address whether there are any other crimes they might be afraid of, or if any other social factors may play a role in this level of fearfulness.

### **1.5 Thesis outline**

The first section of this thesis is a general introduction. This will introduce; what a "fear of crime" is, establishing existing measures within the field and discussing their strengths and areas for improvement. This involves a review of the literature from online sources such as government statistics, as well as psychology and criminology journals.

This leads onto a rationale of the model used for the purposes of this thesis. This section also discusses the method of data collection that will be utilised and mentions the benefits of scale development of this nature. There is a comprehensive review of the literature within the field of research attempting to target a fear of personal victimisation before the analysis itself takes place. In order to test the measure appropriately, this thesis has three phases and in order

to make sure the measure created works in conjunction with other measures within the field.

The first phase will bring together past research in order to investigate and evaluate the nature of a fear of personal victimisation. This phase tested some demographics and sociological variables (van der Wurff et al., 1989) to determine their predictability of the crimes that were commonly feared when the public took part in the National Crime Survey of England and Wales (UK Office For National Statistics, 2016). Using a measure from Farrall et al. (2004), phase one also investigates frequency and intensity of fear of crime.

The second phase focused on the Social and Community Perceptions Scale, which showed signs in phase one of being useful to predict fear of personal victimisation when placed into a hierarchical regression. However, the scale was not reliable enough and tested poorly for internal consistency.

In order to improve the internal consistency and construct breadth, phase two increased the number of items on the Social and Community Perceptions Scale to 64 (including the original 8 items). PCA obtains the best substructure of subscales. Phase three repeats this process of item generation and removal in order to create a more reliable factor structure on all four of the subscales. Phase three also used confirmatory factor analysis (CFA) to confirm the model generated was suitable.

Following the conclusion section of phase three is a general discussion that summarises the findings of this thesis and the level to which it has met its overall aims. This will include limitations, future research considerations and the overall summary of the entire thesis.

## **Chapter 2: General introduction**

---

This section outlines the historical and conceptual background to the thesis and provides a rationale for the methodology used.

### **2.1 Historical background**

“Fear of crime” is a well-researched discipline within the field of forensic psychology and international criminology (Britt, 2001; Smith, 1986; Smith, 1992; van Dijk, 1978). Countless studies have attempted to quantify demographic and social factors that can be associated with this phenomenon (Britt, 2001; Pantazis, 2000; van der Wurff et al., 1989). The interest in this field of research is demonstrated by the number of studies that have been conducted within several cultures showing the concept to be a global issue (Baumer, 1978; Dammert & Malone, 2003; Mesko, Kury, & Areh, 2004; Williamson, Brown, Wathan, & Higgins, 2013). This field has been largely researched in the United Kingdom and the United States, where there has been plenty of crime surveys focused on investigating the level of fearfulness associated with crime (Farrall et al., 2004).

The interest in fear of crime research has been continuous since the time of the first studies that investigated the phenomenon (Kury, Dormann, Richter, & Wurger, 1992; Tyler & Rasinski, 1984). The number of studies within this field of research has increased significantly since the late 1960s (Kury et al., 1992). A large amount of interest in the concept lies in the finding that more people have this fearfulness than will become actual victims at any point in their lives (Kury et al., 1992).

Largely the focus of these studies has been quantitative research (Kury et al., 1992). In the United Kingdom, the British Crime Survey interviews 10,000 residents of England and Wales on a bi-annual basis attempting to stay as up to date as possible with the public’s perceptions of their own self-perceived risk as well as their attitudes on policing and victimisation (UK Office For National Statistics, 2016). In 1989, Germany began research into the fear of crime phenomenon by conducting its first nationwide victim survey (Kury et al., 1992).

Interest in researching fear of crime began to emerge other parts of Europe in subsequent years (Mesko et al., 2004; Pavlovic, 1998). This interest was reflected in the release of the first two major crime and perceptions of victimisation surveys to the public took place in Slovenia in 1992 and 1997 respectively (Pavlovic, 1998). Continuing the investigations into fear of crime in Europe was a study surrounding sexual victimisation and comparing the victimology of past victims in Germany and Slovenia (Mesko et al., 2004). Mesko et al. (2004) concluded that past victims were less fearful attributing the fear reduction to the perception that participants had experienced the worst that they perceived could happen.

Prieto Curiel and Bishop (2018) state that several researchers have come to conclude that the effect of this fear of crime is now a bigger problem than the actual criminal activity itself (Denkers & Winkel, 1998; Hale, 1996; Warr, 1984, 1987; Williams & Pate, 1987). This effect is present in the 1982 British Crime Survey of Scotland, where 58% of respondents had indicated that they had been concerned about becoming the victim of a crime, which was considerably higher than previous years (Williamson et al., 2013).

Over the next fifteen years, surveys such as Kury et al. (1992) were carried out finding that fear of crime was higher in the eastern part of Germany than the west. Studies by Kury et al. (1992) suggested fear of crime could potentially be linked to the area in which participants live. The first representative nationwide survey focusing on the victimisation of women with more than 10,000 participants took place in 2004 finding that females were more fearful of violent crimes such as rape and sexual assault (Mueller & Schroettle, 2004). Though useful in terms of its sample size Mueller et al. (2004) was limited by its lack of male participants. This limitation leaves no way of comparing these figures to determine if being a male will decrease the fear of crime in participants (Mueller et al., 2004). It is, however, a generally accepted phenomenon within any research that the number of male participants will be lower than the expected number of females, so the limitations of this study may not be as significant as previously reported (Carifia et al., 2007).

For the most part, the efforts of researchers within the field have been largely focused on sociological insights investigating variables such as gender (May, Vartanian, & Virgo, 2002; Mueller et al., 2004), age (Britt, 2001), income

level (Hale, 1996), amount of time spent living (or familiarity) in an area. These variables have all been the focus of studies relating to fear of crime with various levels of success (Mesko et al., 2004; van der Wurff, Stringer, & Timmer, 1986).

Other researchers such as Mesko et al. (2004); van der Wurff et al. (1989) approached the topic focusing on social psychological factors such as the factors that may lead an individual to feel vulnerable (the evil intent of others or the space they occupy being unfamiliar). The theory states this approach should provide a more in-depth and multifaceted picture of the reasons behind an individual's vulnerability and subsequently fear of becoming the victim of a crime (Mesko et al., 2004). A deeper understanding of the situations in which someone experiences a fearfulness enables a more in-depth comprehension of the causality of fear beyond the demographic factors (Mesko et al., 2004). This was done to explore fear of crime as a concept that would affect individuals based on scenarios rather than demographic factors previously researched within the field (Mesko et al., 2004).

This approach produces scenarios (rather than merely demographics) in which an individual may be more fearful (unfamiliar area vs familiar area) and determining if there is a measured difference in fear response because of the negative stimuli (van der Wurff et al., 1989). This provides a more dynamic picture of the perception of fearfulness. While this is useful, it is important to note the lack of scenarios in this study pose an issue in terms of generalisability of assumptions made from results (Williamson et al., 2013).

The researchers within the field have all approached the topic from different perspectives, using, for the most part, separate measures leading to a lack of a gold standard measure (Pleysier et al., 2005). This lack of measurement invariance has caused several lacunae within the fear of crime literature (Pleysier et al., 2005).

## **2.2 Rationale of addressing the lacunae**

According to Pleysier et al. (2005) the lacunae created by the methodological inconsistencies surrounding the measurement and assessment "fear of crime" are well established.

In a South African study on victims of carjacking, James (2017) identified the importance of establishing causality of fear of victimisation due to the impact on the victims. Victims of crime were more likely to experience high levels of stress and suffered strong emotional reactions (James, 2017). This higher level of negative emotionality led to behaviour changes to limit the risk of re-victimisation (James, 2017). Those who take such precautions limit their ability to go about their daily lives (James, 2017).

This provided a useful insight into the reasoning behind addressing gaps in the fear of crime literature. As there was only one crime that was the sole focus of this study it is not possible to make generalisations to fear of crime generally (Pleysier et al., 2005; Tseloni, 2007). This study only allows the comparison that as carjacking is considered a violent crime (with James (2017) reporting that 81 per cent of the 280 surveyed were treated in hospital), other crimes, particularly those with a similar violent nature, will have a similar effect.

The issue also lies with the location of the survey. As James (2017) takes place in one country it is not possible to comment on other locations which will have a different social (and criminological) climate (Williamson et al., 2013). The impact of this specific phenomenon, according to James (2017) makes exploring a more general picture of fear of crime even more important to understand the complete affect fear of crime has. It would be reasonable to assume a similar effect will occur on a general population, especially when the fact that elderly members of a population who are fearful will exhibit similar behaviour altering to reduce their risk (Barbarett et al., 2004).

In a paper that targeted the “undoing” of fear of crime Fanghanel (2014) addresses the geographies of gendered fear of crime and how females have a different experience of public spaces than males. Fanghanel also mentions the effect of “safe spaces” as fear reduction techniques. Fanghanel (2014) described the nature of the lacunae concerning the broad picture of fear of crime, stating that merely by existing they enable negotiation of an “affective expression” that would otherwise be described as “threatening”. Following the qualitative study, Fanghanel (2014) also provides insight into the nature of these lacunae, stating they are not benign and in being investigated can provide an insight into how crime is feared in the first place. Fanghanel (2014) suggests the lacunae also provide insight into the safekeeping behaviours individuals will attempt to

undertake to address them, and the harm they may have on other individuals and the “self” in public spaces.

In a 2019 study, Krulichová found that in 23 countries across Europe risk perception was positively correlated with fear of crime, although the strength of the relationship differs from sample to sample.

Measurement invariance is a concept in which there is a consensus between researchers that a certain measurement tool is utilised in multiple studies to measure a construct Pleysier et al. (2005). This invariance enables researchers to conduct cross studies comparisons (Pleysier et al., 2005). The main lacunae within the literature surrounding fear of crime originate from a lack of measurement invariance. Pleysier et al. (2005) describe the measurement invariance as an “...absolute prerequisite for making valid comparisons of results or concepts...” (p. 2). To observe and understand fear of crime on a scientific level and under different conditions, the lack of a gold standard measurement tool must be addressed (Pleysier et al., 2005). In line with the overall aims of this thesis, the measurement tool created will be capable of addressing this lacunae in forming a scale capable of being utilised by multiple researchers to facilitate such cross-study comparisons.

### **2.3 Introduction to measures within the literature**

There has been no shortage of investigating the phenomenon of “fear of crime” in the past (Tseloni, 2007). Within the literature is a plethora of research papers with a good amount of groundwork relating to demographic factors in several populations leading to an increased fearfulness (Braungart, Braungart, & Hoyer, 1980). There are, however, issues with some of the key measures within (and linked to) the field (Hanslmaier et al., 2016; Mesko et al., 2004; Nadal et al., 2015). A comprehensive review targeting key measures, their findings and limitations that are present in the field make up the remainder of this chapter.

## 2.4 The Multiplicative and Sensitivity models

Warr and Stafford (1983) developed a model for fear of crime known as the Multiplicative model. Though not a standalone measure the approach was of note due to the attempt to address the nature of fear of crime rather than measure the impact of demographics on an individual's perception of risk (Warr et al., 1983). To develop this, it was evidenced that the mean degree of fear evoked by crimes could be accurately predicted from two characteristics of the offence (Warr et al., 1983). These characteristics were (1) the mean score for the perceived seriousness of the offence and (2) the mean perceived risk of the offence (Warr et al., 1983). These factors alone are not enough to elicit a high fear response, even a serious offence that causes bodily harm is unlikely to be feared unless it has been deemed as likely to happen (Warr et al., 1983). This means that for a crime to be feared, it must be deemed as serious and likely by the party who is fearful (Warr et al., 1983).

Warr (1987) developed on this further by establishing the Sensitivity model for fear of crime. Under this model, fear is explained by perceived risk and sensitivity to risk for the offence in question (Warr, 1987). When experimenting on multiple variables (sex and age) the major determinant of sensitivity to risk was the perceived seriousness of the offence (Warr, 1987). This finding meant the models could be simplified and reduced to the same variables (Warr, 1987). High sensitivity to risk did not guarantee high fear if the perceived risk was low (Warr, 1987). Nor did high perceived risk lead to high fear when sensitivity to risk was low (Warr, 1987). This provides some insight into the nature of fear of personal victimisation, revealing that crimes must be feared and deemed likely in order to be feared (Warr et al., 1983; Warr, 1987).

In essence this method of analysis can assist in stating that an individual will be fearful due to an increased perception of risk, but it does not identify the reasons behind this increased perception of risk (Mesko et al., 2004; Pleysier et al., 2005; Rountree, 1998; Warr, 1987). For instance, these models may be useful in specifying a crime that is feared but they do not enable individuals to identify in what scenario they would be fearful (Warr, 1987). Rountree (1998) states "fear" as having multiple dimensions. The approach by Warr (1987) explored the cognitive (risk perception) aspect of fear of crime but did not

distinguish the emotional nature of the affective component (being afraid) (Rountree, 1998). Rountree (1998) outlined that to comprehend the multidimensional concept of fear of crime these components must be differentiated both theoretically and empirically.

## **2.5 Past victimisation and fearfulness**

One previously overlooked factor of being fearful of personal victimisation is being a past victim of crime Tseloni (2007). Tseloni (2007) states that there have been some qualitative results suggesting being a past victim of personal victimisation can more than double the odds ratio of having a fear of being a victim in the future. These odds change by different levels when different crimes are taken into consideration according to Tseloni (2007).

Tseloni and Zarafonitou (2008) established that fear of crime is far more common than victimisation experience. The level of fearfulness can be explained less by past victimisation and more by complex social dynamics that can, and often do, involve victims of crime but also other social aspects (Tseloni et al., 2008). These “social dynamics” include crime in conversation and opinions being shared between members of the public rather than previous first-hand experience with criminal activity. It is theorised by Tseloni et al. (2008) that these social dynamics are as likely to cause a fear of crime as previous victimisation experience. Ross and Rasool (2019) provide evidence for this theory in finding that anxiety was experienced by 62.1% of victims and in 65.1% of non-victims.

Crime is, when speaking generally and relatively, a rare event that tends to be so highly concentrated that a person, particular street or business may be the victim of a much more consistent volume of crimes than others (Cozens & Sun, 2019). The suggestion that crime itself is rare and has the tendency to be highly concentrated suggests that fearfulness of personal victimisation tends to be significantly more common than the crimes that individuals fear (Ross et al., 2019). Ross et al. (2019) report that fear of crime exists in both past victims and those who have not experienced personal victimisation.

Prieto Curiel and Bishop (2017) introduced a model to explain an individual’s fear of crime. This model specifically considered whether a person suffered a crime within a 4-year time span (Prieto Curiel et al., 2017). The impact

on the individual of sharing their fear with others was investigated (Prieto Curiel et al., 2017). This model indicated that in certain specific situations fear of personal victimisation can be observed even when there is little or no crime, in these scenarios fearfulness has been suggested to be caused by a result of “shared opinions” rather than previous victimisation of crime (Prieto Curiel et al., 2017).

A paper by Prieto Curiel et al. (2018) indicates that the probability of an individual suffering previous personal victimisation of crime should make them more fearful but that result indicated that this was not always the case. The self-reported fear of personal victimisation does not mean an individual has previous experience as a victim of crime (Prieto Curiel et al., 2018). Individuals who were past victims would have a different perception of their likelihood of personal victimisation (Prieto Curiel et al., 2018). For this reason, the two should be treated separately (Prieto Curiel et al., 2018). This phenomenon is still true even though it is more likely for members of the public to have no previous victimisation experience (Prieto Curiel et al., 2018).

## **2.6 Life satisfaction and fear of victimisation**

There has been a considerable amount of research into the idea of “life satisfaction” and factors that may increase or diminish the concept (Frey et al., 2002). The aim of the research in this field was to isolate what conditions affect individual and social well-being and determine the extent of their impact (Frey, 2008). Frey et al. (2002) suggest that the subjective context of “well-being” is not solely a personal issue but is strongly associated with and influenced by living conditions and the society that shapes them. Traits such as unrealistic levels of optimism and extraversion, self-esteem and genetic predisposition also impact this well-being (Frey, 2008).

Certain demographic criteria will also play a role; these include economic and social standing (those who were married with a job were much happier where the unemployed were reported as having much lower life satisfaction than those who were employed) (Frey et al., 2002).

The literature has also identified that crime has a relation to life satisfaction, although examination of this association is present within the literature to a lesser

degree than the previously mentioned areas (Baier et al., 2011; Michalos et al., 2000).

737 participants took part in a study in Canada that conducted a bivariate analysis that those who reported themselves to be previous victims of crime had a lower life satisfaction, quality of life and happiness (Michalos et al., 2000). The research revealed that an index of “crime-related worries” has a negative relationship with quality of life and life satisfaction (Michalos et al., 2000). Satisfaction with one’s personal safety and the safety of the participant’s safety in their neighbourhood was found to be in a positive relationship to all three indicators of global satisfaction (Brunton-Smith & Sturgis, 2011; Michalos et al., 2000).

Cohen (2008) attempted to analyse the effect of victim experience and neighbourhood safety of over 14,000 respondents using the United States General Social Survey. Cohen (2008) found through seven waves of surveys that individuals who rated their neighbourhood, as “unsafe” would report a significantly lower personal happiness score. Cohen (2008) and Chon and Wilson (2016) also found that personal victimisation concerning burglary also significantly lowered self-reported happiness scores. In stark contrast to these findings, a study using the European Social Survey, with responses from 25,915 participants from 22 different countries found that there was a significant impact of “fear of crime” but that victimisation had no impact on self-reported happiness (Moore, 2006). Moore’s (2006) study used a standard situation in which an individual may be fearful of victimisation (walking alone in a familiar area after dark).

Pedersen and Schmidt (2009) focused on the European Community Household Panel with a sample from Germany and other European countries and found a negative impact on the individual’s subjective well-being when the individual believed crime was a problem in their area. Powdthavee (2005) found that on a South African sample that experience with personal victimisation (at a household level) lowers household satisfaction. Powdthavee (2005) also found that the impact of personal victimisation is lower when the area has a high crime rate. A high crime rate shares a negative relationship with life satisfaction (Powdthavee, 2005).

The reduced impact suggested by Powdthavee (2005) is a result of reduced stigmatisation of crime in areas with this higher crime rate. This was also reported in Clark and Oswald (1996) and Clark (2003) where the personal well-being gap was lower between those who are employed and unemployed when the area had a reported lower level of employment overall.

Researchers have frequently found that fear of crime was associated with personal distress (Gerlach & Stephan, 1996; Ross, 1993; Ross & Mirowsky, 1999). In a sample of the elderly, lower levels of overall morale and lower levels of neighbourhood satisfaction were present (Britt, 2001). The impact of this lower life satisfaction is evident in Sorenson and Golding (1990) who found that in those who were victims of personal victimisation there were higher reported levels of both depression and a higher suicide rate, the latter was associated to incidents involving mugging.

A study by Britt (2001) found that individuals who had previously been the victim of crime reported a lower level of perceived health and physical well-being. This negative association was only relevant to certain types of victimisation (specifically, property vs. violent crime) and the age of the individual (Britt, 2001; Ward, LaGory, & Sherman, 1986).

Psychological symptoms associated with previous victimisation were analysed and it was discovered that those who had previous experience as a victim of a crime would be more distressed, be more likely to experience depression, have anxiety, somatisation, hostility and general fearfulness (Norris & Kaniasty, 1994). The longitudinal data collected for this 1994 study showed that someone who had previously been the victim of a crime was more distressed than an individual who had never been victimised even after 15 months (Norris et al., 1994). This study also found support that there was a decline in symptoms over time due to memory decay (Norris et al., 1994).

This finding of the decline in symptoms of previous victims has been compared to research conducted into how individuals adapt and change over time to fit new situations they are put into (Frey et al., 2002). An example of this is when compared to how someone deals with the loss of a relative, there is psychological distress associated with such loss, but the impact of this distress diminishes over time (Oswald, 1997; Oswald & Powdthavee, 2008). A similar effect was seen in those who were victims of a crime, near the time of the incident

they reported a high level of psychological distress, but over time this did reduce (Norris et al., 1994).

Based on (Hughes, Marshall, & Sherrill, 2003; Kanan & Pruitt, 2002) it can be expected that previous experience of crime would have a negative association with fear of personal victimisation, although it should be noted that if time has passed since the time of said victimisation that the individual may have recovered somewhat from their experiences. This may mean that literature that has not taken into account the previous extent to which an individual has been a victim of crime (as well as the amount of time since the negative experience) (Franklin, Franklin, & Fearn, 2008). This may have skewed results without any way of knowing what has caused the skew in these data (Franklin et al., 2008). The current study used the intensity measure from Farrall et al. (2004) in an attempt to overcome this by asking individuals if they have been fearful within the past 12 months, how frequently they experienced this fear and how intense this fear was on the most recent occasion they experienced it. The study for phase one also specifically tells participants to not take part if they have been the victim of a traumatic crime (which is open to their individual interpretation of what a “traumatic crime” may be) in an attempt to overcome this potential skew in the dataset that is an oversight in much of the previous research.

## **2.7 Vulnerability measures**

Vulnerability attempts to link together the sociological variables associated with a fear of personal victimisation (Bilsky et al., 1998; Killias, 1990). As theorised by Killias (1990), within the criminology field the reasoning behind an individual’s level of perceived risk is that they are more vulnerable than other members of the population. Although it is of note, this is largely theory-based work and there has been little research to determine what vulnerability is and what its effects are (Tseloni et al., 2008). A discussion of the concept of vulnerability concerning the sociological demographic variables that researchers suggest have an impact will follow.

Killias (1990) suggested that there are key factors to explaining the fear response in individuals; exposure to non-negligible risk and a perceived loss of control. For fearfulness of personal victimisation, the response could be to be due

to the lack of a means of defence (some form of protective measure or the possibility to escape the stimuli; and the anticipation of serious consequences for actions taken, either by themselves or others) (Killias, 1990). Killias and Clerici (2000) took these key factors and integrated them into an analytical framework being sure to also account for the various physical, social and situational dimensions that may be associated. In these studies, Killias et al. (2000) noted that the three factors were necessary for a fear response but when separated and taken individually are not enough to prompt this reaction. Females, individuals with more 'risky' jobs (like the police and sex workers) and individuals residing in areas with a significantly higher crime rate can use the concept of "vulnerability" to explain the disproportionately high levels of fear experienced (Killias et al., 2000). The specification for this was also met when an area showed signs of disorder or a lack of civility (Killias et al., 2000; Wyant, 2008).

This framework can explain the higher levels of fearfulness in females over males (Killias et al., 2000). This is due to them having a higher exposure to risks, such as the relationship with being a more likely victim of sexual assault or rape (Tseloni et al., 2008). The serious long-term nature of the psychological and physical harm associated with such crime is due to the perceived loss of control females have in these situations (Tseloni et al., 2008).

Several studies including Killias et al. (2000) and Warr (1984) suggest that the reasoning behind the increased level of fearfulness in females is due to their greater level of vulnerability. Warr (1984) brought forward the argument that even with the same levels of perceived risk of victimisation as males, females are more prone to fear for their safety due to the belief that is commonly held that the consequences of crime are more serious for them.

Studies have attempted to address the reasoning behind this self-perceived vulnerability that is present in females (Garofalo, 1979, 1981). Such papers have isolated social, physical, psychological and even some personality characteristics that could be a cause (Garofalo, 1979, 1981). For example, Garofalo (1979) described females as having more feelings of passivity and dependency, which has led to their fear of personal victimisation. There have been many feminist studies into the same area, and they have ascribed the fearfulness of crime in females relating to their self-perceived lack of alleged power in society (Garofalo, 1979, 1981).

Age is another variable associated with a “vulnerability” due to an individual’s perceived risk even when considering all the factors associated with risk management and reduction (Pantazis, 2000). It should be noted the level of fearfulness was seen most in elderly people who were living in circumstances of multiple deprivations (Pantazis, 2000). These individuals were seven times more likely to feel “unsafe” in comparison to elderly people who were living in less deprived conditions (Pantazis, 2000).

The concept of vulnerability can explain why being from a lower income household may have an impact on an individuals’ self-reported risk of personal victimisation (Pantazis, 2000). Pantazis (2000) reported the impact of victimisation was more significant in the situation of burglary or robbery in these households. This was due to an inability to be able to afford to replace items of value when placed alongside the fact that crime is allegedly higher in the areas where they are likely to live (Pantazis, 2000).

There is also often a necessity for those of a lower income to have to place themselves in what could be perceived as more “risky” situations, such as using public transport due to an inability to afford a car or taxi fares (Pantazis, 2000). The level of incivility in the areas the lower-income members of society live may also play a significant factor due to the lack of social networks often enjoyed by those in higher-income areas (Jackson, 2009). Hale (1996) made the argument that the lack of social and material resources may have made it more likely that individuals are less likely to be able to cope with the consequences of personal victimisation. At an individual level, they may live in a community that lack the contacts, organisational ability and political networking power available to a neighbourhood that is of higher social status (Hale, 1996). This may increase a lack of perceived control and for this reason; fearfulness of personal victimisation may increase (Hale, 1996).

This theory should be taken with a note of caution as Pantazis (2000) offered the alternative viewpoint that although there have been studies to target social networks and social exclusion that these studies may be a little out of touch. The view that poorer members of society will be in some way less likely to cope with victimisation than richer members could be an error as it is theorised that they will rely on closer friends or families for support (Pantazis, 2000). Richer members of the population would tend to have a more varied social network

(Pantazis, 2000). This view offers an alternative that poorer people have a different, rather than an inferior, social network and they may feel they would be able to use this social network to cope with the event of them becoming the victim of a crime (Pantazis, 2000). This would mean that the literature suggested by Hale (1996) is incorrect in its assumptions.

The notion of vulnerability is a useful basis when considering the experiences of individuals with a fear of personal victimisation (Stanko, 1995). This is due to certain sociological demographic variable groups (such as females, the elderly and those of a lower income) (Stanko, 1995). These groups, due to their economic situation, social standing, size, health may be characterised as being less in control and therefore more vulnerable (Pantazis, 2000).

Some arguments state similarities are underlying in all of these groups. For example, in Stanko (1995) it was theorised that females fear of personal victimisation comes because they were located in a “gendered world” where their self-perceived risk was as a result of their fear of men. Pantazis (2000) brought forward the idea that the experiences of fearfulness concerning personal victimisation in the elderly could be attributed to them feeling somewhat socially isolated or de-skilled in comparison to others in their environment. Pantazis (2000) offers the theory that poor people may feel unsafe and therefore have a likelihood to perceive themselves to have a higher risk of personal victimisation due to other insecurities such as job loss and mortgage payments (which could result in their homes being repossessed). This would mean that the poorer members of society’s experiences connect to local, national and international processes (Pantazis, 2000). Using the threshold of 5,000 Great British pounds per annum as “poor” and over 30,000 as “rich” Pantazis (2000) tested the perceptions of several crimes. When testing to determine the difference in perception created by wealth Pantazis (2000) established that 57% of “poorer” people were fearful, where only 37% of “richer” people were fearful of becoming the victim of “mugging”. Pantazis (2000) also established the “poor” members of the sample were more likely to fear “rape”, “public insults” and “having their vehicle stolen”.

Vulnerability was a latent part of the current thesis as the demographic variables associated have been targeted but were not the sole focus of creating the measure. Its importance is undeniable, however, as it would appear to be a

link between different sociological variables that have been targeted as having an ability to predict an individual's likelihood to perceive themselves to be more at risk of becoming a victim of crime.

## **2.8 The dimensions of personality and their link to fear of personal victimisation**

With the nature of fearfulness in general there are individuals who will be more likely to experience a general fear (or neuroticism) than others (Eysenck, 1998). It is reasonable to suggest there is a potential link to an individual with this neuroticism having a higher likelihood of possessing a fear of crime than they would typically experience given past experience, demographic information or the situation they find themselves in (Klama & Egan, 2011).

The basic elements of personality have dimensions that are responsible for regulating behaviour, the stability of one's actions, how emotionally one reacts to a given scenario and the cognitive style of an individual (Eysenck, 1990, 1998; Eysenck & Eysenck, 1985). The traits that makeup personality are the differences in the frequency and intensity that different emotional states are taken into account (Eysenck, 1998). Eysenck's typology considers personality structure and has several dimensions; neuroticism, psychoticism and extraversion (Eysenck, 1998).

The Eysenck Personality Questionnaire (EPQ-R) was conceived to explore these personality traits and their relationship with other phenomena within the field of psychology (Eysenck, 1998). There have been many attempts to address the relationship between emotions and the effect they have on personality (Rusting & Larsen, 1997). This field of research has shown certain personality traits show a relationship with some categories of emotion (Weiting, 2009).

One trait has been associated with a level of fearfulness, namely neuroticism (Klama et al., 2011). Neuroticism correlates strongly with self-reported negative emotions (Klama et al., 2011; Watson & Clarke, 1984).

Eysenck (1998) stated individuals with higher levels of neuroticism readily acquire fear-related associations, meaning they will be more likely to report negative emotions (such as fearfulness) than individuals without neuroticism. Although this suggestion is present throughout scientific literature, there is little

research attempting to establish the link between fear of crime and neuroticism (Klama et al., 2011).

One study did attempt to explore the relationship between fear of crime and neuroticism and found that there was indeed a statistically significant positive correlation between neuroticism and fear of crime ( $r = .29$ ) (Klama et al., 2011). Klama et al. (2011) found that neuroticism shares a positive correlation with the perceived risk of victimisation ( $r = .23$ ).

## **2.9 Emotions and fear of crime**

Emotion links to a fear of crime in the literature (Guedes et al., 2009). Stated as being a “complex concept that compromises neurophysiological, motor-expressive, and phenomenological aspects” by Izard (1972) emotions are a state when a stimuli is followed by some form of momentary experience (p. 372). Lerner and Keltner (2001) report that instances of fear are also experienced as a trait when they are more long-lasting dispositions rather than a passing feeling. Emotions can also be associated with general responses that continue to persist over large time and throughout different contexts (Lerner et al., 2001).

Scientific evidence collected in past research indicates that trait emotions (e.g., emotional intelligence) are associated with an individual experiencing the corresponding emotional states (e.g., fear) with greater intensity and more frequently (Klama et al., 2011). The research field also states there is a difference between fear and anxiety and that the two concepts need to be dealt with as such (Klama et al., 2011). The need for this distinction is due to confusion at the preconceived crossover between the two as they are both emotionally unpleasant states that are triggered by psychophysiological arousal (Pantazis, 2000). The confusion of this crossover is made worse by the interchangeable use of terms in the literature (Pantazis, 2000).

Ohman (2008) identifies “fear” as a response associated with threatening stimuli. Anxiety is more commonly associated with a situation the individual deems as threatening without necessarily having to actively deal or cope with the situation (Ohman, 2008). For the current thesis, the important classification is the difference between anxiety and a fear of personal victimisation due to the potential overlap between the two (Vitelli & Endler, 1993). There is some

similarity between the concepts according to Vitelli et al. (1993) who observed that there was a positive correlation between trait anxiety and fear of crime. However, this finding is up for dispute as Blobaum and Hunecke (2005) found that trait anxiety did not have any bearing on an individual's level perceived personal danger when they were in an urban setting.

The association between trait or dispositional fear and fear of personal victimisation is also an area for debate. Gabriel and Greve (2003) theorised a distinction for fear of personal victimisation, stating it was a state and a disposition. Gabriel et al. (2003) states that when an individual experiences fear of crime as a state it is transitory and will pass quickly with no lasting effects on the victim. When a person experiences a dispositional fear of personal victimisation, they will tend to perceive less harmful stimuli as a threat (Gabriel et al., 2003). Gabriel et al. (2003) propose that the members of a population who experience fear of personal victimisation as a disposition will be more likely to experience it as a state on a more frequent basis. The issue with Gabriel et al. (2003) is that, though the theory is in line with other information in the literature, it is without testing and is therefore not possible for these phenomena to be suggested as likely to be accurate, in any population because of this paper (Pleysier et al., 2005).

From a more empirical approach, Chadee and Ng Ying (2013) proposed a study in which they aimed to understand whether general fear was a stronger predictor of fear of crime than the perceived risk of victimisation. Chadee et al. (2013) measured fear of crime using a four-item scale adapted from Ferraro (1995), general fear was measured using four items designed by the authors that examined the participants' level of fear when presented several scenarios to scenarios not associated with criminal acts. These included scenarios such as income loss, a fire in their home not associated with arson or personal illness (Chadee et al., 2013). Chadee et al. (2013) found that general fear correlated positively with a "fear of crime" ( $r = .51$ ). The researchers note that general fear was most influential when compared to the other predictors for a "fear of crime". They determined that individuals surveyed might tend to respond fearfully to crime based on "a function of proximal emotional responses to other situations and environments" (Chadee et al., 2013).

The limitations of this research lie in the insufficient number of items used to assess a “fear of crime” (Chadee et al., 2013). It is also not made clear how it was made clear to participants the difference between a “fear of crime” and a fear of personal victimisation referred to here as “perceived risk of victimisation” (Chadee et al., 2013). When the two variables have been shown to an individual, it is important to make the distinction due to the terms often being confused in the literature. Asking them their general fear of crime that is not associated with them becoming the victim at any point is significantly different to asking their fear of becoming the victim of specific crimes, without a clear distinction this can be confusing to the participant (Chadee et al., 2013). It is also not clear how the perceived risk of victimisation is measured, or the results obtained when compared to general fear, only that general fear is a more appropriate predictor in this case (Chadee et al., 2013). It is of note that for the current doctoral thesis, this distinction would be clear by specifically asking participants for their personal experiences and their perceived risk of becoming a victim.

The main issue with the research within this field is that although there is some consistency with the results obtained, the methods used to obtain them are without any standardised measures (Dobbs et al., 2009; Mesko et al., 2004). Leading to the “lacunae” previously described (Pleysier et al., 2005). Using a universal method would enable accurate conclusions and rule out any discrepancies in the results obtained (Tseloni et al., 2008). If a universal measure is used, then all participants would be answering the same question regardless of their location and experiences with crime, this would enable the causes and predictors of fearfulness to be more accurately identified across the research field (Williamson et al., 2013). The current study will bridge this lacuna.

There are many ways in which individual differences in people’s patterns of feeling, behaving and thinking can be assessed and summarised using the Big Five Inventory (BFI) (Soto & John, 2017). The five traits are labelled as Extraversion, Agreeableness, Conscientiousness, Negative Emotionality (alternatively labelled Neuroticism vs. Emotional Stability), and Open-Mindedness (alternatively labelled Openness to Experience, Intellect, or Imagination) (Soto et al., 2017). For the last 25 years, the definitions and structure of these traits have been the focus of countless research papers and

studies, these studies range from exploring the causes, correlations and even the consequences of these personality traits (Soto et al., 2017).

The original BFI was developed with three specific goals in mind. It focuses on the prototypical components of each of the five domains (Eysenck, 1987). The second specific goal was clarity, due to the need for elaborations and definitions. The prototype adjectives for the BFI were elaborated into short phrases for the BFI. It is also of note that most of the items on the BFI can break down into one of the following three basic structures (1) adjective, synonym (e.g., “Is outgoing, sociable”), (2) adjective, definition (e.g., “Is relaxed, handles stress well”), or (3) adjective in context (e.g., “Is a reliable worker”) (Soto et al., 2017). This version of the item was chosen to tackle two issues, first to retain simplicity and prevent items becoming too complex while achieving the second goal of eliminating the possibility of an alternate meaning for the item being derived from one of the adjectives chosen having multiple definitions (Soto et al., 2017).

The third and final goal of the original BFI was efficiency (Soto et al., 2017). Though each BFI scale is long enough to be reliable and have sufficient coverage of each big five domain, it is still short enough at only 44 items to conserve time and prevent fatigue in the responding participants. At the time of its original creation, the BFI was shorter than most personality-based measures, which were typically hundreds of items in length (Soto et al., 2017).

The issue with the BFI in the context of this study is that it was still deemed as too long to use for a divergent validity measure which would lead to response fatigue (Lavrakas, 2008). To overcome this an alternate version the BFI-2-xs must be considered (Soto et al., 2017). Created by Soto et al. (2017) the BFI-2-xs attempts to achieve the three key goals of the original BFI (focus, clarity and brevity) while making a significantly shorter measure that is much less time-consuming. Typically, the original BFI would take 5 to 10 minutes to complete the 44 items, whereas it is reasonable to assume the BFI-2-xs takes a fraction of this time having only 15 items (Soto et al., 2017).

## **2.10 Fear of crime and perception of the police**

In Nadal et al. (2015) an individual’s perception of police was how positive they believed the police were as a service. This perception was largely influenced by

the level to which they believed the police fulfilled their duties (Nadal et al., 2015). This perception was also based on whether participants believed the police were unfair and biased (Nadal et al., 2015).

Several studies into the fearfulness of personal victimisation have concluded that a negative perception of the police can have an impact on the level of fearfulness observed (Scheider, Rowell, & Bezdikian, 2003). Those who had a more negative view of the police were more fearful than individuals who were more positive on the outlook of their local police force (Scheider et al., 2003). This concept is because police are responsible for keeping the public safe from becoming the victims of a crime (Scheider et al., 2003). Specifically, in the legislation around the police's duties, it states that officers have been afforded certain powers to protect the public and their property from harm (Scheider et al., 2003). As it is the sole responsibility of the police to ensure they fulfil this duty, it is reasonable to assume that a lack of confidence in the police would breed a fearfulness of becoming a victim of the crimes associated with the police's duties (Brown & Benedict, 2002; Scheider et al., 2003).

For phase one of the current thesis, the Perceptions of Police Scale (POPS) constructed by Nadal et al. (2015) was utilised to measure the perceptions of the sample for this study. This is due to the scale demonstrating high reliability and validity when tested (Nadal et al., 2015). Perception of police has such a strong impact on the fear of personal victimisation that factors affecting the perception of police will similarly affect fear of victimisation. These predictors include demographic groups the police are said to have some form of "bias" against (Nadal et al., 2015).

Demographic predictors include self-defined ethnicity, sexual orientation and living situation (Nadal et al., 2015). Though other demographic groups exhibit lower perceptions of police, there is literature stating another potential reason for their increased fear of personal victimisation other than a negative outlook of police (i.e., when surveyed females showed a more negative perception of police, but also to be afraid of certain crimes such as rape) (Nadal et al., 2015).

The POPS that was generated tested very highly for reliability and validity, therefore it was used to establish the perception of police of those surveyed for this project. A more in-depth look at perceptions of police as a predictor of fear of crime follows in the next chapter (chapter 3).

## 2.11 Social and community perceptions

The literature has attempted in the past to “bridge the gap” between the measures of “fear of crime” and the demographic categories previously mentioned (Mesko et al., 2004). A paper by Mesko et al. (2004) investigated the relationship between social-demographic and social-psychological models for fear of crime and stated that at the time of writing fear of crime was one of the most researched topics in criminology. Mesko et al. (2004) also stated that the research within the field of fear of crime had been largely focused on demographic variables and that in doing so these papers had ignored and overlooked the social psychological and physiological factors that “may be” important in examining and explaining the reasoning behind an individual’s fearfulness of crime.

The social-psychological model chosen was originally proposed and tested by van der Wurff et al. (1989) using data collected in the Netherlands. This measure was created with the assumption that four social-psychological components within the field of social psychology exist.

Based on definitions taken from Mesko et al. (2004) these four concepts form the basis of the measure were, these were:

**Attractivity:** An individual sees themselves or their possessions as an attractive target for criminals or criminal activities to this level. This could involve, for example, an individual with the latest phone, which are socially desirable (Mesko et al., 2004).

**Evil Intent:** The individual being surveyed attributes criminal intentions to one person or a group of people to this level. For example, if an individual were to view a group of youths as more dangerous than a group of adults, they would deem the first group to be more likely to commit crime than their older counterparts (Mesko et al., 2004).

**Power:** Refers to the degree of self-assurance and feeling of control when faced with a scenario that others may deem riskier when they were presented with it. The original paper deems one’s self-reported measure of power is associated with a “good family relationship or optimistic temperament” but offers no evidence as to why this may be (Mesko et al., 2004).

**Criminalisable Space:** The only factor not linked to a person, but rather the location in which the crime would take place. Some places may lead one to be less fearful during the day but maybe deemed by the same individual as more dangerous at night (Mesko et al., 2004).

The full description of each of these subscales from Mesko et al. (2004) is available in the appended records (pp. 323).

The data collected on a participant pool of 440 individuals revealed that this social-psychological model accounts for around 24% of the variance of the measured fear of crime of participants (van der Wurff et al., 1989). This was higher than the level of variance usually explained when the sociological variables are considered (Mesko et al., 2004). Farrall, Gray and Jackson (2007) replicated this study and found a similar result although it was reported that the results of this paper had a significant gender bias within the model they used and it was proposed that socio-demographic variables could be added to the model to increase its ability to predict the participant's fear of personal victimisation. The issue with these studies is the lack of testing for reliability and internal consistency (Cortina, 1993). No scores are supplied or reported in any of these papers would lead the reader to believe they conducted such tests to assess this or the factorability of the scales.

The lack of appropriate psychometric evaluation of a measurement tool creates an issue in the practice of using the scale (Cortina, 1993). Many papers would appear to have taken it as a given that testing was conducted during the original paper, but with reading the first paper there has been little to no testing in terms of factor analysis, reliability or validity (Mesko et al., 2004). Instead the original measure simply "makes assumptions" that the factors listed will be predictors of fear of personal victimisation (Mesko et al., 2004).

This, in collaboration with the fact that those using the scale have used four factors, without the necessary testing to determine in these were factorable for this scale leads to an issue with being able to determine whether or not this scale has performed appropriately and measuring the factors one would link to a fear of crime (Winkel et al., 2003). At present all that can be determined is the scale did influence the predictability of fearfulness in this instance (Tseloni, 2007). Therefore, determining its ability to predict fear of crime is useful for this study as it could assist in the attempt to bridge the gap between the demographics and

fear of crime (Tseloni, 2007). This would also assist in shedding some light on what a self-reported “vulnerability” may look like concerning this fearfulness, therefore testing this scale and generating more items is essential (Tseloni, 2007).

## **2.12 Limitations, summary and implications**

The main issue with the literature surrounding a fear of personal victimisation is the lack of consistency (Gerber, Hirtenlehner, & Jackson, 2010). Few of the papers mentioned have used the same measures to investigate fear of crime and therefore there is a difficulty in comparison of cross study results (Gerber et al., 2010). Such comparisons become problematic with a lack of measurement invariance with Pleysier et al. (2005) describing it as an “absolute prerequisite” (p. 2).

Many of the papers previously (such as the van der Wurff et al. (1989) measure of Social and Community Perceptions) mentioned are without any form of evaluation in terms of internal consistency, validity and reliability (Mesko et al., 2004). The lack of establishing reliability and validity leaves difficulty in determining how the scale is performing (Cortina, 1993). This same scale has used subscales following PCA without determining whether this is appropriate with reliability analysis to determine the homogeneity between variables.

Many of the papers also cite a supposed “vulnerability” as the reasoning behind one individual being more fearful than another (such as an older person being more vulnerable than a younger person in their own eyes, and therefore being more fearful of victimisation) (Pantazis, 2000). This vulnerability, however, is not defined or connected to any form of research attempting to bridge the gap between what makes someone feel vulnerable and which of the many crimes it would make them feel vulnerable to (Hale, 1996). Vulnerability is likely to be a much more complicated and multi-layered concept rather than just a single word that can be used to answer any question (Jackson, 2009).

One benefit, however of the field is so rich with attempts to measure different potential contributing factors to a fear of personal victimisation is there is no shortage of demographics (Dobbs et al., 2009). With the current study, it is

the goal to create a measure that would bridge this gap and create a measure that would be used in future research related to measuring an individual's fear of personal victimisation for any purpose (Williamson et al., 2013). This could be a general population study or a more specific area of research with a specific goal of analysing a specific population's level of self-reported fear concerning any kind of known phenomenon (or one that is being investigated) within the field of psychology.

It was also necessary to create a measure that lessened the impact of temporal instability (Pleysier et al., 2005). In doing so the measure generated could continue to operate within the real world, even with a constantly evolving social environment with only minor alterations (Pleysier et al., 2005).

### **2.13 Rationale of phases**

Though many studies have been conducted within the field of "fear of crime" there is a distinct lack of harmonious direction between researchers within the field (Wynne, 2008). This includes measures such as van der Wurff et al. (1989) which are without the appropriate psychometric evaluation as well as many studies are entirely hypothetical with no statistical testing done to determine if the scale is performing appropriately (Mesko et al., 2004).

There is also a distinct lack of any attempt to measure what crimes individuals are afraid of, with several studies attempting to focus on one particular crime (such as rape) but this makes results hard to generalise for the concept of fearfulness in general (Lane & Fisher, 2009). In the same way, one must assess the complete picture of a situation before making assumptions, the same can be said of a fear of personal victimisation.

### **2.14 General methodology**

The methodology applied by this thesis sees a thorough review of the literature to determine the key socio-demographic predictors that have had an impact on fear of personal victimisation. This formed the basis of the demographics section presented to participants in order to explore the predictors that would be most

impactful for predicting a fear of personal victimisation. This investigation also examined the level to which each predictor was likely to impact fearfulness in order to assess the findings from the fear of personal victimisation research field.

Selected before phase one, key measures assess the sociological variables that literature states are influential in predicting fearfulness (Mesko et al., 2004). This included the Social and Community Perceptions Scale (van der Wurff et al., 1989). PCA and reliability analysis conducted enabled an assessment of the psychometric properties of the scale in its 8-item iteration. This allowed for a further assessment of the scale to determine which subscales required expansion of their construct breadth (Morgado et al., 2018).

This stage enabled the generation of new items depending on whether the scale performs poorly in terms of its predictability (Block, 1988). Items were generated to fit the subscales that were present as part of the original research, this enabled further testing to determine whether items could remain at later stages of this thesis.

These newly generated items make up the next questionnaire, which was sent to respondents once again, the dataset collected enabled a further PCA to establish which items needed to remain, and which needed eliminating (Morgado et al., 2018). This step reduces these data to a smaller set of variables capable of summarising what the scale is attempting to measure. This method of data reduction allows a cleaner substructure with items that remain to have the greatest correlations with one another and hypothetically being the best fit for the subscale and what it is trying to measure (Morgado et al., 2018). This allowed the scale to have greater predictability of fear of crime and in turn create a better-rounded measure than the original that is present in the literature (Morgado et al., 2018).

The methodology of questionnaires used to collect data in a study of this nature is a well-utilised method with many benefits (Fraley, Waller, & Brennan, 2000). A large amount of data is generated in a relatively short period, meaning a larger sample size is available for analysis to be conducted (Fraley et al., 2000). The larger this sample size, the greater the generalisability of the study (Fraley et al., 2000). The current thesis also has the benefit of being a general population sample (Block, 1988). This is unlike previous studies; meaning discoveries of any relationships between variables are more generalisable to a general population

than if a target population were to used (i.e., students only as used previously in the field in studies such as Lane et al. (2009)) (Holmes & Rahe, 1967; Lane et al., 2009).

The questions are also standardised, meaning all respondents have the same experience with the process of collecting data, each respondent sees the same questions in the same order meaning the study is easy to replicate and check for reliability (Fraley et al., 2000).

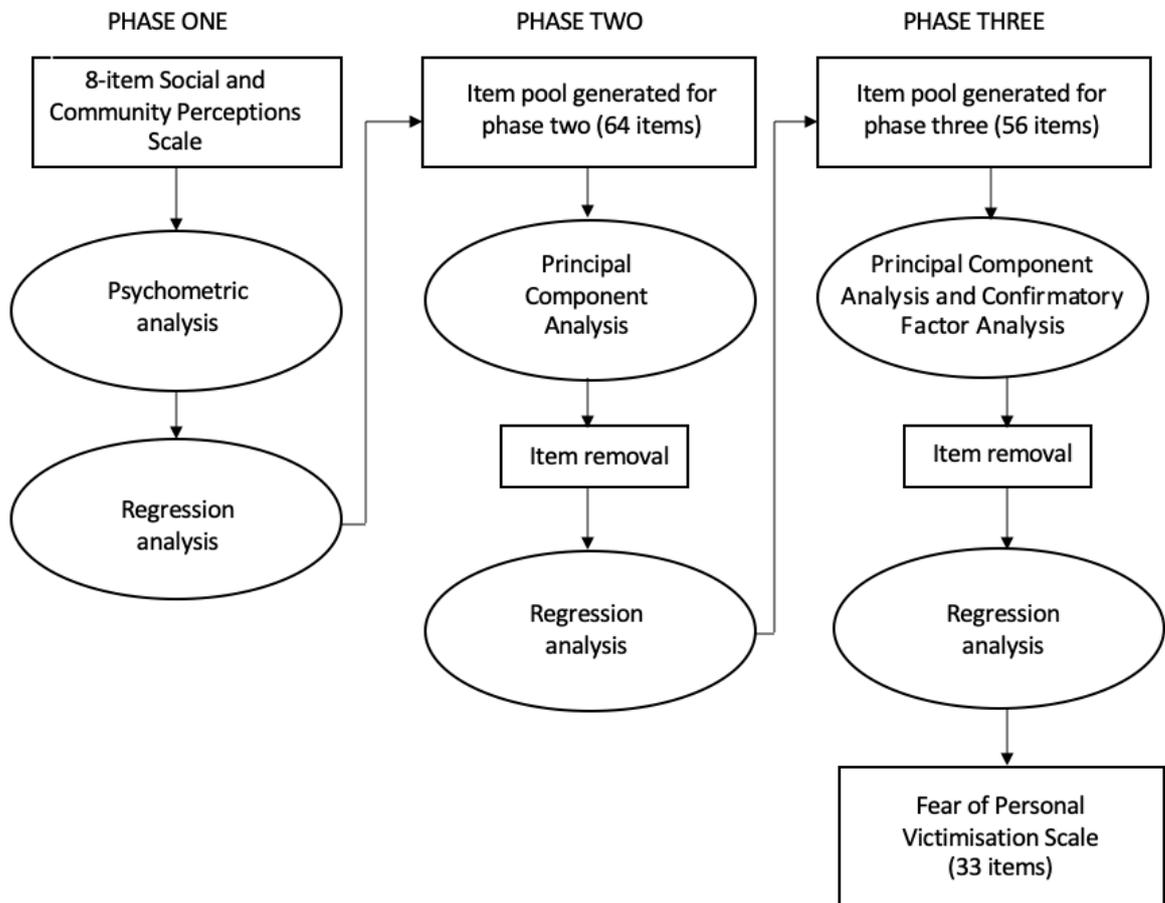
For phase one, several measures from the literature and a demographic section were used to create a survey. These measures included a general demographics section, the “Social and Community Perceptions Scale” taken from van der Wurff et al. (1989) the “Perceptions of Police Scale” from Nadal et al. (2015), the “Fear of Crime Scale” created from crimes selected from a list commonly feared crimes in the National Crime Survey of England and Wales (2016) and finally three questions from Farrall et al. (2004) relating to intensity and frequency of fear. Copies of all of measures in their original format are available in the appended records (pp. 324-327).

These measures were chosen for testing to determine if, when used together, they can identify which members of the population had a higher self-perceived risk of personal victimisation. Utilising these measures and suggested demographic factors that the literature suggested increased the perceived risk of personal victimisation an investigation was conducted. There is a discussion of the breakdown of these measures in the following chapter.

The replication of these studies, as with the replication of any other is, widely speaking, a worthwhile endeavour (Mesko et al., 2004). Replication of any study allows for the models to be tested on a different population in which conditions could be different for participants. It is also an opportunity to determine to what level the findings of a study can be generalised (Mesko et al., 2004). For example, the Social and Community Perceptions Scale was used largely on a sample in Slovenia and the Netherlands so a similar result on a UK population would indicate that the measures used are at least valid (Mesko et al., 2004).

Included below is a flow chart documenting the overall methodology utilised during each phase of this thesis in order to complete its aims and to improve upon the Social and Community Perceptions Scale (van der Wurff et al., 1989) and to complete the Fear of Personal Victimisation Scale, at each stage

ensuring there was sufficient expansion of the item breadth of subscales while not impacting the conceptual clarity of subscales. The scale was also routinely tested in terms of its ability to predict fearfulness of crime utilising offences taken from the National Crime Survey of England and Wales (2016).



**Figure 1.** A flow chart of the overall methodology applied by this thesis to improve upon the Social and Community Perceptions Scale in line with the aims of this thesis.

A thorough breakdown of the aims of each phase is included in the following chapters including flowcharts of how the aims were completed on both a psychometric and correlational level. These aims were generated to ensure the scale was improving in terms of its reliability, validity, item breadth and predictability of fear of personal victimisation, whilst not impacting the conceptual clarity of the subscales from the subscale definitions provided by Mesko et al. (2004). A breakdown of the methodology used to generate items for item pools is provided in the methodology of phase two and phase three.

## Chapter 3: Key predictors of fear of personal victimisation

---

Predictors of “fear of victimisation” are well researched within the literature. They have been tested on several populations. A summary of the key predictors from the literature and findings related to them is presented in the following chapter.

### 3.1 Crime and its social implications

Crime is a complex phenomenon with what some would describe as unusual or unexpected social behaviours, which the average person would find difficult to understand and even more difficult to control or quantify (D’Orsonga & Perc, 2015). One example of crime being difficult to understand is when taking into account prison sentences (D’Orsonga et al., 2015). A reasonable individual would assume that enforcing a longer prison sentence, increasing fines or generally making punishments less lenient would lead to fewer crimes being committed, but according to D’Orsonga et al. (2015) this is not the case.

The very nature of crime being so unpredictable, as well as the implications for its victims, can lead individuals to become fearful of crime without previous experience of victimisation (D’Orsonga et al., 2015). In attempts to understand the nature of crime mathematical models of crime have been created, for instance, the mathematical model for the spatial concentration of crime was used to attempt to form the basis for an explanation as to why criminals target certain areas more than others (D’Orsonga et al., 2015). Another model indicates that areas in which a criminal is more likely to commit a crime, they have a much lower probability of arrest and so the criminal feels more comfortable committing more crimes as they feel they will not be caught or punished (Xu, Fiedler, & Flaming, 2005). A model by Zhao, Scheider and Thurman (2002) attempted to address the importance of a police presence at the scene of a potential riot before they reach the stage that control is lost. Zhao et al. (2002) also found a similar effect of a police presence reducing fear and increasing satisfaction of the public overall.

### **3.2 Fear of personal victimisation**

For this thesis, it was the second classification, “fear of personal victimisation” that has been investigated. Specifically, this is the self-reported level to which an individual believes they will be at risk of becoming the victim of criminal activity (Mesch, 2000). This was chosen to address the lacunae in the literature appropriately. Many studies have investigated the impact of one crime in one scenario (such as rape on a student sample) (Lane et al., 2009). This approach does not take into account the volume of factors that have an impact on self-perceived risk (Lane et al., 2009).

When considering the area of personal victimisation, it is important to note that factors associated with the physical characteristics (or the demographic categories to which they belong) are “predictors” (Lane et al., 2009).

### **3.3 Gender**

When considering a binary concept of gender, multiple studies have determined gender as the most effective predictor for this measure of self-perceived risk (May et al., 2002; Rountree et al., 1996; Sacco, 1990; Schafer, Huebner, & Bynumber, 2006). The reason behind this is arguably due to the increased self-perceived vulnerability of females over males in the event of a male attacker (Lane et al., 2009). A study into the fear of victimisation of students on a given campus indicated that participants who were female were far more fearful than males and that the most commonly feared crime was rape and sexual assault (Alvi, Schwartz, DeKeseredy, & Maume, 2001; Cobbina, Miller, & Brunson, 2008; Dobbs et al., 2009; Knapen & Lichtenberg, 1978). Females on the campus were afraid of being the victim of some form of sexual assault from a male attacker, which confirmed ideas from the literature around fearfulness of personal victimisation (Dobbs et al., 2009).

The issues behind the studies listing “gender” as a predictor are that they would all appear to go into detail about individual’s gender playing a role in their fearfulness with little attempt to address any other predictors (Cobbina et al., 2008; Dobbs et al., 2009). This does not give a framework that is useful in

creating a full picture of fear of personal victimisation but does give an idea of how gender could potentially influence this thesis.

### **3.4 Age**

How old a participant is an area of debate, though some find it to be a predictor of fear of personal victimisation, some studies have found evidence for the contrary (Fattah & Sacco, 1989; Jaycox, 1978; Joseph, 1997; Kennedy & Silverman, 1985; Mesch, 2000; Ward et al., 1986). The thought behind age being a predictor of fear of victimisation is that those who are older would be more vulnerable than an attacker who would usually be younger according to Warr et al. (1983).

The reason that this demographic has run into issues in terms of being able to be put into use as a predictor of fear of victimisation is due to older members of the population being among the more likely to take steps to remove themselves from situations in which they would be vulnerable (Jackson, 2009). Kasperson et al. (1988) identified this as a common practice of risk management for individuals who perceive themselves to be in more immediate danger from threatening stimuli. For this reason, some studies into fear of victimisation found that younger members of the sampled population were found to be more fearful (Barbaret et al., 2004). This is not because they were more vulnerable but because they put themselves into more “risky” situations (i.e., they went out at night) (Barbaret et al., 2004; Braungart et al., 1980; Kennedy et al., 1985).

Skogan and Maxfield (1981) suggested that routine crime prevention tactics belong to two different categories; avoidance and risk management. The perceived risk of victimisation decreases when an individual removes themselves from perceived dangerous stimuli and therefore a potentially threatening situation (Jaycox, 1978; Joseph, 1997; Skogan et al., 1981). The theory behind this is in avoiding this situation (or location) the individual experiencing the fear will make himself or herself a less suitable target for victimisation (Ward et al., 1986).

There has been little to no work is done to assess the effect of these techniques on fear levels (Scott, 2003). It was however theorised by Scott (2003) that this would lower a fear of personal victimisation in individuals who feel less

safe and therefore they would be more generally fearful, though this has not been confirmed empirically.

Skogan found when examining three different populations that older members of the sample were more worried and fearful of an assault on their person rather than property offences but are “less bothered by other things” (crimes) than young adults (Skogan, 1978, p. 2). This again could be due to the older members of the population removing themselves from situations, which they perceive to be more dangerous (Barbarett et al., 2004). The same paper by Skogan (1978) states that the elderly members of a population are no more likely to be fearful than individuals within the same population who are younger concerning crimes such as burglary.

With the more personal attacks associated with fear of personal victimisation, Skogan (1978) identifies the elderly as “no longer being in the less concerned column” and feared becoming the victim of crimes such as robbery and street crimes (p. 3). Skogan (1978) also reports that the elderly members of society’s higher fear of personal victimisation will come independently from other social concerns. Skogan (1978) states they are fearful of becoming the victim of crime as they are typically described as among the most trusting members of society, which is often perceived as a characteristic that criminals will use to pick their target.

It is worth noting that the findings in Skogan’s (1978) paper could benefit from re-examination within a modern society. For this reason, although they support trends seen in recent articles, the findings should not be the basis of any argument in the current literature merely to provide historical context for the sociological demographic of age and its history as a predictor of fear of personal victimisation. In an extensive review of the literature, Ferraro (1995) discovered the relationship between fear of personal victimisation and age was ‘curvilinear’ meaning that the oldest and youngest (especially in female) members of the population were more likely to be fearful of personal victimisation.

### **3.5 Living situation**

The living arrangements (whether the area in which a participant lived was deemed to be higher in social standing) of those surveyed in several studies were

found to have an impact on the level of fearfulness experienced by those surveyed (Barbarett et al., 2004). In this case, not only crime rates but also the environments that the participants found themselves in would have an impact on the level of fear they experienced (Grabosky, 1995; van der Wurff & Stringer, 1988). This could be associated with the level of degradation of their environment, (people were more fearful in less aesthetically pleasing areas such as those with more litter or graffiti) (Burby & Rohe, 1989; Fowler, 2002). “Signal crimes” such as these have often been used to communicate a breakdown in social order and thus increase a self-perceived risk of personal victimisation (Innes, 2004).

In a study into the students living on a university campus, it was discovered that women feared crimes such as rape, sexual assault or stalking more regularly (Barbarett et al., 2004; Fisher & Sloan, 2003; Kirchhoff & Kirchhoff, 1984). Whereas in an area more generally populated by students (where criminals are known to prey on those deemed more ‘vulnerable’), the theft of a motorised vehicle was a large contributor to fear of personal victimisation (Barbarett et al., 2004).

There have been noticeably fewer studies examining the relationship between fear of personal victimisation and being from a lower-income background, especially when compared to factors such as gender and age (Stanko, 1995). The evidence available does suggest that those who have a lower income are far more fearful than the rest (Jackson, 2009). Those in “multiply deprived” (someone below the average income) households were found to be nearly three times as likely to be uncomfortable in their neighbourhood when compared to those in a “comfortable” (those at, or above the average income) household (Pantazis, 2000).

Whether the theories regarding a less “well-kept” area increasing fear of crime are correct or not, the perception surrounding them and linking factors such as an area having graffiti to criminal activity taking place could make an individual more fearful as a result (Fowler, 2002). The work that has been done in this area enables a clearer picture to be established as a result of this current thesis that addresses both the issue of the living conditions and the demographic predictors and determines which have more impact on an individual’s fearfulness (Fowler, 2002).

Lavrakas (1982) explored the differences between living in an urban and suburban neighbourhood. The finding was a difference in fear levels for those living in a city and individuals in suburban areas (Lavrakas, 1982). A hierarchical regression found that “sets of” predictors associated with the area where participants lived accounted for more than 25% of the variance related to fearfulness (Lavrakas, 1982).

Ceccato (2020) found that when lighting or CCTV is in place there was a significant reduction in the level of fearfulness reported. Between 1968 and 2019, 72% of individuals from 37 quantitative studies showed a positive impact (fear reduction) as a result of lighting (Ceccato, 2020). A review of 22 quantitative studies from the same period revealed that CCTV was found to have a positive impact (either a reduction in fear of victimisation or positive impact on risk perception) on 67% of individuals (Ceccato, 2020).

### **3.6 “Self-defined ethnicity”**

The ethnicity of an individual is the group of a common heritage an individual believes they belong to (such as white and black) (Leiber, Nalla, & Farnsworth, 1998; Lumb, 1996). These groups have an impact on both fearfulness and perception of police (Leiber et al., 1998; Lumb, 1996). The specific effect ethnicity will have on fear of personal victimisation has been found in many past studies into the area of the perceptions of the public regarding the police (Leiber et al., 1998). It has been found that the ethnic group to which an individual defines themselves as being a member of can make them more positively or negatively biased towards the police (Scheider et al., 2003). For example, anyone who belongs to the demographic ‘white’ would tend to be more positive towards the police where those who are ‘not white’ (anything other than Caucasian) are more likely to have a negative bias in relation to their perception of the police (Scheider et al., 2003).

When investigating an area such as the risk of personal victimisation it is important to take this potential factor into account when attempting to draw any conclusions of what factors can make individuals more fearful and to specific crimes (Torres & Vogel, 2001). The impact of ethnicity and fear of personal victimisation is due to those from ‘minorities’ being less confident the police will

fulfil their duties (Torres et al., 2001). Therefore, the ramifications of crimes they suffer will be greatly magnified due to a lower perceived likelihood of justice (Pantazis, 2000).

Those in 'minority' groups are also more likely to be below the average level of income and live in areas that would be deemed as 'rougher' (Grabosky, 1995; Hinkle & Weisburd, 2008). The effect of these demographics on a fear of personal victimisation is described in chapters 3.5 and 3.8 of this doctoral thesis.

### **3.7 Sexual orientation**

"Sexual orientation" can mean many things but for this thesis, it will be to determine the difference between those who identify as "straight" and those who determine themselves to be anything other than "straight".

Nadal et al. (2015) found that members of the LGBT community were also more negative towards the police in a similar way to those of different self-defined ethnic groups. A study into fear of victimisation and police perceptions it was found that members of the LGBT community were also more fearful of personal victimisation in general than those who identified as 'heterosexual' (Wilcox, Jordan, & Pritchard, 2007).

Wilcox et al. (2007) report these results indicate that fear of personal victimisation was heavily influenced by the sexuality and ethnicity of an individual due to the large impact police perception is likely to have on an individual's self-perceived risk of personal victimisation. Nadal et al. (2015) study was conducted solely on a sample in the United States of America, so drawing conclusions that would be relevant to individuals in a different population may skew these data due to the hostile climate between the police and the US population at the time this survey was conducted.

With the impact a perception of police has on fear of personal victimisation it would be reasonable to investigate the impact of sexual orientation on the level of fearfulness reported (Nadal et al., 2015).

### **3.8 Income**

Grabosky (1995) states that individuals who come from a household with a lower annual income are more likely to be fearful than if they came from a household with a higher income. This difference in fearfulness comes from a result of those with less financial freedom not being able to afford the best security systems to protect themselves and their properties (Grabosky, 1995). The paper goes on to state that those from higher-income households tend to associate less with individuals from lower-income homes (who also tend to be a greater risk of becoming offenders) (Grabosky, 1995).

There was also a theorised association with the areas of housing people from different classes can afford, members of the working class are often unable to afford the luxury of living in a perceived “well-off” area and are often forced to live in the same areas where those who are more at risk of becoming offenders would live (Hinkle et al., 2008). Even if this theory is false, the perception is enough to make an individual fearful of becoming a victim when living in what is perceived as a “rough” area (Hinkle et al., 2008; Ross et al., 1999). Continuing with the theory of security systems, it was also theorised as being more likely that a “rich” neighbourhood would have a more up to date security system (Grabosky, 1995).

### **3.9 Familiarity of surroundings**

Grabosky (1995) found that when an individual’s environment changes significantly and frequently (such as a significant number of new neighbours in a short space of time) then that individual would report a higher level of personal risk. This change can harm those in the neighbourhood even if there is no reported change in criminal activity (Grabosky, 1995). There is a ‘peace of mind’ associated with a stable and predictable social setting which can be interrupted by any sudden changes (Grabosky, 1995).

For this example, the term ‘familiarity with surroundings’ could be misleading as the familiarity can come from having lived in a certain area for an extended time, or situations being similar for a lengthy period (for example living next to the same neighbour for years) (Ross et al., 1999).

In a 2020 qualitative paper, Maier and DePrince found that when asking a student population about their habits that those who felt comfortable would be less likely to change the behaviours than those who felt uncomfortable. The only fear prevention method that worked in this population was the perception of lighting on campus, which reduced fearfulness (Maier et al., 2020).

### **3.10 Mental health**

Stafford, Chandola and Marmot (2007) established mental health as having a link to fear of victimisation, this link is well established according to the paper. Though a link to the highly publicised notion of vulnerability (Perloff, 1983) this was not without its limitations. The measurement tool would need to be altered significantly to incorporate this concept (Stafford et al., 2007). The term “mental health” also has a wide description and is a rather broad-brush statement that can be used as an umbrella term for a great number of different conditions (Stafford et al., 2007). Stafford et al. (2007) indicate that the more extreme mental health conditions are only experienced by a small percentage of the population. This could potentially still have a bias that would impact the results and the effectiveness of the measurement tool created (Hagan, 2006; Hathaway & McKinley, 1943; Stafford et al., 2007).

### **3.11 Victimisation experience**

Quann and Hung (2002) established a link between those with victimisation experience and fear of further personal victimisation. Though not surprising this link between being a previous victim of crime can cause a great deal of anxiety for those who take part in a survey (Quann et al., 2002). This experience with crime alters the perspective of the individual suffering to a great degree from what it would usually be (Quann et al., 2002). This can either be a positive change (the worst has happened so there is nothing to fear) or negative change (it has happened once what would stop a second occurrence?) (Quann et al., 2002).

This change in perception would create a bias according to Quann et al. (2002). It is advised to avoid such biases when creating a more general

measurement tool (Heggstad, Rogelberg, Goh, & Oswald, 2015; Oswald, 1997; Saris & Strokhorst, 1984). The more general perceptions such as a female being more afraid (Schafer et al., 2006) would be altered and as such it is common to practise to not allow those with previous victimisation experience to take part in a project in which a measurement tool is being tested (Gale & Coupe, 2005; Gaquin, 1978; Moore, 2006).

### **3.12 Police perception**

A paper by Nadal et al. (2015) created a measurement tool designed to test the perceptions of police of a given population. This was not the first research into the field as a link between confidence in police and “fear of crime” has long been established (Hinkle et al., 2008; Reisig & Parks, 2004; Robinson, Lawton, Taylor, & Perkins, 2003).

The concept involves a symbiotic relationship where both parties (the public and the police) either suffer or assist one another (Reisig et al., 2004). Reisig et al. (2004) describe the relationship of “policing by consent” whereby the public enhances the police presence by being their “eyes and ears”. If an individual feels the police will complete their duties and protect the public, they will be more likely to report a crime (Reisig et al., 2004). This, in turn, enables the police to investigate and protect the public from harm, helping both the police and the individual who reported the crime (Reisig et al., 2004). This interaction increases the public’s confidence in the police and thus makes them feel safer (Reisig et al., 2004).

However, the same would be true in the inverse of the previously described relationship (Nadal et al., 2015). If an individual does not feel confident in the police, they will fail to report the crime due to a lack of confidence the police will rectify the situation (Nadal et al., 2015). This, in turn, creates a negative relationship as the police are unable to be in all places, they will miss crimes and therefore the public will lose confidence in the police (Reisig et al., 2004; Skogan, 2009).

The relationship with fear of crime is present for both of the aforementioned scenarios if an individual has confidence in their police force’s ability to protect them they are less likely to be fearful of a crime (Hinkle et al., 2008; Liska,

Lawrence, & Sanchirico, 1982; Oswald, 1997; Scarborough, Like-Haislip, Novak, Lucas, & Alarid, 2010). Though if an individual possesses less confidence in their police force's ability to protect them, they are more likely to be fearful of crime (Møller, 2005; Nadal et al., 2015).

Hinkle et al. (2008) indicate there are strong links between the perception of police and the quality of the surroundings with graffiti and other such acts of criminal damage. Sampson and Raudenbush (2004) highlight the effect of this 'seeing disorder' where broken windows and other such visible damage make individuals more likely to have a negative perception of a neighbourhood. This link can make individuals think of the police as not protecting their property from damage in line with their duties, thus decreasing the positive public perception of police and increasing fear of personal victimisation (Sampson, Raudenbush, & Earls, 1997; Scarborough et al., 2010).

A negative perception of police can also turn youths to crime with less respect for authority and a diminished expectation of repercussion for their criminal activities (Bursik Jr. & Grasmick, 1993; Shaw & McKay, 1942; van Dijk, 1978; Will & McGrath, 1995).

### **3.13 Other developments**

A 2020 paper by Prieto Curiel, Cresci, Muntean and Bishop found that there was a bias towards violent crime on social media. This, however, could not be used to predict the trend of crime and was not highly correlated (Prieto Curiel et al., 2020). Prieto Curiel et al. (2020) states that social media is not useful in detecting crime, but rather in predicting the crime individuals will fear the most (such as sexual and violent crimes).

Exposure to various types of media is described by Callanan (2012) as an "important" predictor of fear of victimisation, but only when other demographic variables are taken into consideration. Consuming local media impacted an individual's fear of victimisation significantly when compared to false news accounts (Callanan, 2012).

Though these developments are useful facets of fearfulness, without a gold standard measure there would be a continued lack of measurement coherence which would further contribute to the present lacunae this thesis is attempting to

address and undo (Pleysier et al., 2005). These facets of fearfulness should be measured once a gold standard measurement tool is in place to prevent measurement variance (Pleysier et al., 2005).

### **3.14 Summary of key predictors**

To summarise the key predictors would, at this point, be problematic due to the widespread measurement variance leading to issues with formulating any conclusions between demographic predictors (Pleysier et al., 2005).

From a thorough review of the literature the only key feature that could be established was whether the demographic predictors of fear of crime would be worthy of inclusion in the demographic section for this doctoral thesis (Pleysier et al., 2005). In order to establish the demographics that should be included alongside the final Fear of Personal Victimisation Scale, phase one's investigation included a wide range of demographics in an attempt to address which are the most significant predictors of fear of personal victimisation.

### 4.1 Phase one – Exploring the nature of fear of personal victimisation using principal component analysis (PCA)

#### 4.1.1 *Introduction and background to phase one*

Phase one of this doctoral thesis investigated the nature of fear of personal victimisation in order to determine the factors most significantly impacting participants' level of fearfulness. In order to accomplish this, several measures from the field of fear of personal victimisation were used to create a survey.

This thesis investigated some established scales that had some form of sound reasoning behind their creation. This was an iterative process seeking to test the studies on a general population, which involved a series of questionnaires (Williamson et al., 2013).

Following data collection, the scales underwent statistical testing for their psychometric properties that the scales selected had been missing in the past, with Mesko et al. (2004) stating the subscales were simply 'assumed' to be predictors of fear of personal victimisation. The testing of the psychometric properties of the subscales is necessary to determine if the hierarchical regression analysis utilised in many of the studies is appropriate (Cortina, 1993). Therefore, reliability analysis was conducted on the data collected to establish whether the subscales were providing an appropriately robust and reliable model (Cortina, 1993). This stage also enables an assessment to be made as to whether factorability analysis is appropriate (Cortina, 1993).

The next stage involved PCA, which was utilised to determine the underlying factor structure of the Social and Community Perceptions Scale, as well as the Fear of Crime Scale. When placed into any type of PCA it is important to note the size of the dataset must be above 200 (Fraley et al., 2000).

Testing the predictability of these scales (for predicting a fear of personal victimisation) is also important at this stage (Morgado et al., 2018). If they were unable to predict the phenomenon when they were designed to do just that, then something is wrong with the scale and must be altered to better meet the original aim of this thesis. Multiple hierarchical regression was selected as the method of

analysis to assess the predictability of fear of personal victimisation scores (Mesko et al., 2004). This method was conducted not only to maintain consistency with papers that have utilised the Social and Community Perceptions Scale (Mesko et al., 2004; van der Wurff et al., 1989) but also to allow for the demographic predictors to be added in stages to determine the level to which they contribute to the predictability of fear of personal victimisation.

## **4.2 Methodology and research design**

### **4.2.1 Methodology**

For phase one of this study, questionnaires obtained the most amount of information possible from the largest number of people. This method enabled assumptions of the general population from the results obtained.

For the Social and Community Perceptions Scale, an assumption by van der Wurff et al. (1989) indicated that the four socio-psychological traits were present within the scale. Including these subscales ensured consistency with the original paper. Phase one utilises original subscales from the van der Wurff et al. (1989) paper to investigate the level to which they can predict fear of personal victimisation. To accomplish this, phase one employed hierarchical regression as a means of predicting scores from the Fear of Crime Scale (and its subscales) as the criterion variables. This method maintains similarity and consistency with the original study and the methods applied by both van der Wurff et al. (1989) and Mesko et al. (2004).

### **4.2.2 Research design**

For phase one a correlational design was utilised.

Predictor variables;

The predictor variables included the demographics, such as; the age, gender, sexuality, self-defined ethnicity, household composition and whether those surveyed live alone or with other people. The second set of predictor variables were the four subscales taken from the Social and Community

Perceptions Scale (van der Wurff et al., 1989). These are; the “Power”, “Evil Intent”, “Attractivity” and “Criminalisable Space” subscales.

Criterion variables;

The criterion variables included the three subscales taken from the Fear of Crime Scale. These are the “Violence”, “Damage to Personal Property” and “Fraud” subscales.

### **4.2.3 Participants**

For phase one of this thesis, 338 participants completed the questionnaire. Ages ranged from 18-75 years with a mean ( $M$ ) of 30.60 and standard deviation ( $SD$ ) of 13.51; 71.0% (240) were female and 29% (98) were male. Female ages ranged from 18-74 years,  $M = 29.91$ ,  $SD = 13.17$ ; Male ages ranged from 18-75 years,  $M = 32.29$ ,  $SD = 14.24$ .

Snowball sampling was utilised as the method of recruitment. This involved sharing the questionnaire using social media as a medium to facilitate data collection. The inclusion criteria of this study included; being a resident of the UK, to not be a past victim of traumatic crime and to be over the age of 18. Inclusion criteria were clear to potential responders throughout the advertisement process. Participants outside of this criteria who elected to respond had their entries deleted. Exclusion criteria of this phase of the research were to not meet the inclusion criteria, meaning they were below the age of 18, a past victim of traumatic or not a resident of the UK at the time of completion.

### **4.2.4 Measures**

The study breaks down into five sections, a demographic section that enabled a clear picture of the participant in terms of all the suggested significant predictors in the literature while protecting their anonymity.

### **4.2.5 Perceptions of Police Scale**

Section two was the Perceptions of Police Scale (POPS) taken from a paper by Nadal et al. (2015) conducted on an American sample. Perception of police was

another suggested predictor for fearfulness of victimisation and provided the best picture possible of an individual's perceived perception of the police. The POPS consisted of twelve positively worded statements e.g., "I like the police".

Rated on a Likert scale (1-5), the POPS enabled participants to identify the levels to which they agree with the statements from 1, which indicated individuals "strongly disagree" to 5 representing "strongly agree". The minimum score of 12 indicated an extremely negative perception. The maximum score of 60 indicated a very positive perception of the police.

This scale has undergone testing for its psychometric properties where it showed validity, internal consistency and reliability (Nadal et al., 2015). In their 2015 paper, Nadal et al. (2015) found that on a population of 162 individuals the POPS scored highly for internal consistency with a Cronbach's alpha of .94. As well as this, the subscales had Cronbach's alpha scores of .93 for the 9 items associated with General Perceptions and .88 for the 3 items associated with Perceptions of Bias (Nadal et al., 2015). Cortina (1993) indicates these scores are over the threshold for an excellent level of internal consistency.

#### ***4.2.6 Social and Community Perceptions Scale***

The third section was Social and Community Perceptions Scale, developed by van der Wurff, van Staaldin and Stringer (1989). The scale measures the level of discomfort in specific instances that may lead them to feel vulnerable. It also attempted to establish the social habits (such as how likely an individual is to get into a row or trust a stranger) of those surveyed. The design of this scale was an attempt to bridge the gap between fear of personal victimisation and the demographics that reported themselves as more fearful.

Presenting those surveyed with several statements such as "I think that people are jealous of me "," I generally stay clear of rows/arguments" and "I generally trust strangers" measures participants' social habits. Participants then rated how strongly they agree with each of these statements which used a Likert scale (1-5). Ranging from 1, labelled "strongly disagree" to 5 indicating that an individual selected "strongly agree". The lowest score on the Social and Community Perceptions Scale was 8 with the highest score being 40. The full version of this scale is available in the appendices (pp. 324).

The issue with this scale is subscales that emerge do not test very highly for reliability or validity. For this thesis, they will need to undergo alterations (some addition or removal of items depending on the composition of the subscales from the data collected for this study).

Using the four subscales Mesko et al. (2004) found evidence that this scale could shed new light on reasons behind fearfulness and underlying causes (whether it be a person, group of people, place, situation or time of day that made them more fearful). There was no expectation for the 8-item structure to perform at an appropriate level in terms of internal consistency. Improvements to the scale occur at a later stage by expanding the construct breadth of the subscales with item generation during the second phase of this thesis. At phase one, however, due to a lack of items on each subscale (2 for each in the original study) reliability was an issue.

#### **4.2.7 Fear of Crime Scale**

The penultimate section was the Fear of Crime Scale. Adapted associated statistics from the National Crime Survey of England and Wales of 2016 (UK Office for National Statistics, 2016) it features 12 commonly feared crimes within the sampled population. This method established 12 feared crimes where an individual could see themselves “at-risk” of becoming a victim. This approach is commonplace within criminology as seen in Williamson et al. (2013). The crimes specifically were “my house being broken into”, “When parked in an area I am unfamiliar with, my car/vehicle being broken into”, “When in an area I am unfamiliar with, someone mugging me”, “When in an area I am familiar, with someone mugging me”, “Sexual assault”, “Interpersonal assault (Actual bodily harm or Grievous bodily harm)”, “Murder”, “Terrorism”, “Conventional Fraud e.g., credit card scams”, “Arson”, “Damage to property e.g., personal vehicle” and “Online Fraud e.g., online bank Fraud, phishing”.

First person crimes have form the items for this scale due to the nature of fear of personal victimisation (which third parties do not experience). Due to its coverage in the media over recent years, the inclusion of terrorism is necessary (Haner, Sloan, Cullen, Kulig, & Lero Jonson, 2019).

This scale presented participants with each of these crimes and asked to rate how fearful they were of becoming a victim of each crime. The rating takes place using a Likert scale (1-5) with 1 labelled as “strongly non-fearful” and 5 as “Strongly fearful”.

The minimum score for this scale was 12, (which would mean the individual in question was not at all fearful of personal victimisation in relation to the crimes mentioned). The maximum score was 60 (indicating the individual was extremely fearful of becoming the victim of the crimes mentioned).

The literature suggested the most feared crimes to be more physical crimes. Those who perceive themselves as “vulnerable” or less able to defend themselves (which the literature define as females being more afraid of rape and elders being more afraid of assault) are the most fearful of these crimes. The full Fear of Crime Scale generated for this study is available in the appended records (pp. 245).

#### ***4.2.8 Frequency and Intensity of Fearfulness Scale***

The fifth and final section was a question taken from Farrall et al. (2004), which was comprised of three questions designed to measure the intensity of an individual’s fear of crime within the last 12 months (as previously stated symptoms associated with previous victimisation tend to disperse after 15).

The first question asked; “In the past year have you felt fearful about the possibility of becoming a victim of crime” where participants answer; “Yes”, “No” or “Do not remember”. If the participant answered “Yes” the survey continued to two final questions. If they answered “No” or “Do not remember” the survey ended.

When answering “Yes” the participant indulged the questions “If you answered ‘yes’ to the previous question (Question 1) how frequently have you felt this way in the past year?” to which they were required to answer and option ranging from “1 occasion” to “More than 10 occasions”. The second question of this section asked “If you answered ‘yes’ to question 1, on the last occasion how fearful did you feel?” where participants could rate how fearful they were using five answers that used a more simple version of a Likert scale for scoring. 1 indicated they were “Not very fearful”, 2 indicated they chose “A little bit fearful”,

3 indicated they were “Quite fearful”, 4 meant they were “Very fearful” with 0 (which was recoded to remove anyone with an experience that was less intense causing anomalous results) meaning they chose “Cannot remember”.

This use of items from this study enables a more in-depth picture of any individual’s fear of personal victimisation rather than potentially missing out on key information. It enabled confirmation of the sample’s likelihood to be fearful in relation to any of the given crimes and social scenarios, which can, in turn, make it easier to confirm what predictors are stronger than others when it comes to predicting an individual’s self-perceived risk of personal victimisation.

#### **4.2.9 Procedure**

The participants responded to an initial advertisement via social media, which invited them to take part in the study if they met the required demographic inclusion criteria.

Clicking on the link took participants to an information and consent sheet which provided them with instructions stating what they would need to do if they wished to consent to the study as well as how to withdraw if they wished to do so. This sheet also informed them there would be instructions on each page, which would let them know how to answer the questions on each page. The complete survey presented to participants including this information sheet is available in the appendices (pp. 232-246).

The data collection for phase one started in March of 2018 and concluded in April of 2018. Before analysis took place, the remaining participants who did not meet the inclusion criteria for phase one had their answers manually deleted.

Following this conducting reliability and factorability analysis followed by PCA investigated the relationships of demographics and fear of personal victimisation. This enabled hierarchical regression analysis to investigate the predictability of fear of personal victimisation scores. Due to a low representation of certain demographics, dummy coding was utilised to enable more meaningful comparisons within the data. This is in line with suggestions from the literature of the nature of fearfulness (Nadal et al., 2015). A breakdown of this coding takes place in section (4.3.3).

#### **4.2.10 Ethics and limitations**

This study obtained full University ethical approval. As a part of the MMU PhD process completion of the “RD1” was necessary. Within this form was the information relating to the (at the time) potential study. This included the proposal for the project as a whole with the basic ideas and a small review of the literature surrounding the subject matter of “fear of personal victimisation”, information regarding these data and details of the method of data collection as well as several forms that would allow ethical approval to be given to collect data in the method that was outlined in the RD1.

After this the project was considered by the Research Degree Committee, then sent to a more experienced member of academic staff. The research committee considers the report then recommends approval if appropriate, allowing the head of the research centre (RISHC) to confirm ethical clearance.

The method used for the purposes of this doctoral study was entirely questionnaire based, which is routine, thus additional scrutiny was not required.

MMU ethics, governance and procedures can be accessed by the links below:

*General overview*

<http://www2.mmu.ac.uk/research/our-research/ethics-and-governance/ethics/>

And;

*Processes and Procedures*

<http://www2.mmu.ac.uk/media/mmuacuk/content/documents/research/MMU-Ethics-Processes.pdf>

Participants were allowed to create a unique username so they could withdraw while maintaining their anonymity. It was clear to participants that there were no negative repercussions for withdrawing from the study at any time. No participants elected to remove themselves from the study at this stage.

Phase one's data revealed some individuals had not read the brief at the start of the survey as there were certain inconsistencies with age, which on several entries was lower than the minimum required age of 18 for this study. Removal of these entries involved manual deletion.

#### ***4.2.11 Data analysis***

Phase one utilised ANOVA as an appropriate method of analysis for these data as it determined if the demographic predictors were influencing participants fear of personal victimisation.

Hierarchical regression, regression and multinomial regression investigated the relationships between the variables. The predictor variables that form the basis of these regressions were based on PCA outputs and provide an easy to read and easily accessible method of determining which of the predictors have an impact on the fearfulness of personal victimisation.



### **4.3 Results**

The analysis conducted for phase one consisted of several steps and can be described as follows; first, there were some descriptive statistics. Following this, there was a breakdown of the demographic variables in terms of frequency and how they were dummy coded. This was followed by reliability and factorability analysis for the necessary variables and their subscales. ANOVA was conducted to determine whether the socio-demographic factors suggested within the literature behave in the way they reportedly should concerning fear of personal victimisation. Finally, the criterion variables (total score and subscale scores of the Fear of Crime Scale) were assessed via four hierarchical regressions to examine the degree to which the predictor variables (demographics and Social and Community Perceptions Scale subscales) explain the likelihood an individual will have a higher self-perceived risk of personal victimisation.

#### ***4.3.1 Aims of phase one analysis***

Phase one's analysis can be broken down into two threads of central analyses. The first is to test the psychometric property of the scales. The second is to assess the ability of the scales and demographics to predict a fear of personal victimisation using a correlational design. The aims of phase one's analysis are outlined as follows;

- 1) To assess the psychometric properties of the measurement tools utilised and determine underlying factor structures.
- 2) To assess the predictability of the demographic and sociological predictors to determine their impact on a fear of personal victimisation.

The analysis was separated into these two aims in order to provide clarity throughout the results section.

### 4.3.2 Descriptive statistics

Below is a table of basic descriptive statistics of key demographics in order to establish what the mean scores for phase one indicate.

**Table 1.** Key demographics from phase one (N = 338).

	Mean	SD	Min	Max
Attractivity	5.85	1.83	2	10
Power	6.59	1.58	2	10
Evil Intent	5.86	1.30	2	10
Criminalisable Space	6.78	1.86	2	10
Violence subscale	14.19	4.64	5	25
Personal Property Subscale	15.28	4.14	5	25
Fraud Subscale	6.63	1.98	2	10

A score of ten for Attractivity, Power, Evil Intent or Criminalisable Space would be a maximum score, indicating that the individual agreed completely with every item on the subscale.

The mean values indicate that the subscales are around the midpoint of the scale (although all above the median value), with the highest being Criminalisable Space, indicating items on this subscale are more feared than the other subscales.

A maximum score of twenty-five on the Violence, Damage to Personal Property or a maximum score of ten on the Fraud subscale would indicate the individual was strongly fearful of every crime associated with that subscale. A minimum score of five or two respectively would indicate they were not at all fearful of any crimes associated. The scores indicate that all subscales scored above their median value (meaning all were more feared than not feared). Of the subscales, the Damage to Personal Property subscale is the most feared for this dataset.

### 4.3.3 Summary of dummy coding

Dummy coding on participants of this study ( $n = 338$ ) has been utilised to allow for the most significant comparisons. In relation to gender, the participants consisted of ( $n = 240$ ) females and ( $n = 98$ ) males so did not require such coding.

Age for this data set had the median value of 24. To investigate the effect of being older or younger participants the categories ( $n = 177$ ) 18-24 and ( $n = 161$ ) 25 and older were utilised for dummy coding<sup>1</sup>.

In relation to ethnicity, ( $n = 239$ ) identified as “white”, ( $n = 32$ ) as “black”, ( $n = 23$ ) as “Asian”, ( $n = 27$ ) as having a “mixed ethnic background”, ( $n = 3$ ) indicated they would “prefer not to say” and ( $n = 14$ ) participants indicated they were something “other” than what was listed. Due to the literature such as the suggestion by Scheider et al. (2003) that minorities would have a greater level of “fearfulness”, separation of self-defined ethnicity occurred, resulting in categories of “White” ( $n = 239$ ) and “Not white” ( $n = 99$ ) using dummy coding.

Sexual preference breaks down into the following numbers; Heterosexual ( $n = 259$ ), Homosexual ( $n = 30$ ), Bisexual ( $n = 41$ ) and Prefer not to say ( $n = 8$ ). As the literature surrounding fearfulness suggested that those who were “straight” would be less fearful of personal victimisation these data dummy code to form a more significant ratio in order to enable consideration of more meaningful differences (Nadal et al., 2015). The breakdown into the new dummy coding changed the dataset to “Straight” ( $n = 259$ ) and “Not Straight” ( $n = 79$ ).

For household composition (number of people the participant was living with); 0 ( $n = 27$ ), 1 ( $n = 54$ ), 2 ( $n = 103$ ), 3 ( $n = 70$ ), 4 ( $n = 45$ ), 5 ( $n = 20$ ), 6 ( $n$

---

<sup>1</sup> Though the median age was low dichotomised variables were utilised in order to maintain consistency with the suggestions from research which states a bi polar approach (old/young) will be impact fear of personal victimisation regardless of the difference between ages (Jackson, 2009). Placing variables into ‘bins’ could also be used, however as this is an exploratory analysis it would be more impactful to determine the difference in older vs younger participants as described in literature rather than dilute the effect down using “bins” (Jackson, 2009). There is also no definition for what constitutes someone as “older” or “younger” within the literature, it is merely the fact that participants are “older” that is used to represent those who perceive themselves as vulnerable (Jackson, 2009).

= 11) and more than 6 ( $n = 8$ ). Using dummy coding to enable a more meaningful ratio, this changed into Individuals living alone ( $n = 27$ ) and Individuals living with people ( $n = 311$ ).

When asked to indulge the question relating to the type of house participants lived in ( $n = 67$ ) indicated they were in a “terraced” house, ( $n = 69$ ) in a “semi-detached” property, ( $n = 80$ ) in a “detached” property, ( $n = 11$ ) in a “cottage”, ( $n = 13$ ) in a “bungalow” and ( $n = 105$ ) in a “flat/apartment”. The dummy coding for “Type of accommodation” broken down into Individuals living in a house ( $n = 236$ ) and Individuals living in a flat ( $n = 102$ ).

The dummy coding for time participants had lived in their current area changed into the more meaningful ratio “Less than five years in current area” ( $n = 171$ ) and “More than five years in the current area” ( $n = 167$ ).

#### **4.3.4 Aim one**

The first aim of this phase of research was focused on the psychometric properties of the scales utilised. As several already had their properties assumed, the analysis was primarily used in an exploratory manner (Mesko et al., 2004). This aim was accomplished utilising PCA to test for the underlying substructure of scales.

#### **4.3.5 Factorability and reliability**

When considering the Social and Community Perceptions Scale reliability analysis revealed a Cronbach’s Alpha score of .43 suggesting a low reliability (Cortina, 1993). This is arguably due to too few items assessing different aspects of several constructs, meaning the reach of the items was too broad and lacks depth (Morgado et al., 2018).

In order to maintain consistency with the original study the original subscales suggested would form the basis for the analysis of these data rather than the solution suggested by PCA.

To assess the underlying substructure of the Fear of Crime Scale, the analysis utilised PCA with a Varimax rotation with Kaiser Normalisation. Kaiser-Meyer-Olkin’s measure of sampling adequacy resulted in a value of .87 (which is significantly above the commonly recommended .50), and Bartlett’s

test of Sphericity was significant  $\chi^2$  of 1680.77 ( $df = 66, p < .001$ ) so the sample is suitable for PCA due to possessing equal variances.

Initial eigenvalues indicated that the first three factors accounted for 43.53%, 10.37% and 9.09% of the variance respectively. The first three eigenvalues were noticeably larger than the rest and accumulatively accounted for 62.99% of variance, an acceptable threshold according to Hair, Black, Babin and Anderson (2010). This led to the selection of the three factor solution. The other factors accounted for a negligible amount of variance in comparison and had eigenvalues of significantly less than the 0.95 of the third factor, meaning it is likely remaining factors will have a negative reliability. PCA established the subscales of the Fear of Crime Scale as; "Violence" (5 items), "Damage to Personal Property" (5 items) and "Fraud" (2 items).

The crimes belonging to the "Violence" subscale were; murder, interpersonal assault, arson, sexual assault and terrorism. When tested for internal consistency this subscale revealed a Cronbach's alpha .83, indicating a good level of reliability and internal consistency (Cortina, 1993).

For the "Damage to Personal Property" subscale, crimes included; mugging (familiar areas), mugging (unfamiliar areas), car being broken into, home invasion, and Damage to Personal Property. Internal consistency analysis revealed a Cronbach's alpha of .80, which is an acceptable internal consistency and reliability result (Cortina, 1993).

For the "Fraud" subscale, the crimes were; online fraud and conventional fraud. This scale revealed a Cronbach's alpha of .71, which is an acceptable level of reliability and internal consistency (Cortina, 1993).

**Table 2.** *PCA for the Fear of Crime Scale showing the breakdown of the structure of the subscales.*

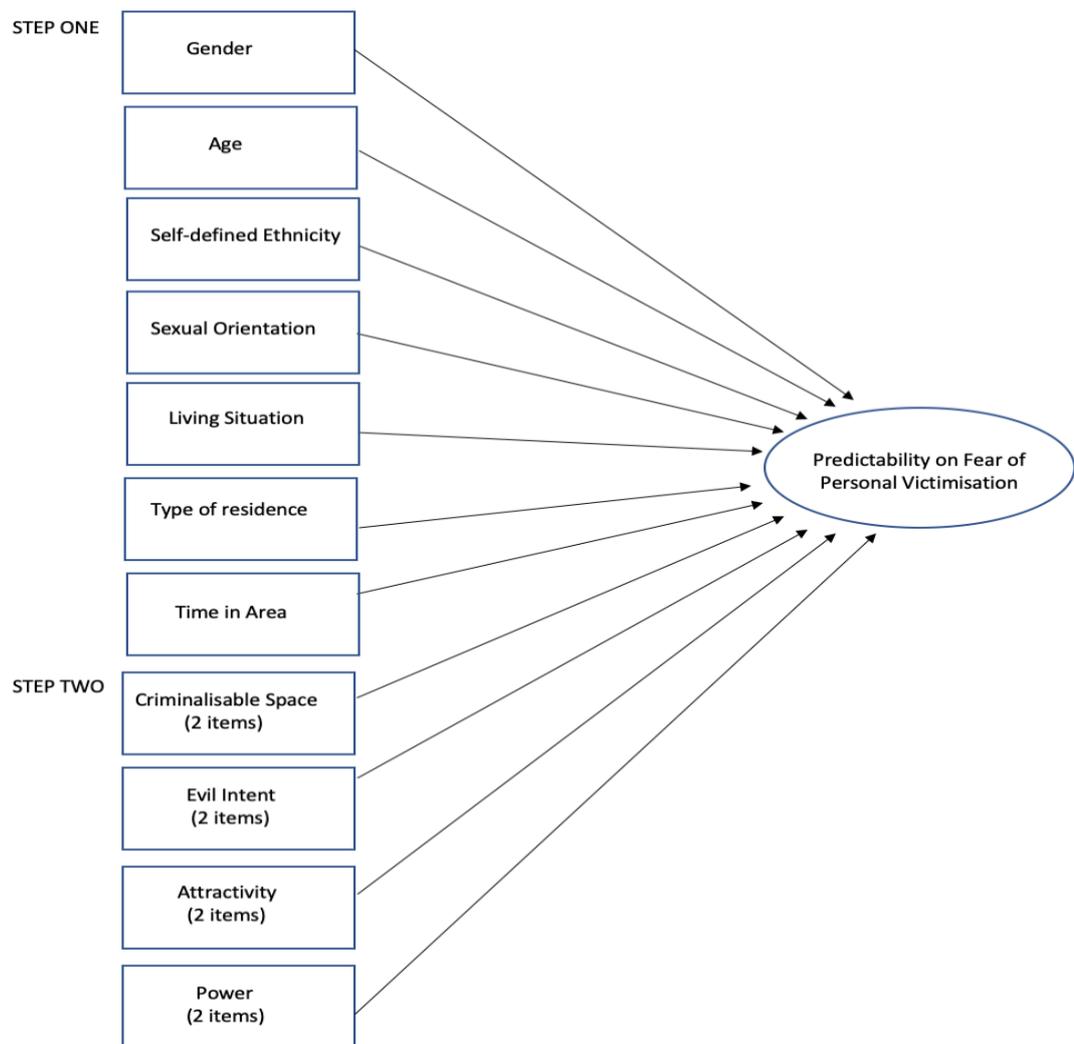
Items	Components		
	Violence	Damage	Fraud
My house being broken into.		.749	
When parked in an area I am unfamiliar with, my car/vehicle being broken into.		.867	
When in an area I am unfamiliar with, someone mugging me.		.813	
When in an area I am familiar with, someone mugging me.		.787	
Sexual assault.	.942		
Interpersonal assault (ABH or GBH).	.788		
Murder.	.727		
Terrorism.	.550		
Conventional Fraud (e.g., credit card scams).			.869
Arson	.648		
Damage to property (e.g., personal vehicle).		.294	
Online Fraud (e.g., online bank Fraud, phishing).			.862

#### **4.3.1 Aim two**

The second aim for phase one's analysis was based around the correlational design of the overall thesis and attempted to determine the variables that have the most significant impact on a fear of personal victimisation. First, several ANOVAs were utilised in order to assess the demographic variables with the biggest differences in their mean scores, in order to assess which was having the largest impact on fearfulness.

Following this step, multiple hierarchical regression was used to test for the predictability of the demographic variables and the four subscales of the Social and Community Perceptions Scale suggested by Mesko et al. (2004) on a fear of personal victimisation.

The regression analysis is summarised in the following diagram



**Figure 1.** Diagram summarising the regression utilised in phase one to test for the factors impacting fear of personal victimisation

#### **4.3.2 ANOVA of individual differences**

In order to assess differences in the mean scores for demographics analysis included several one-way ANOVAs. Data met necessary assumptions for ANOVA in a sample of this size (data meets the assumption of homogeneity of variance) (Laerd Statistics, 2018).

**Table 3.** Summary of ANOVA to determine differences in fear of personal victimisation for demographics.

	Fear of crime			Violence			Damage to Personal Property			Fraud		
	M	SD	F	M	SD	F	M	SD	F	M	SD	F
Gender												
Male	33.58	9.60	11.09* (1, 336)	12.30	4.66	24.68** (1, 336)	14.79	4.53	1.97 (1, 336)	6.50	2.04	.57 (1, 336)
Female	37.12	8.58		14.97	4.41		15.48	4.36		6.68	1.64	
Age												
Over 24	37.27	9.32	6.30* (1, 336)	15.34	9.02	24.26** (1, 336)	15.47	4.33	.76 (1, 336)	6.46	1.98	2.74 (1, 336)
Under 24	34.82	8.52		12.93	4.73		15.07	3.94		6.81	1.98	
Ethnicity												
White	35.40	8.60	4.96* (1, 336)	13.66	5.00	11.20* (1, 336)	15.11	4.05	1.34 (1, 336)	6.63	1.95	.00 (1, 336)
Not white	37.79	9.80		15.48	4.64		15.69	4.37		6.62	2.06	
Sexual Orientation												
Straight	35.46	8.49	5.75* (1, 336)	13.80	4.51	8.29* (1, 336)	15.02	3.93	4.59* (1, 336)	6.64	1.93	.08 (1, 336)
Not straight	38.22	10.34		15.49	4.86		16.15	4.73		6.57	2.15	
Living situation												
Alone	37.85	11.27	1.11 (1, 336)	14.41	5.19	.06 (1, 336)	16.70	5.11	3.48 (1, 336)	6.74	2.07	.02 (1, 336)
With people	35.95	8.80		14.17	4.60		15.16	4.04		6.62	1.98	
Type of accommodation												
House	36.07	9.04	.01 (1, 336)	14.03	4.63	.91 (1, 336)	15.27	4.28	.01 (1, 336)	6.77	1.91	3.93* (1, 336)
Flat	36.18	9.02		14.56	4.67		15.31	3.85		6.30	2.11	
Time in area												
Less than 5 years	36.19	9.37	.03 (1, 336)	14.15	4.88	.03 (1, 336)	15.32	4.21	.03 (1, 336)	6.71	2.03	.66 (1, 336)
Over 5 years	36.01	8.67		14.23	4.39		15.24	4.09		6.54	2.93	

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

The mean scores for gender showed a significant difference on the overall fear of crime scores and the Violence subscale. These scores indicate that females scored higher for fearfulness indicating they are more fearful of crime overall. These scores also indicate that females are more fearful of violent crime than males.

The analysis also revealed that those over the age of 24 were more fearful of violent crime than those who were under the median age. Though significant at a lower level, individuals over the age of 24 were more fearful of crime overall than those who were younger than 24.

The mean scores reveal that individuals who were “not white” scored higher for fearfulness for crime overall and crimes associated with violence than those who identified themselves as “white”.

The ANOVA also reveals that those who were “not straight” are more fearful of violent crime and crimes associated with damage to their personal property than those who were “straight”. The “not straight” participants also scored more highly for overall fearfulness than those who selected “straight”. Individuals living in a house are more fearful than those living in a flat when asked about crimes associated with fraud.

### ***4.3.3 Regression analysis***

Hierarchical regression assessed the predictability of an individual’s fear of crime score based of the Social and Community Perceptions Scale and demographic data. This approach allowed to test the criterion and assess incremental validity within the same set regressions. Due to the low reliability of the scales associated with the Social and Community Perceptions Scale this regression is more exploratory to determine the impact of this scale on the predictability of fear of personal victimisation. This methodology will also provide some consistency with the original uses of the scale (Mesko et al., 2004; van der Wurff et al., 1989).

Testing of the necessary assumptions to ensure a multiple regression was a valid means to analyse these data took place before the regression analysis began. Examination included the assumptions of absence of outliers,

multicollinearity, independent errors, homoscedasticity and linearity of data. The analysis of standard residuals showed that these data contained no outliers for the Violence subscale (Std. Residual Min = -2.79, Std. Residual Max = 2.63), Damage to Personal Property subscale (Std. Residual Min = -3.06, Std. Residual Max = 2.62), Fraud subscale (Std. Residual Min = -2.57, Std. Residual Max = 2.37) and overall Fear of Crime Scale (Std. Residual Min = -3.33, Std. Residual Max = 2.64).

Collinearity tests indicated that these data met the assumption of no multicollinearity at phase one (gender, Tolerance = .96, VIF = 1.5; age, Tolerance = .90, VIF = 1.11; ethnicity, Tolerance = .94, VIF = 1.07, sexual orientation, Tolerance = .96, VIF = 1.04. living situation, Tolerance = .95, VIF = 1.05, household composition, Tolerance = .90, VIF = 1.11, time in area Tolerance = .92, VIF = 1.09)

Stage two (gender, Tolerance = .88, VIF = 1.14; age, Tolerance = .84, VIF = 1.19; ethnicity, Tolerance = .93, VIF = 1.08, sexual orientation, Tolerance = .96, VIF = 1.05. living situation, Tolerance = .95, VIF = 1.05, household composition, Tolerance = .87, VIF = 1.15, time in area, Tolerance = .90, VIF = 1.11, Attractivity, Tolerance = .77, VIF = 1.31, power, Tolerance = .84, VIF = 1.20, Evil Intent, Tolerance = .96, VIF = 1.04 and Criminalisable Space, Tolerance = .81, VIF = 1.24).

These data met the assumption of independent errors for the Violence subscale (Durbin-Watson = 1.90) Damage to Personal Property subscale (Durbin-Watson = 1.95), Damage to Fraud Property subscale (Durbin-Watson = 1.86) and overall Fear of Crime Scale (Durbin-Watson = 1.96). Finally, the scatterplot of standard residuals indicated that these data met the assumptions of linearity and homoscedasticity.

Regression analysis consisted of four two-stage hierarchical regressions. These featured the demographics section and the Social and Community Perceptions Scale as predictor variables. With the demographics as stage one and the suggested subscales from the van der Wurff et al. (1989) paper added as stage two. In order to maintain conceptual clarity the same subscales from the original paper remain consistent within the analysis.

The criterion variables, taken from the Fear of Crime Scale, include the three subscales, Violence (5 items), Damage to Personal Property (5 items)

and Fraud (2 items) as well as the total score generated for the Fear of Crime Scale. Summaries of the findings of these regressions are presented in the following tables.

**Table 4.** Hierarchical regressions with demographics entered at step 1 and van der Wurff et al. (1989) subscales entered at step 2.

	Fear of crime overall	Violence	Damage to personal Property	Fraud
Step 1	$F(7, 330) = 4.226^{**}$ , $R^2_{adj} = .06$	$F(7, 330) = 9.753^{**}$ , $R^2_{adj} = .15$	$F(7, 330) = 1.763$ , $R^2_{adj} = .02$	$F(7, 330) = 1.444$ , $R^2_{adj} = .01$
Step 2	$F(11, 326) = 14.493^{**}$ , $R^2_{adj} = .31$	$F(11, 326) = 16.451^{**}$ , $R^2_{adj} = .34$	$F(11, 326) = 10.561^{**}$ , $R^2_{adj} = .24$	$F(11, 326) = 3.567^{**}$ , $R^2_{adj} = .08$

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

**Table 5.** Beta scores for hierarchical regression analysis with demographics entered at step 1 and van der Wurff et al. (1989) subscales entered at step 2.

	Fear of crime overall		Violence		Damage to personal Property		Fraud	
	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$
Gender (step 1)	.20	3.64**	.27	5.22**	.10	1.77	.06	1.13
Age (step 1)	-.10	-1.83	-.21	-3.95**	-.04	-.63	.10	1.74
Ethnicity (step 1)	.11	2.06*	.15	2.81*	.06	1.11	.04	.70
Straight (step 1)	.11	2.12*	.13	2.57*	.10	1.84	-.002	-.04
Live (step 1)	-.09	-1.71	-.07	-1.43	-.11	-2.00*	-.02	-.31
House (step 1)	-.05	-.87	-.01	-.20	-.03	-.52	-.13	-2.32*
Time (step 1)	.00	.05	.05	.90	-.00	-.07	-.09	-1.52
Gender (step 2)	.16	3.34*	.23	4.87**	.08	1.49	.04	.68
Age (step 2)	.03	.60	-.10	-2.02*	.09	1.79	.17	2.98*
Ethnicity (step 2)	.16	3.40*	.19	4.06**	.11	2.17*	.07	1.22
Straight (step 2)	.09	1.92	.11	2.46*	.08	1.59	-.02	-.35
Live (step 2)	-.10	-2.03*	-.08	-1.66	-.11	-2.32*	-.02	-.32
House (step 2)	-.05	-1.07	-.01	-.24	-.03	-.61	-.15	-2.58*
Time (step 2)	-.01	-.11	.04	.95	-.01	-.25	-.10	-1.84
Attract	.22	4.29**	.20	4.02**	.23	4.30**	.05	.77
Power	-.10	-2.06*	-.12	-2.43*	-.08	-1.50	-.03	-.47
Evil Intent	-.06	-1.21	-.11	-2.32*	.01	.21	-.03	-.57
Criminalisable	.40	7.96**	.34	6.82**	.37	6.93**	.27	4.70**

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

**Table 6.** Showing % of variance predicted at each stage of regression according to  $R^2$  score

	Fear of crime overall	Violence	Damage to personal Property	Fraud
Step 1	8.2	17.1	3.6	0.9
Step 2	32.8	35.7	26.3	7.7

#### 4.3.4 Fear of Crime total

In all regressions conducted for this phase, stage one introduces the demographic predictors and stage two includes the subscales of the Social and Community Perceptions Scale (van der Wurff et al., 1989). Table 5 features the output of these regression analyses.

The first of the four regressions featured the total score generated from items of the Fear of Crime Scale as the criterion variable. At stage one, with the demographics in the equation,  $R^2_{adj} = .06$ ,  $F(7, 330) = 4.226$ ,  $p < .001$ . Gender was positively related to “fear of crime” total scores, ( $\beta = .20$ ,  $t = 3.64$ ,  $p < .001$ ). and sexual orientation ( $\beta = .11$ ,  $t = 2.12$ ,  $p < .05$ ) are also significant positive predictors.

At stage two with the equation  $R^2_{adj} = .31$ ,  $F(11, 326) = 14.493$ ,  $p < .001$ . Gender remained a significant positive predictor ( $\beta = .16$ ,  $t = 3.34$ ,  $p < .05$ ). This finding supports the literature in females reporting a higher level of overall fearfulness of crime overall. Ethnicity ( $\beta = .16$ ,  $t = 3.40$ ,  $p < .05$ ) also remained a positive predictor. With the further addition of Attractivity ( $\beta = .22$ ,  $t = 4.49$ ,  $p < .001$ ) and Criminalisable Space ( $\beta = .40$ ,  $t = 7.96$ ,  $p < .001$ ) as significant positive predictors. Meaning higher scores on these subscales predict a higher overall level in relation to fear of crime. Power ( $\beta = -.10$ ,  $t = -2.06$ ,  $p < .05$ ) and living situation ( $\beta = -.10$ ,  $t = -2.03$ ,  $p < .05$ ) were significant negative predictors.

#### **4.3.5 Violence subscale**

The second regression featured the Violence subscale from the Fear of Crime Scale as the criterion variable. With the equation at stage one  $R^2_{adj} = .15$ ,  $F(7, 330) = 9.753$ ,  $p < .001$ .

Significant positive predictors include gender ( $\beta = .27$ ,  $t = 5.22$ ,  $p < .001$ ), ethnicity ( $\beta = .15$ ,  $t = 2.81$ ,  $p < .05$ ) and sexual orientation ( $\beta = .13$ ,  $t = 2.57$ ,  $p < .05$ ) Age is a significant negative predictor ( $\beta = -.21$ ,  $t = -3.95$ ,  $p < .001$ ), indicating the lower age groups were more fearful of violence than those who were older.

At stage two, with the equation  $R^2_{adj} = .34$ ,  $F(11, 326) = 16.451$ ,  $p < .001$ . Gender ( $\beta = .23$ ,  $t = 4.87$ ,  $p < .001$ ) and ethnicity ( $\beta = .19$ ,  $t = 4.06$ ,  $p < .001$ ) remained significant positive predictors of fear of violent crime. This finding supports the Dobbs et al. (2009) assumption that those who are female would be more fearful of violent crime. This regression also supports the finding that those who are in the “not white” category for ethnicity would be more fearful of violent crime than those who were white. Sexual orientation ( $\beta = .11$ ,  $t = 2.46$ ,  $p < .05$ ) was also a significant positive predictor. With the further addition of Attractivity ( $\beta = .20$ ,  $t = 4.02$ ,  $p < .001$ ) and Criminalisable Space ( $\beta = .34$ ,  $t = 6.82$ ,  $p < .001$ ) as significant positive predictors. Meaning higher scores on these subscales predict a higher overall level in relation to fear of violent crime. Although not as significant the other two subscales Power ( $\beta = -.12$ ,  $t = -2.43$ ,  $p < .05$ ) and Evil Intent ( $\beta = -.11$ ,  $t = -2.32$ ,  $p < .05$ ) are significant negative predictors of fear of violent crime indicating scoring lower on these subscales would make individuals less likely to fear violent crime.

#### **4.3.6 Damage to Personal Property subscale**

The third regression included the “Damage to Personal Property” subscale as the criterion variable. With the equation at stage one  $R^2_{adj} = .02$ ,  $F(7, 330) = 2.264$ ,  $p = .09$ , living situation ( $\beta = .16$ ,  $t = -2.00$ ,  $p < .05$ ) as the only significant predictor.

At stage two, with the equation  $R^2_{adj} = .24$ ,  $F(11, 326) = 10.561$ ,  $p < .001$ , living situation remained a significant negative predictor ( $\beta = -.11$ ,  $t = -2.32$ ,  $p < .05$  indicating that those who lived with people were less fearful than those who lived alone in relation to Damage to Personal Property). The Criminalisable Space subscale ( $\beta = .37$ ,  $t = 6.93$ ,  $p < .001$ ), Attractivity subscale ( $\beta = .23$ ,  $t = 4.30$ ,  $p < .001$ ) and ethnicity ( $\beta = .11$ ,  $t = 2.17$ ,  $p < .05$ ) are significant positive predictors.

#### **4.3.7 Fraud subscale**

The fourth regression involves the “Fraud” subscale as the criterion variable. With the equation at stage one  $R^2_{adj} = .01$ ,  $F(7, 330) = 1.222$ ,  $p = .19$ . Type of housing is a negative predictor ( $\beta = -.13$ ,  $t = -2.32$ ,  $p < .05$ ) meaning those who lived in a house were more fearful of fraud than those living in a flat.

At stage two with the equation  $R^2_{adj} = .08$ ,  $F(11, 326) = 3.567$ ,  $p < .001$ . Type of housing remained a significant negative predictor ( $\beta = -.15$ ,  $t = 2.58$ ,  $p < .05$ ). Age was the only demographic found to be a positive predictor ( $\beta = .17$ ,  $t = 2.98$ ,  $p < .05$ ), indicating those who were above the median age were more likely to be fearful of fraud than those who fell beneath it. The Criminalisable Space subscale is a significant positive predictor ( $\beta = .27$ ,  $t = 4.70$ ,  $p < .001$ ).

#### **4.4 Phase one discussion**

The regression analysis conducted identified that though the Social and Community Perceptions Scale needed a great deal of work, data collected suggests it to be the best predictor in this phase of this thesis for fear of personal victimisation. Overall the 8-item scale predicted fear of personal victimisation on a more significant level than the suggested demographic predictors. In the following section involves a discussion of the results of the analysis on phase one's data regarding what these data are revealing regarding the interactions between socio-demographic variables and fear of personal victimisation.

A discussion of limitations of phase one in order to determine how best to improve the methodology used for phase two of this doctoral thesis takes place in the following chapter.

##### ***4.4.1 Relationship between fear of victimisation and gender***

The mean scores of females for an overall fear of crime were significantly higher than the scores of males, as previously indicated in Lane et al. (2009). When exploring this relationship at a deeper level females were more afraid of violent crime than males. This is consistent with findings from Lane et al. (2009), as the difference between the two groups was largest when considering the Violence subscale of the Fear of Crime Scale. The lowest difference observed between these two groups was for the Fraud subscale, where arguably it does not matter how physically strong one is as the crime is not interpersonal and vulnerability does not affect the participant as suggested in Killias (1990).

This would support the assumption that a self-perceived vulnerability would lead an individual to be more fearful of interpersonal crimes (Killias, 1990). There was a large difference in the mean scores for gender for all of the Fear of Crime Scale subscales, with females being more fearful. The effect was also seen for the difference between gender and the total score generated for fear of crime. This effect is present at both stages of the regression analysis. Gender was the most significant predictor of fearfulness outside of

the Social and Community Perceptions subscales for this dataset. The largest observed difference is for violent crime, with females more likely to fear becoming victims of criminal activity of this nature than males. This is also true in the results of the ANOVA. This finding supports those of Lane et al. (2009), Dobbs et al. (2009) and Schafer et al. (2006) all of whom found females to be more fearful of violent crime.

#### ***4.4.2 Relationship between fear of victimisation and age***

The only relationship that proved significant regarding age was that those who were older scored higher on their mean scores for fearfulness with the items on the Violence subscale. This indicated that those who were older were more fearful within this dataset, which suggests the effect of older individuals being more fearful of violence that was theorised in the (Jackson, 2009) was correct. For this dataset, there is evidence of the effect age has being more of a polar effect due to the low median age. The impact of this is interesting for age as it implies that it does not matter how much older the participants are, only that there is an increase in age with representation of some older members of the population.

Another statistically significant relationship was for the overall Fear of Crime Scale, those who were above the median age (24) were more likely to be fearful of crime overall than those who were younger (Killias et al., 2000; Norris, Dowell, & Basol, 2016).

Though not significantly different concerning their mean scores, this dataset does show that older individuals are more likely to be fearful in relation items associated to damage to their personal property (perhaps as they are more likely to have possessions they treasure) and those who were younger were more concerned with crimes associated with the Fraud subscale (perhaps due to the fact they have more to lose financially) (Jackson, 2010).

The lack of any significant relationship with fearfulness of the Fraud subscale could be related to a more significant internet presence (Norris et al., 2016). According to Norris et al. (2016) since 2011 the largest increase of internet users in terms of percentage was in the older age groups for both men and women. The relatively low median age for the sample used in phase one

of this thesis can provide some errors in making assumptions based on age due to the disproportionate representation of younger to older members of the sample (Hozo, Djulbegovic, & Hozo, 2005). This alongside the fact that risk perception and management strategies often lead to fear reduction makes any conclusions regarding age difficult to draw (Skogan et al., 1981). The relationships being similar to those suggested within the literature should be taken with a note of caution due to this low median age. There is evidence however for a more polar approach to age when related to fear of personal victimisation and that those who are older will be more fearful regardless of how low the median age is.

#### ***4.4.3 Relationship between fear of victimisation and self-defined ethnicity***

The result for ethnicity provides an insight into the effect the demographic has on the sample when self-reporting their levels of fearfulness when considering an overall fear of crime. Those who were “not white” were more likely to be fearful of crime overall, as evidenced by the statistically significant difference in the mean scores of the two demographic groups.

Individuals who were in the multiple ethnic groups that combine to make the “not white” category are more fearful of violent crimes such as “murder” or “interpersonal assault”. This finding is consistent with what Tseloni et al. (2008) states. Within this sample, there is no significant difference between those who are “white” and “not white” concerning their levels of fearfulness for either the Damage to Personal Property or crimes associated with the Fraud subscale. This is, once again, consistent with the concept of vulnerability, individuals who are not white may feel they do not receive the same levels of protection from the police as their white counterparts (Nadal et al., 2015). They may also have been brought up in less privileged areas as it is suggested in the literature (Nadal et al., 2015; Scheider et al., 2003).

Those surveyed share a similar level of fearfulness for Damage to Personal Property and Fraud. This too supports that individuals are more fearful for crimes they feel they would have a personal relationship with rather than crimes that would tend to happen without their involvement (Killias, 1990).

This suggests that vulnerability is a key factor in ethnicities reporting themselves to be fearful of personal victimisation (Tseloni et al., 2008).

With the intensity of fear of personal victimisation, the fact that individuals who were white and “not white” reported similar levels of fearfulness is in itself an interesting development, this means that individuals are likely to experience fear of personal victimisation similarly and at a similar frequency regardless of what ethnic group they belong to. This would suggest that being fearful of being the victim of a crime is a universal feeling rather than one that certain ethnic groups experience more significantly. This counteracts suggestions made in papers such as Scheider et al. (2003).

#### ***4.4.4 Relationship between fear of victimisation and sexual orientation***

Concerning an overall fearfulness, when considering the whole Fear of Crime Scale, those who were not “straight” were more likely to be fearful than those who were “straight”. Evidence of this is the difference in the mean scores between the two groups, with those who stated that they did not identify as “straight” scoring significantly higher for fearfulness of crime overall. This finding is consistent with Nadal et al. (2015), who suggested this effect.

As previously suggested in Nadal et al. (2015), those who do not identify as “straight” are more likely to be fearful of violent crime than those who identify as “straight” based on their mean scores for items associated with the “Violence” subscale. The same effect is also present in a way that is not statistically significant for items associated with the “Damage to Personal Property” subscale.

#### ***4.4.5 Relationship between fear of victimisation and living situation***

With living situations, for this study there were few statistically significant difference for individuals regardless of their living situation, number of people in their house, the amount of time they have lived in the area or the type of accommodation they live in.

The only relationship with one group scoring higher for fear of crime of any note was for the Damage to Personal Property subscale concerning living

at home, or away from home. This phase of the thesis found support for Fowler (2002). Fowler (2002) stated that those living away from home (alone) were more likely to be fearful of damage to their personal property with a higher overall mean score than those living with people. There was also a negative relationship with fraud, for the type of accommodation, indicating those living in smaller dwellings were less fearful.

The lack of finding any support for the literature's suggestion could be due to the lack of representation of individuals who are more likely to live in the less privileged areas (Tseloni et al., 2008). This is due to them being less likely to respond to a survey (Saris et al., 1984).

#### ***4.4.6 Relationship between fear of victimisation and POPS***

In relation to the POPS scale (Nadal et al., 2015), the significant negative relationships between the total fear of crime score and its subscale (violent crime) imply that a negative perception of police would make participants more fearful of violent crime and of crime overall. Nadal et al. (2015) previously suggested this effect.

The other subscales did not provide any significant relationships. This indicates the POPS scale does not predict the general nature of fear of personal victimisation as well as the sociological variables (Lumb, 1996). The relationship between the police and fear of personal victimisation is among the weaker predictors of fearfulness when compared to other suggested factors analysed for phase one. The results of this peripheral analysis are available in the appended records (pp. 309).

#### ***4.4.7 Results of regression analysis***

The Beta scores reveal that gender was strongly related to fear of crime, with those who identified themselves as "female" being more likely to be fearful of crime overall, and in relation to the subscales of the fear of crime scale. This finding is consistent with Cobbina et al. (2008) among others who suggest this predictor has the most significant impact on an individual's self-perceived risk of personal victimisation.

The results of the regression show the demographic predictors performed rather poorly, accounting for (at most) 17.1% of the variance on any subscale of the Fear of Crime Scale. When considering Lavrakas (1982) found demographics accounted for 25% of the variance, this shows how the predictors have failed to predict fearfulness to their fullest potential.

The Social and Community Perceptions subscales, however, were able to predict a higher threshold than 25% for the total Fear of Crime scale and the Violence subscale, with only a small difference between the Damage to Personal Property subscale (26.3%) and the scores from Lavrakas (1982).

The results of this study show a similar interaction between the fear of personal victimisation and the socio-psychological variables suggested by van der Wurff et al. (1989) which accounted for 24% of the variance when used by Mesko et al. (2004).

When considering the Violence subscale of the Fear of Crime Scale, the subscales of the Social and Community Perceptions Scale predicted around 32.8% of variance. The scale accomplished this level of predictability despite the fact it is still very unreliable and has a low level of internal consistency (Cortina, 1993). When this reliability improves there is likely to be improvement to predictability of variances (Huffman, Culbertson, Payne, & Castro, 2008). This improvement coincides with creating a robust measurement tool capable of fulfilling the necessary psychometric evaluation (Huffman et al., 2008). At present, it is fair to say there is at least a level of generalisability for the current Social and Community Perceptions Scale, due to it obtaining a similar result on a sample conducted in the Netherlands and the UK (Mesko et al., 2004; Williamson et al., 2013).

This would mean that the reasoning of “vulnerability” linked to sociological demographic characteristics such as age in Jackson (2009) and Warr et al. (1983) may not form the basis of an individual’s likelihood to be more or less fearful of their own perceived risk.

This could mean that the theory behind the paper written by van der Wurff et al. (1989) could be correct. To understand the fear of personal victimisation on a deeper, multi-dimensional level it may be necessary to take scenarios, people and even specific times of day into account. This will determine if rather than people being more generally fearful of crime, they are more likely to be

fearful in certain situations (Mesko et al., 2004). A 2020 paper described this effect, where fear of personal victimisation is stated as being “context based” and “situational” (Solymosi, Buil-Gil, Vozmediano, & Guedes, 2020).

An example of this would be someone being more fearful to ride public transport at night rather than during the day (Tseloni et al., 2008). These situations could help to assess the kind of individual who would be more fearful of personal victimisation and bridge the gap between fear of crime and the demographics using sociological variables.

#### **4.5 Future research and limitations**

The best course of action for phase two was to improve the Social and Community Perceptions Scale as (from this dataset) it proved to be the best predictor of fear of personal victimisation (Ferguson & Mindel, 2007; Fraley et al., 2000; Goldstein, 1996).

To achieve this, the Social and Community Perceptions Scale needed several alterations as in the iteration used for phase one it tested low for internal consistency (Huffman et al., 2008).

At the end of phase one, due to the predictability of the overall model being worthy of note, improving the reliability and internal consistency was the next logical step in scale development (Huffman et al., 2008). To improve internal consistency, it was necessary to expand the item breadth without impacting the conceptual clarity (Ferguson et al., 2007; Huffman et al., 2008). The addition of more items on each of the subscales on the Social and Community Perceptions Scale is necessary for improvement (Ferguson et al., 2007; Huffman et al., 2008).

The addition of these further items will improve construct breadth (Huffman et al., 2008). Huffman et al. (2008) note that is important that the breadth shows improvement, without impacting on the clarity of the subscales suggested by van der Wurff et al. (1989).

The results of phase one show as previously estimated that the Social and Community Perceptions Scale had some serious issues with reliability, owing in no small part to the lack of items on each of the subscales (overall there are eight items, two suggested for each subscale) (Huber, 1985).

The results of phase one, however, also show the merit in the theoretical side of the work conducted in the van der Wurff et al. (1989) paper. The theory behind creating a more well-rounded picture by assessing the reasons and situations that could lead to an increased fear of personal victimisation is sound (Solymosi et al., 2020). Evidence for this is the increase in the predictability of fear of personal victimisation by adding the factors of the Social and Community Perceptions Scale to a hierarchical regression (Lavrakas, 1982). On all four regressions, the predictability of fear of personal victimisation increased greatly when compared to the demographics ability to predict fear of personal victimisation alone (Lavrakas, 1982; Mesko et al., 2004).

The demographics performed rather poorly in the first phase of this study, and that the demographics suggested as the main factors in the literature may not contribute to the levels of fearfulness previously thought (Dobbs et al., 2009; Lavrakas, 1982; Mesch, 2000). Concerning age, this could be due, in part, to the effects described being between those who were younger and the elderly and the current dataset having a low mean age (Dobbs et al., 2009; Jackson, 2009). The risk perception and management mechanisms the elderly apply could also play a part in their fear reduction (Mesko et al., 2004).

The Fear of Crime Scale (particularly the Fraud subscale) has a relatively low number of items (Huffman et al., 2008). This could potentially impact the construct breadth of the smaller subscale (Huffman et al., 2008). To further develop the Social and Community Perceptions Scale within the context of the current thesis the Fear of Crime Scale should remain the same to allow comparisons of the predictive power of the revised social measure (Morgado et al., 2018). Keeping the same crimes will enable direct comparisons to determine if the Social and Community Perceptions Scale is improving in terms of its ability to predict fear of crime (Morgado et al., 2018). Improvements to the construct breadth of the Fraud subscale could form the basis of research at a later date (Huffman et al., 2008). Alterations for the Fear of Crime Scale for use in a different population could also be necessary to determine crimes feared within the target population (Dammert et al., 2003; Williamson et al., 2013). There will also be some question as to the temporal

stability of the items on the Fear of Crime Scale with crimes needing routine updates in order to maintain temporal stability (Huber, 1985).



## 4.6 Conclusion

The first iteration of the new measure performed relatively well during the data collection for phase one regarding the predictability of variances. Support for established facets of Fear of Crime such as Dobbs et al. (2009) suggesting violent crime being more feared by females over males. One key issue arose in the clear lack of items from the Social and Community Perceptions Scale (van der Wurff et al., 1989).

The next phase of this research was to improve the Social and Community Perceptions Scale concerning its construct breadth then test its reliability as well as evaluate its ability to predict the likelihood of an individual to have a fear of personal victimisation. As previously stated, the reasoning behind the scale's creation was sound, but there was a lack of the appropriate methodology in the current papers that have used it. The errors in the practice lie in the insufficient number of items on each of the subscales, which made the analysis of each of the underlying factors difficult due to the lack of reliability in each subscale.

To expand the construct breadth a significant number of items that fit the definitions of each of the subscales given within the original paper were necessary additions (Huffman et al., 2008). The generated items also needed to be able to address the "situational" nature of fear of personal victimisation (Solymosi et al., 2020). The design of this construct is to create a more well-rounded scale overall capable of measuring the sociological factors (situations leading to an increase in self perceived risk of personal victimisation such as walking down an alleyway during a certain time of day) that contribute to fear of personal victimisation, in line with the aims of the current thesis. To accomplish this convergent validity analysis during phase two ensured that the validity of the scales whilst improving on construct breadth (Huffman et al., 2008).

The internal consistency was poor across all of the Social and Community Perceptions Scale's subscales (Cortina, 1993). However, the Social and Community Perceptions Scale did predict a larger amount of the variance of fear of crime scores than the demographic predictors alone (Cortina, 1993). On previous use of the Social and Community Perceptions

Scale in other countries with very different populations Mesko et al. (2004) observed this effect. This supports the notion proposed by Solymosi et al. (2020) that states fear of personal victimisation is a context specific phenomenon.

It was determined that the newly adapted Social and Community Perceptions Scale should include items from the original paper to attempt to maintain this level of generalisability. Scenarios and questions introduced should follow the trends present in the items currently present on each of the four subscales (Mesko et al., 2004). Phase two also includes some convergent validity measures as well as some divergent validity measures to allow it to be reasonable to make the assumption the scale is performing as one would expect it would (Cronbach et al., 1955; Cunningham, Preacher, & Banaji, 2001). Alongside some tests for reliability and internal consistency, this provides enough evidence to suggest the newly created scale is performing well and is producing reliable and valid results (Cortina, 1993). Changing the items make it impossible to determine the generalisability of the newly created scale as it is the scale's first use. Phase three's analysis hypothetically allows assumptions for generalisability (Huffman et al., 2008; Williamson et al., 2013).

This next phase involved a further exploratory PCA to eliminate anomalous items and allow continued development of the Social and Community Perceptions Scale to meet the overall aims of this thesis.

Once completed it enabled phase three, which used the new adapted scale determine if a well-rounded, valid a reliable scale that has undergone thorough testing is the result of this research. This enables the assumption that the scale can be used in future research (Cortina, 1993). At present the literature around personal victimisation is lacking this scale and its creation enables a more complete picture of fear of personal victimisation, and an ability to measure the level to which any person in any place has this fear and the reasons behind this fearfulness (Williamson et al., 2013). The contribution of this scale will eliminate the issues surrounding a lack of measurement invariance which have plagued the field (Pleysier et al., 2005).

## Chapter 5: Phase two - Developing a new fear of personal victimisation measure

---

### 5.1 General overview of phase two

#### *5.1.1 Introduction and background to phase two*

To continue with the overall aims of this thesis, phase two's design has the specific intention of improving the Social and Community Perceptions Scale. Improvements will create a more valid, robust and reliable scale that tests highly for factorability and improves on the predictability of the original 8-item measure.

In order to accomplish these aims and to test the newly formed scale phase two incorporates several measures alongside the newly formed scale as well as the items from the original 8-item scale. The following chapter features a discussion of these measures as well as establishing what including them will add to the aims of this thesis overall.

To improve the Social and Community Perceptions Scale (van der Wurff et al., 1989), it was important to improve validity and reliability in the scale. In order to accomplish this, the scale needed to have more items added to its subscales (Huffman et al., 2008). Adding new items to the scale, running these tests and investigating the effect this had on the scale's ability to predict fear of personal victimisation was the next logical step in the iterative process of creating a new measure in this field (Huffman et al., 2008).

The issue with developing the scale using this method was the lack of items leading to a weak factor structure which, despite a lack of rigorous testing, researchers such as Mesko et al. (2004) have accepted. It became apparent during the analysis of data from phase one there was a lack of breadth and the factor structure lacked reliability overall (Huffman et al., 2008). Adding items to each of the subscales better measures the underlying constructs in a more reliable way (Lavrakas, 2008). The minimum number of scenarios generated should be 8 per subscale to allow for removal of items at a later stage if necessary (Lavrakas, 2008).

### **5.1.2 Item generation**

Item generation utilised the four definitions outlined within van der Wurff et al. (1989) and Mesko et al. (2004) to create an item pool for each of the (4) subscales. This approach would allow the generated items to measure theoretically similar constructs whilst accounting for the limited amount of information provided regarding the definitions. The definitions featured would lead to similar constructs forming the basis of the subscales meaning there was potential for an overlap between items generated.

To ensure no overlap, at each stage the items generated were scrutinised and cross-checked to ensure that the improvements to the breadth did not impact the clarity of the subscales (Huffman et al., 2008). This would limit the expansion of the construct breadth so a significant number of items was needed. Within subscales, there was the reversal of selected items to counter response bias that could potentially occur (Groves & Peytcheva, 2008; Pickett, Cullen, Bushway, Chiricos, & Alpert, 2018). This is a necessary step to negate any response fatigue that would occur due to the length of the survey taken overall (Pickett et al., 2018).

The analysis of phase two utilised an iterative process of item removal (using PCA) to remove any cross loading items to ensure the conceptual clarity of subscales was not impacted when expanding the item breadth (Lavrakas, 2008). This process is described in detail within the following chapter.

### **5.1.3 Convergent and divergent validity measures**

Convergent validity is a parameter often used in psychology to determine the degree to which to scales are related (when they should be related as they measure similar concepts) (Cunningham et al., 2001; Nevo, 1985). Convergent validity establishes when two constructs correspond with one another (Cunningham et al., 2001).

In a similar sense, correlations that are not present or are significantly lower than those of similar concepts, establish discriminant validity (Cunningham et al., 2001). These are both subtypes of construct validity and

can determine whether a scale is performing in the way it should be based on scales currently within the field (Cronbach et al., 1955; Cunningham et al., 2001). This type of construct validity is established using correlation coefficients when highly correlated with a scale measuring a similar concept it can be viewed as valid in terms of convergent validity (Cunningham et al., 2001). In a similar sense, correlations that are not present or are significantly lower than those of similar concepts, establish discriminant validity (Cunningham et al., 2001; Nevo, 1985). When creating a measure, it is important to run this type of analysis as it is a way of establishing that a measure is valid and is performing in the way one would expect and is behaving similarly to similar constructs within the field (Cunningham et al., 2001).

With the current thesis, this was possible using not only the previous Social and Community Perceptions Scale from van der Wurff et al. (1989), but also the Life Satisfaction and Fear of Crime Scale from Hanslmaier et al. (2016). This enabled phase two's analysis to establish convergent validity in the refined measure.

The BFI-2-xs scale enabled concepts such as 'neuroticism' to establish convergent validity, but also for concepts such as 'openness' and 'extraversion' to show divergent validity with the use of correlation analysis (Soto et al., 2017).

#### **5.1.4 Life satisfaction scale**

The items taken from a study by Hanslmaier et al. (2016) assessed the predictability of an individual's fear of personal victimisation in relation to life satisfaction. This study attempted to assess participants' perceptions of crime trends relating to conative fear (avoidance behaviour), affective fear and cognitive fear.

For this study conative fear was determined as precautions that participants took in their daily lives to avoid becoming the victim of personal victimisation and how often participants took these safeguarding measures (Hanslmaier et al., 2016). Affective fear is a concept regarding an individual thinking about themselves and how often they worried about certain things

happening to them (Hanslmaier et al., 2016). Cognitive fear, for this paper, was how likely participants believed it would be that they would be the victims of several specific situations within the next twelve months (Hanslmaier et al., 2016). Questions relating to each of the fear categories formed the basis of three nation-wide surveys of Germany to compare the effect being a previous victim of crime had on fear of personal victimisation (Hanslmaier et al., 2016).

Using this measure to establish convergent validity assessed the validity of the scale created for this doctoral thesis. If the revised Social and Community Perceptions Scale scores in the same way as the scale from Hanslmaier et al. (2016) then there is evidence that the new scale is valid as it is performing as one would expect a scale in this area to perform as the two are similar constructs (Cunningham et al., 2001; Nevo, 1985).

## **5.2 Methodology and Research Design**

As with the previous stage, phase two utilised a correlation design to analyse the dataset collected.

Predictor variables;

As with phase one, predictor variables of this phase were the demographic variables and the original items of the Social and Community Perceptions Scale. One further addition in the regression model included a third stage using the revised Social and Community Perceptions subscales as new predictors.

Criterion variables;

In a similar design to the previous stage, to assess if the revised Social and Community Perceptions Scale is performing as one would expect the criterion variables were the same as the previous phase of this paper. The variables were the (3) subscales taken from PCA of the Fear of Crime Scale.

### **5.2.1 Participants**

For phase two of this thesis, 320 participants completed the questionnaire. Ages ranged from 18-73 years with a mean (*M*) of 32.74 and standard deviation (*SD*) of 14.15; 69.24% (222) were female and 30.6% (98) were male.

Female ages ranged from 18-73 years,  $M = 32.38$ ,  $SD = 14.16$ ; Male ages ranged from 18-71 years,  $M = 33.54$ ,  $SD = 14.15$ .

Snowball sampling recruited participants. This included the medium of various social media sources as a means of advertisement as well as sending the survey via email. The inclusion criteria of this study were simply to be a resident of the UK, to be over the age of 18 and not a previous victim of traumatic crime. The advertisement process made the inclusion and exclusion criteria clear to respondents. Those who did not meet the age limit had their results answers before analysis. Exclusion criteria included; participants having been a victim of traumatic crime, not being over the age of 18 or a UK citizen.

### **5.2.2 Measures**

The study has five sections, a demographic section that gave a clear picture of the participant in terms of all the suggested significant predictors in the literature while protecting their anonymity.

### **5.2.3 Victimization, fear of crime and life satisfaction**

A convergent validity measure from a study conducted by Hanslmaier et al. (2016) entitled "Victimization, Fear of Crime and Life Satisfaction" was the second section of this questionnaire. The measure taken from this paper breaks down into two separate scales;

The first was the "perception of crime trends" scale, which in the original paper gave the participant four crimes and asked them to rate the trends of each of the chosen acts within a span of ten years (between 1999 and 2009) in Germany. Altering this slightly to be a more recent time frame of the same length (2008-2018) in the UK, a Likert scale scored participant's answers.

The scoring on this Likert scale ranged from (1-7) and enabled participants to identify the levels to which they believed in their opinion crime trends had altered in the given period. The scoring of 1 indicated they believe the crime has "Become much rarer" and 7 meaning they felt the crime had "Become much more frequent" in the 10-year period given.

This scale has a maximum score of 28, which would indicate the participant believes the crime trends in the UK are much worse than they were ten years ago. The lowest score possible, 4, would indicate that the crime trends in the participants' opinion had decreased in the same time frame.

The questions from Hanslmaier et al. (2016) regarding the participants' perceptions of crime trends within the last five years revealed a Cronbach's score of .88 which is in the range of a good score for internal consistency (Cortina, 1993). The complete 24-item measure revealed a Cronbach's Alpha score of .77, which falls in the range of an acceptable internal consistency (Cortina, 1993).

This section was the second convergent validity measure utilised as a part of this study and is from the same paper by Hanslmaier et al. (2016) which splits into three sections. The first of which allowed participants to say the precautions they take when they go about their daily lives. 8 Negatively worded statements such as "I avoid certain streets, parks or places" and "I avoid carrying a lot of money with me" upon presenting participants with these items, a further question asked them to state how often they take each precaution mentioned. The scoring utilised a 5-point Likert scale (1-5) where selecting 1 means they "Never" take the precaution and 5 meaning they "Always" do what the statement says to protect themselves from crime. The lowest score of 8 indicated the individual never takes any precautions to protect themselves from crime. The maximum score of 40 indicated the individual would take every precaution mentioned to protect themselves from being the victim of a crime.

The second section allowed individuals surveyed to identify how often they have certain worries, listed as 6 negatively worded statements such as "My home may be broken into" and "I will be hit or hurt". This was, once again, rated on a Likert scale (1-5) where selecting 1 means they "Never" worry about the crime mentioned and 5 meaning they "Always" worry about becoming the victim of the crime described.

The minimum score from 6 from this section indicated the individual never worries about each of the crimes, where the maximum score of 30 would mean they were always worrying about crime.

The third and final section from the Hanslmaier et al. (2016) allowed individuals to state how likely they were to become the victim of each of the 6 crimes presented to them, these were the same items from the second section. Examples of these crimes include “I will have something stolen from me in some way” and “I will be robbed”.

Once again, scoring utilised a Likert scale (1-5) and allow individuals to rate how likely they feel it is that, in their own opinion, they will become the victim of each crime within the next twelve months. On this Likert scale a score of 1 indicated that an individual felt it was “Very unlikely” they would be a victim and a score of 5 meaning they felt it was “Very likely” they would be the victim of the crime within the next twelve months.

The lowest possible score of 6 for these items would indicate the individual thought it was extremely unlikely they would be the victim of a crime in the next 12 months, the maximum score would mean the individual was convinced it was likely they would be a victim of the crimes listed within 12 months of the time of questioning.

All items for this measure are from the same paper and all statements feature negatively wording. Therefore, the scores can combine meaning the lowest possible score for these sections is 20 (indicating the individual would be less worried, take fewer precautions and generally be less fearful of being a victim), the highest being 100 (meaning they took every precaution as they felt they would be the victim of a crime within the next twelve months).

According to Hanslmaier et al. (2016) the Cronbach’s alpha score for the “Affective Scale” .87 and the “Cognitive Scale” .89. Hanslmaier et al. (2016) deemed these alpha scores as “satisfactory”.

#### **5.2.4 The Big Five Inventory-2 Extra-Short Form (BFI-2-xs)**

The next section was “The Big Five Inventory-2 Extra-Short Form (BFI-2-xs) which is adapted by Soto et al. (2017) from the original Big Five Inventory, but it is much shorter at only 15-items long.

The reason behind the choice of the BFI-2-xs over the original BFI was due to the length of the other scales. This made phase two’s questionnaire significantly longer than phase one, the shorter version of the BFI eliminates

the risk of fatigue in respondents while maintaining the three key goals of the original BFI (Soto et al., 2017).

The BFI-2-xs asked participants to rate how strongly they agree that certain personality traits apply to them. Scoring utilised a Likert scale (1-5) where 1 indicated that the participant selected “Disagree strongly” that the characteristic described applies to them and 5 meaning they “Agree strongly” that the characteristic applies to them. The big-five factors were each represented by 3 of the 15 items.

Extraversion items included; 1 “Tends to be quiet”, 6 “Is dominant, acts as a leader” and 11 “Is full of energy”. Agreeableness items; 2 “Is compassionate”, 7 “Is sometimes rude to others” and 12 “Assumes the best about people”. Conscientiousness items; 3 “Tends to be disorganised”, 8 “Has difficulty starting on tasks” and 13 “Is reliable and can always be counted on”. Negative emotionality; 4 “Worries a lot”, 9 “Tends to feel depressed or blue” and 14 “Is emotionally stable and not upset easily”. Open-mindedness has items; 5 “Is fascinated by art, music or literature”, 10 “Has little interest in abstract ideas” and 15 “Is original and comes up with new ideas”.

Due to the positive and negative wording of certain items had their scores reversed so they could be used for analysis in collaboration with one another. Items 1, 3, 7, 8, 10 and 14 were all negatively worded so has their scores reversed (Soto et al., 2017; Woods, 2006).

Reliability and internal consistency results from the BFI-2-xs when placed into the (factor solution suggested by the researchers) revealed that; Extraversion had a Cronbach’s alpha of .64, which falls within the range of a questionable level of internal consistency (Cortina, 1993). Agreeableness revealed a Cronbach’s alpha score of .42, which falls within the range of a poor level of internal consistency (Cortina, 1993). Conscientiousness revealed a Cronbach’s alpha score of .55, which falls within the range of a poor level of internal consistency (Cortina, 1993). Negative Emotionality revealed a Cronbach’s alpha score of .75, which falls within the range of an acceptable level of internal consistency and reliability (Cortina, 1993). Open-Mindedness revealed a Cronbach’s alpha score of .43, which falls within the range of a poor level of internal consistency (Cortina, 1993).

### **5.2.5 Social and Community Perceptions Scale**

Created by van der Wurff et al. (1989), it originally attempted to establish the social habits (such as how likely an individual is to get into a row or trust a stranger) of those surveyed. This could have a bearing on how likely they are to feel as though they may become the victim of a crime at some point. However, in testing for reliability that the scale did not have a very high score (.43) due to a small number of items on each of the four supposed subscales. The original scale from the 1986 paper alleged that two items would be enough to satisfy reliability and validity analysis, but when testing this on a reasonably large dataset that this was not the case. For this phase of this project, there was a necessity to add more items to strengthen each of the four subscales to make them more reliable and provide a higher score for Cronbach's alpha.

For each of the subscales, it was determined that a wider construct breadth should be a goal. For example, the "Power" subscale increased from 2 to 22 items, the "Evil Intent" subscale went from 2 to 13 items, the "Attractivity" subscale went from 2 to 15 items and finally, the "Criminalisable Space" subscale went from 2 to 14 items. Phase two also includes the original 8-item structure to maintain some element of consistency with the original study. This meant the scale overall increased in size from 8 items in phase one to 64 items in phase 2. These items were based on the original items from the van der Wurff et al. (1989) paper alongside definitions generated in Mesko et al. (2004). The process saw a significant number of items (totaling 64) generated in order to make an item pool capable of expanding the construct breadth. The pool of items was large enough that it could facilitate the removal of items that would impact the conceptual clarity of each subscale while not reducing the construct breadth.

The scoring of the scale was the same Likert scale as phase one (1-5), and the original paper. Phase two presented participants with several statements such as "I think that people are jealous of me", "I generally stay clear of rows/arguments" and "I generally trust strangers" and asked them to rate how strongly they agreed with each item. Scoring was based on a (1-5) Likert scale from 1, which indicated individuals "strongly disagree" and 5 meaning "strongly agree".

PCA on the 64 items where (following an iterative process of elimination removing any items that cross-loaded or did not load at all) 38 items remained. This approach enabled the conceptual clarity of the subscales to not be impacted negatively by the generation of new items. The newly generated items form a scale with a minimum score of 38 and a maximum score of 190.

### **5.2.6 Fear of Crime Scale**

The penultimate section is the “Fear of Crime Scale” which was comprised of a list of crimes taken from the National Crime Survey of England and Wales of 2016 (UK Office for National Statistics, 2016) to establish the 12 commonly feared crimes to determine if any participants who meet the criteria of any predictors are more likely to be afraid of some crimes over others. The crimes specifically were “my house being broken into”, “When parked in an area I am unfamiliar with, my car/vehicle being broken into”, “When in an area I am unfamiliar with, someone mugging me”, “When in an area I am familiar with, someone mugging me”, “Sexual assault”, “Interpersonal assault (Actual bodily harm or Grievous bodily harm)”, “Murder”, “Terrorism”, “Conventional Fraud e.g., credit card scams”, “Arson”, “Damage to property e.g., personal vehicle” and “Online Fraud e.g., “online bank Fraud, phishing”.

The survey presented participants with each of these crimes and asked to rate how fearful they were of becoming a victim of each crime. Scoring used a Likert scale (1-5) with 1 indicating they were “strongly non-fearful” and 5 indicating they were “Strongly fearful”.

The minimum score for this scale was 12, (which would mean the individual in question was not at all fearful of personal victimisation in relation to the crimes mentioned) and the maximum score was 60 (indicating the individual was extremely fearful of becoming the victim of the crimes mentioned).

### **5.2.7 Intensity and Frequency of Fearfulness scale**

The fifth and final section is a small measure taken from Farrall et al. (2004) that is comprised of three questions designed to measure the intensity of an individual's fear of crime within the last 12 months.

The first question asked, "In the past year have you felt fearful about the possibility of becoming a victim of crime" where participants answer; "Yes", "No" or "Do not remember". If the participant answered "Yes" they were presented with two further questions, if they answer "No" or "Do not remember" the survey ends.

When answering "Yes" the participant answered two further questions; "If you answered 'yes' to the previous question (Question 1) how frequently have you felt this way in the past year?" to which they were required to answer and option ranging from "1 occasion" to "More than 10 occasions". The second question of this section asked "If you answered 'yes' to question 1, on the last occasion how fearful did you feel?" where participants could rate how fearful they were using five answers that were scored using a more simple version of a Likert scale where 1 indicating they were "Not very fearful", 2 indicated they chose "A little bit fearful", 3 indicated they were "Quite fearful", 4 meant they were "Very fearful" with 0 (which was recoded to remove anyone who's experience was less intense causing anomalous results) meaning they chose "Cannot remember". This section, like the previous, remains completely unchanged from phase one of this project.

### **5.2.8 Procedure**

An information sheet gave participants instructions of how to fill out the questionnaire as well as the procedure that they should take if they wished for any reason to withdraw from the study at any time.

This information sheet also provided information on how to answer each of the sections and told the participants that there would be further information at the start of each section specifically stating how to answer the section is related to. This also included the exclusion criterion, which was that

individuals must be over the age of 18, a resident of the UK and could not have been a victim of traumatic crime in the past.

Phase two of this thesis began the iterative process of item generation and removal to improve the subscale's construct breadth. To accomplish this, and to meet the overall aim of this project to create a measure capable of measuring an individual's perceived risk of personal victimisation it was necessary to create a new and updated version of the Social and Community Perceptions Scale. The revisions would need to be more reliable and have a good level of both face and construct validity where the scale that was in the original paper had none of the above. The results for phase two generated a starting point for the final phase of research (phase three).

### ***5.2.9 Ethics and limitations***

This study obtained full University ethical approval as a part of the thesis process. As a part of the MMU PhD involved completion of the "RD1" form. Within this form was the information relating to the (at the time) potential study.

Specifically, the RD1 checklist, which included all necessary documents for ethical approval.

As the ethical approval cleared before the first phase of this thesis and as this project is entirely questionnaire based, additional scrutiny was not required.

MMU ethics, governance and procedures can be accessed by the links below:

*General overview*

<http://www2.mmu.ac.uk/research/our-research/ethics-and-governance/ethics/>

And;

*Processes and Procedures*

As with the previous phase, phase two afforded participants the opportunity to create a unique identifier at the end of their survey, as well as the email address of the researcher in order to withdraw from the study at any time.

### **5.2.10 Data analysis**

SPSS version 26 assessed the relationships between the variables. The program also coded variables as previously described to enable analysis and assessment of causes of fearfulness with the most meaningful ratios.

To ensure meaningful comparisons within the data, participants of this study ( $n = 320$ ) can form several groups due to the demographic section they filled out. The median age for phase two, is 27.5. This meant participants split into those aged 18-27 ( $n = 160$ ) and those who are 28 and above ( $n = 160$ ).

With gender, the participants give a ratio of females ( $n = 222$ ) and males ( $n = 98$ ).

When considering self-defined ethnicity, participants were able to define their ethnicity from the following categories; White ( $n = 232$ ), Black ( $n = 14$ ), Asian ( $n = 20$ ), Mixed ethnic background ( $n = 33$ ), Prefer not to say ( $n = 8$ ) and Other ( $n = 13$ ). Due to Nadal et al. (2015)'s suggestion that minorities would have a greater level of "fearfulness" this ratio breakdown to form more meaningful associations within these data. To accomplish this, the self-defined ethnicity category changed to "White" ( $n = 232$ ) and "Not white" ( $n = 88$ ), this separation used dummy coding.

The breakdown of household composition includes; living in a major city ( $n = 106$ ), those in a minor city ( $n = 76$ ), those in a major town ( $n = 46$ ), those in a small town ( $n = 75$ ) and those who live in an isolated property or village ( $n = 17$ ). Meaning a positive relationship with fear of personal victimisation would indicate the more secluded the living, the greater the perception of risk. A negative perception would be indicative that the larger the municipality the greater the risk becomes of being fearful of personal victimisation.

The participants who identified they were a student by indicating “yes” to the question whether they were a student or not ( $n = 144$ ) and those that were not a student who selected “no” for the same question ( $n = 176$ ).

Those who selected “yes” ( $n = 144$ ) indicated what level of study they had undertaken. Those who indicated they were a student were in the ratio; “undergraduate” ( $n = 109$ ), and those who were a “postgraduate” ( $n = 35$ ). Therefore, a positive relationship with the criterion variables would indicate that the higher the level of study the greater the individual suffers a fear of personal victimisation.

The first stage of examining the relationships between the variables was to run PCA to determine if any subscales are present that could have a bearing on any kind of analysis that will take place. Correlations with established scales can determine whether the new items of the Social and Community Perceptions Scale are performing as one would expect them to.

Following this, there was a phase of testing to determine the predictive power of the new Social and Community Perceptions Scale alongside the demographics and the original items to determine whether adding the new items has improved the ability of this measure overall to predict an individual’s likelihood to experience a fear of personal victimisation.

### **5.3 Results**

The analysis of phase two sought to refine the Social and Community Perceptions Scale using PCA. Following an iterative process of item removal this refined scale an investigation to determine how the measure related to the previously identified subscales of the Fear of Crime Scale took place. Exploring these relationships, alongside the predictive utility of the original Social and Community Perceptions Scale enabled an assessment of the predictive capacity of the refined measure in relation to fear of personal victimisation.

Construct validity used established measures such as Hanslmaier et al. (2016) and correlation analysis to determine if the scale is scoring appropriately.

#### ***5.3.1 Aims of phase two analysis***

As with the first phase, the aims of phase two's analysis can be broken into two central themes (psychometric evaluation and correlational analysis) and are outlined as follows;

- 1) To assess the psychometric properties of the measurement tools utilised and determine underlying factor structures utilising PCA.
- 2) To assess the predictability of the demographic and sociological predictors to determine their impact on a fear of personal victimisation.

The analysis was separated into these two aims in order to provide clarity throughout the results section.

#### ***5.3.2 Descriptive statistics***

Below are a series of key predictors and their important descriptive statistics relating to a high mean score and the meaning behind it.

**Table 1.** Demographic variables and alpha reliability (N = 320).

Total Sample (N=320)					
	Mean	SD	Min	Max	$\alpha$
Attractivity	47.22	8.81	15	75	.80
Power	63.30	9.15	22	110	.74
Evil Intent	36.85	9.23	13	65	.87
Criminal	42.48	10.49	14	70	.92
Ten years total	4.71		4	28	.88
Convergent Validity total	3.18		20	100	.77
Extraversion	8.92	2.93	3	15	.64
Agreeableness	11.47	2.25	3	15	.42
Conscientiousness	9.90	2.56	3	15	.55
Negative Emotionality	9.88	3.19	3	15	.75
Open-Mindedness	11.50	2.19	3	15	.43
Violence subscale	14.44	5.25	5	25	.88
Personal Property Subscale	14.29	4.56	5	25	.84
Fraud Subscale	6.66	2.02	2	10	.80

A maximum score for Attractivity, Power, Evil Intent or Criminalisable Space would indicate that the individual agreed completely with every item on the subscale. The mean scores indicate that individuals were more likely to be fearful of the given situations than non-fearful. Though a different number of items are present for each of the subscales the mean scores indicate that the most feared is the Attractivity subscale proportionately.

A maximum score on the items from the BFI-2-xs would indicate that the individual surveyed scored highly for the trait that the items were attempting to measure. A minimum score would indicate that the individual did not score highly for that particular trait. The subscales associated with the BFI-2-xs are above their median values, with the most agreeable being items associated with "Open-Mindedness".

A maximum score of twenty-five on the Violence, Damage to Personal Property or a maximum score of ten on the Fraud subscale would indicate the

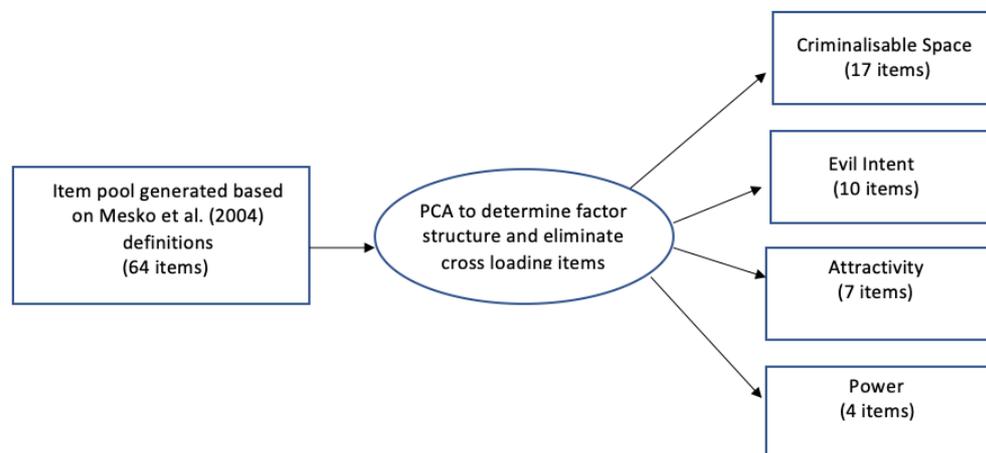
individual was strongly fearful of every crime associated with that subscale. A minimum score of five or two respectively would indicate they were not at all fearful of any crimes associated. The mean scores indicate that all subscales scored above their median value (meaning all were more feared than not feared). Of the subscales, the mean scores indicate that the Violence subscale is the most feared for this phase of analysis.

For the most part the alpha scores are above the acceptable level of  $> .70$ , but several of the factors associated with the BFI-2-xs are below this level. These low scores are potentially due to the small number of items associated with the BFI-2-xs, which is a shorthand version of the BFI. This limitation may make any correlations with the subscales related to this stage of analysis less reliable.

### 5.3.3 Aim one

The first aim of this phase of research was focused on the psychometric properties of the scales utilised. As the original 8-items of the Social and Community Perceptions Scale already had their properties assumed they were kept the same in order to maintain consistency with the original study (Mesko et al., 2004). The new items generated for the modified Social and Community Perceptions Scale were placed into an exploratory PCA in order to determine any underlying factor structure.

The PCA of these items is summarised in the following flowchart.



**Figure 1.** Flow chart summarising the PCA performed on items generated for phase two.

The psychometric properties were further assessed using convergent and divergent validity with scales from Hanslmaier et al. (2016)'s paper measuring life satisfaction and fear of crime.

### 5.3.4 Factorability and reliability

Using PCA, analysis to explore the Fear of Crime Scale and associated subscales revealed the same factors as the previous stage, with the same variables making up the subscales as phase one. The descriptive statistics for this section indicate the Fraud subscale has a good level of internal consistency. Both the Violence and Damage to Personal Property subscales have a good level of internal consistency.

The eight items of the original Social and Community Perceptions Scale revealed a Cronbach's Alpha score of .57, suggesting a low level of internal consistency and reliability (Cortina, 1993).

When considering 38 items that remain as a part of the revised Social and Community Perceptions Scale reliability analysis revealed a Cronbach's Alpha score of .93 for the scale overall, suggesting an excellent level of internal consistency and reliability (Cortina, 1993).

This would suggest that the new scale is more reliable than the items of the original and has a greater internal consistency.

When compared to the low reliability from the same scale in phase one, it would appear adding the extra items to each subscale has benefitted the scale as a whole and made the Social and Community Perceptions Scale more reliable as a measurement tool.

Analysis conducted PCA with a Promax rotation with Kaiser Normalisation on the dataset to test the Social and Community Perceptions Scale and to reveal any underlying substructure. As there is expectation for factors to correlate PCA is an appropriate method. Analysis used the original four-factor solution from the original study to maintain consistency and generalisability. The cut off value for item loadings was set at .32 in accordance with the guidelines set out in Tabachnick and Fidell (2001). Removal of cross-loading items on this fixed four-factor structure ensures the strongest possible factor solution.

Kaiser-Meyer-Olkin's measure of sampling adequacy resulted in a value of .75 (which is above the commonly recommended .50), and Bartlett's test of Sphericity was significant  $\chi^2$  of 684.21 ( $df = 28$ ,  $p < .001$ ). Thus, these data were suitable for PCA due to having equal variances. Initial eigenvalues indicated that the first four factors accounted for 39.05%, 17.47%, 11.81% and 8.94% of the variance respectively. There is support of the four-factor solution on the basis that the first four eigenvalues were both noticeably larger than the rest and because they accumulatively accounted for 77.27% of variance, which is acceptable according to Hair et al. (2010).

For the revised scale, Kaiser-Meyer-Olkin's test of sampling adequacy resulted in a value of .90 (> than the commonly recommended .50), and Bartlett's test of Sphericity was significant  $\chi^2$  of 6134.85 ( $df = 703$ ,  $p < .001$ )

so the sample is factorable due to having equal variances.

Initial eigenvalues indicated that the four factors accounted for 29.51%, 9.81%, 6.28% and 4.59% of the variance respectively. The four-factor solution accounted for 50.21% of variance. The complete breakdown of the items and their loading scores is available in the appendices (pp. 311-313).

The 17 items of the newly generated Criminalisable Space subscale had a Cronbach's alpha of .92, which reveals an excellent level of reliability (Cortina, 1993). The 10 items of the newly generated Evil Intent subscale revealed a Cronbach's alpha of .87, which reveals a good level of reliability (Cortina, 1993). The 7 items of the newly generated Attractivity subscale reveal a Cronbach's alpha of .80, which reveals an acceptable level of reliability (Cortina, 1993). The 4 items of the newly generated Power subscale revealed a Cronbach's alpha of .74, which reveals an acceptable level of reliability (Cortina, 1993).

### ***5.3.5 Convergent and divergent validity***

In order to establish convergent validity of the revised Social and Community Perceptions Scale the analysis included Pearson's correlations. This included an investigation into correlations of the original subscales of the Social and Community Perceptions Scale, the revised scale and the Life Satisfaction Scale from Hanslmaier et al. (2016), Fear of Crime Scale and the fear of crime subscales.

**Table 2.** *Correlations between the new Social and Community Perceptions and original Social and Community Perceptions Scale with an established measure.*

	Life satisfaction	Fear of crime Total	Fear of Crime Violence	Fear of Crime Damage to personal Property	Fear of Crime Fraud
Original Evil Intent	.41**	.33**	.39**	.29**	.03
Original Criminalisable Space	.61**	.59**	.56**	.57**	.23**
Original Power	.08	.28	.05	.03	-.04
Original Attractivity	.40**	.34**	.29**	.35**	.17**
New Evil Intent	.52**	.55**	.53**	.54**	.19**
New Criminalisable Space	.70**	.78**	.69**	.77**	.41**
New Power	.06	-.06	-.05	-.05	-.06
New Attractivity	.40**	.45**	.32**	.50**	.34**

\*\* . Correlation is significant at  $p < .001$  level (1-tailed).

\* . Correlation is significant at  $p < .05$  level (1-tailed).

Using the subscales from Hanslmaier et al. (2016) there is clear evidence of convergent validity for three of the newly generated subscales. The power subscale clearly needs further revision in order to refine the scale and assure the subscale is a valid measurement tool.

The investigation also explores interactions of the revised Social and Community Perceptions Scale using correlation analysis in relation to the original Social and Community Perceptions Scale from van der Wurff et al. (1989). This analysis sought to further establish convergent validity in the new and revised scale.

**Table 3.** *Correlations of the original subscales from van der Wurff et al. (1989) Social and Community Perceptions with the updated Social and Community Perceptions subscales.*

	Original Subscales from van der Wurff et al., (1989).			
	Evil Intent	Criminalisable Space	Attractivity	Power
Evil Intent New	.66**	.44**	.50**	.13**
Criminalisable Space New	.38**	.69**	.44**	.02
Attractivity New	.18**	.33**	.25**	.05
Power New	.12*	-.06	.35**	.52**

\*\* . Correlation is significant at  $p < .001$  level (1-tailed).

\* . Correlation is significant at  $p < .05$  level (1-tailed).

The new subscales seem to correlate well with the previous iteration, meaning there is evidence of convergent validity for the newly revised subscales.

The final correlation analysis on the revised Social and Community Perceptions Scale sought to establish divergent validity with the BFI-2-xs. This will enable an assessment as to whether the scale performed in the way one would expect.

Note EYS = Extraversion, AGREE = Agreeableness, CON = Conscientiousness, NEUR = Negative emotionality, OPEN = Open-Mindedness.

**Table 4.** *Associations between the revised Social and Community Perceptions subscales and the BFI-2-xs.*

	EYS	AGREE	CON	NEUR	OPEN
Evil Intent	-.04	-.27**	-.12*	.25**	-.14**
Criminalisable Space	-.25**	-.04	-.22**	.53**	-.17**
Attractivity	.08	.09	-.09	.20**	-.04
Power	.34**	-.20**	.10**	-.22**	-.03

\*\* . Correlation is significant at  $p < .001$  level (1-tailed).

\* . Correlation is significant at  $p < .05$  level (1-tailed).

The significant negative correlations imply that there is some evidence of divergent validity within the newly generated subscales. This, alongside the convergent validity already established, can provide evidence that the scale

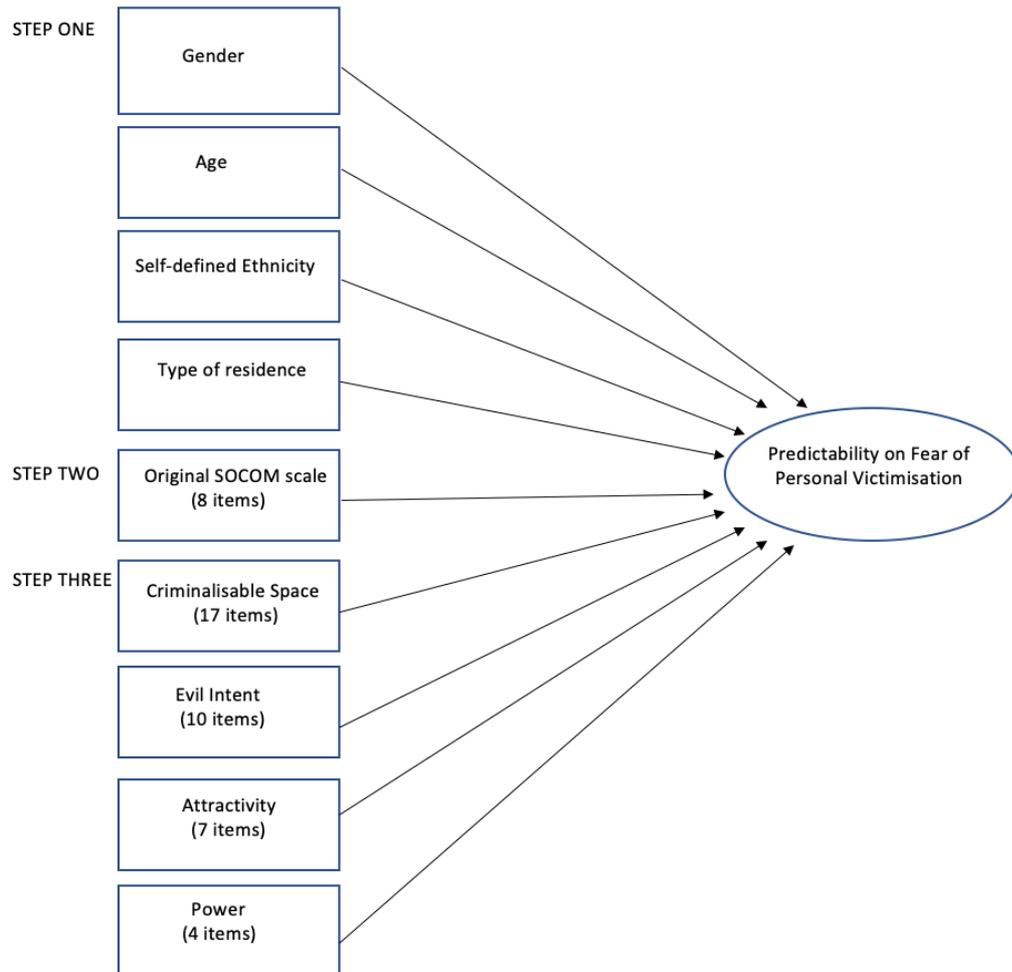
generated is a valid measurement tool. This is true for both divergent and convergent validity dimensions.

### **5.3.6 Aim two**

The second aim for phase two's analysis was based around the correlational design of the overall thesis and attempted to determine the variables that have the most significant impact on a fear of personal victimisation.

Multiple hierarchical regression was used to test for the predictability of fear of personal victimisation entering the demographic variables at stage one, the four subscales of the Social and Community Perceptions Scale suggested by Mesko et al. (2004) at stage two and the new subscales from the items generated for phase two at stage three.

The regression is summarised in the diagram included in figure 2.



**Figure 2.** Summary of the regression model utilised for the analysis of phase two.

### 5.3.7 Regression analysis

To maintain consistency with the previous phase of research phase two's analysis placed data into multiple hierarchical regression. Statistical tests ensure a multiple hierarchical regression is a valid means of analysis for these data. Tests included examination of assumptions of absence of outliers, multicollinearity, independent errors, homoscedasticity and linearity of data. The analysis of standard residuals showed that these data contained no outliers for the Violence subscale (Std. Residual Min = -2.88, Std. Residual Max = 2.78), Damage to Personal Property subscale (Std. Residual Min = -2.52, Std. Residual Max = 3.04), Fraud subscale (Std. Residual Min = -2.91, Std. Residual Max = 3.34) and overall Fear of Crime Scale (Std. Residual Min = -2.71, Std. Residual Max = 3.47).

Collinearity tests indicated that these data met the assumption of no multicollinearity at phase one (gender, Tolerance = .99, VIF = 1.02; age, Tolerance = .94, VIF = 1.06; ethnicity, Tolerance = .89, VIF = 1.12, area of residence Tolerance = .92, VIF = 1.08).

Phase two (gender, Tolerance = .84, VIF = 1.20; age, Tolerance = .84, VIF = 1.19; ethnicity, Tolerance = .87, VIF = 1.15, area of residence Tolerance = .92, VIF = 1.08, Criminalisable Space original, Tolerance = .70, VIF = 1.43, Evil Intent original, Tolerance = .77, VIF = 1.30, Power original, Tolerance = .88, VIF = 1.13 and Attractivity original, Tolerance = .79, VIF = 1.27).

Phase three (gender, Tolerance = .77, VIF = 1.30; age, Tolerance = .82, VIF = 1.21; ethnicity, Tolerance = .77, VIF = 1.30, area of residence Tolerance = .88, VIF = 1.14, Criminalisable Space original, Tolerance = .48, VIF = 2.10, Evil Intent original, Tolerance = .51, VIF = 1.97, Power original, Tolerance = .70, VIF = 1.43 Attractivity original, Tolerance = .62, VIF = 1.63, Criminalisable Space revised, Tolerance = .34, VIF = 2.93, Evil Intent revised, Tolerance = .33, VIF = 2.99, Attractivity revised, Tolerance = .69, VIF = 1.46 and Power revised, Tolerance = .49, VIF = 2.03).

These data met the assumption of independent errors for the Violence subscale (Durbin-Watson = 1.83) Damage to Personal Property subscale (Durbin-Watson = 1.78), Fraud subscale (Durbin-Watson = 2.18) and overall Fear of Crime Scale (Durbin-Watson = 1.89). Finally, the scatterplot of standard residuals indicated that these data met the assumptions of linearity and homoscedasticity.

Analysis ensured the opportunity to compare results of the revised scale with the both the previous phase of research and the original scale. This analysis included four three-stage hierarchical regressions. This regression added the demographic predictors in stage one, the original factors of the Social and Community Perceptions Scale (van der Wurff et al., 1989) in stage two and the new subscales for the revised Social and Community Perceptions Scale in stage three. The original items of the Social and Community Perceptions Scale were not included in the item pool making up the subscales entered in at the third stage of the regression analysis and were entered in the original 8-item iteration at stage 2. This approach was consistent with the original study (Mesko et al., 2004; van der Wurff et al., 1989).

**Table 5.** Hierarchical regressions with demographics entered at step 1 and van der Wurff et al. (1989) subscales entered at step 2 and revised subscales at step 3.

	Fear of crime overall	Violence	Damage to personal Property	Fraud
Step 1	$F(4, 315) = 20.246^{**}$ , $R^2_{adj} = .19$	$F(4, 315) = 23.786^{**}$ , $R^2_{adj} = .22$	$F(4, 315) = 13.195^{**}$ , $R^2_{adj} = .13$	$F(4, 315) = 6.763^{**}$ , $R^2_{adj} = .07$
Step 2	$F(8, 311) = 29.903^{**}$ , $R^2_{adj} = .42$	$F(8, 311) = 30.273^{**}$ , $R^2_{adj} = .42$	$F(8, 311) = 23.151^{**}$ , $R^2_{adj} = .36$	$F(8, 311) = 6.445^{**}$ , $R^2_{adj} = .12$
Step 3	$F(12, 307) = 51.189^{**}$ , $R^2_{adj} = .65$	$F(12, 307) = 35.611^{**}$ , $R^2_{adj} = .56$	$F(12, 307) = 46.193^{**}$ , $R^2_{adj} = .63$	$F(12, 307) = 9.785^{**}$ , $R^2_{adj} = .25$

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

**Table 6.** Beta scores for hierarchical regressions with demographics entered at step 1 and van der Wurff et al. (1989) subscales entered at step 2 and revised subscales at step 3.

	Fear of crime overall		Violence		Damage to personal Property		Fraud	
	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$
Gender (step 1)	.21	4.08**	.19	3.73**	.15	2.82*	.23	4.28**
Age (step 1)	-.28	-5.42**	-.34	-6.73**	-.24	-4.54**	.02	.26
Ethnicity (step 1)	.23	4.35**	.21	4.05**	.20	3.65**	.17	3.01*
Residence (step 1)	.09	1.78	.06	1.18	.11	2.06*	.07	1.15
Gender (step 2)	.17	3.63**	.13	2.82*	.12	2.51*	.24	4.20**
Age (step 2)	-.13	-2.81*	-.19	-4.13**	-.10	-2.06*	.06	1.06
Ethnicity (step 2)	.14	3.27*	.14	2.97*	.12	2.47*	.14	2.46*
Residence (step 2)	.08	1.82	.05	1.09	.10	2.13*	.06	1.12
Criminalisable	.41	8.04**	.39	7.64**	.40	7.38**	.18	2.88*
Space (step 2)								
Evil Intent (step 2)	.04	.79	.12	2.43*	.01	.26	-.14	-2.36*
Attract (step 2)	.04	.96	.03	.74	.06	1.21	.003	.06
Power (step 2)	.17	3.56**	.09	1.94	.20	3.95**	.18	2.96*
Gender (step 3)	.13	3.54**	.11	2.67*	.08	2.01*	.21	3.73**
Age (step 3)	-.06	-1.62	-.14	-3.34*	-.03	-.67	.11	2.06*
Ethnicity (step 3)	.08	2.08*	.06	1.42	.06	1.42	.12	2.10*
Residence (step 3)	-.02	-.43	-.04	-.91	.00	.08	.01	.17
Criminalisable	.04	.88	.11	2.06*	.01	.16	-.09	-1.28
Space (step 3)								
Evil Intent (step 3)	-.06	-1.36	-.01	-.13	-.08	-1.62	-.13	-1.87
Power (step 3)	.07	1.76	.06	1.37	.08	1.99*	.01	.21
Attractivity (step 3)	-.01	-.19	-.05	-1.03	.01	.25	.06	.99
New	.58	10.28**	.47	7.41**	.58	9.98**	.42	4.99**
Criminalisable								
New Evil	.16	2.78*	.22	3.38*	.14	2.33*	-.07	-.77
New Power	.11	2.73*	-.04	-.94	.20	4.76**	.22	3.70**
New Attractivity	-.06	-1.18	-.06	-1.04	-.06	-1.18	-.01	-.16

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

**Table 7.** Showing % of variance predicted at each stage of regression according to  $R^2$  score

	Fear of crime overall	Violence	Damage to personal Property	Fraud
Step 1	20.5	23.2	14.4	7.9
Step 2	43.5	43.8	37.3	14.2
Step 3	66.7	58.2	64.4	27.7

### 5.3.8 Fear of Crime total

The first of the four regressions featured the total score generated from the Fear of Crime Scale as the criterion variable. At stage one, with the demographics in the equation,  $R^2_{adj} = .19$ ,  $F(4, 315) = 20.246$ ,  $p < .001$ . Gender, ( $\beta = .21$ ,  $t = 4.08$ ,  $p < .001$ ) and ethnicity ( $\beta = .23$ ,  $t = 4.35$ ,  $p < .001$ ) were both positively related to a fear of crime overall. Age was a significant negative predictor for the overall score for fear of crime ( $\beta = -.28$ ,  $t = -5.42$ ,  $p < .001$ ), meaning those who were younger were more likely to be fearful of crime than those who were older.

At stage two with the equation  $R^2_{adj} = .42$ ,  $F(8, 311) = 29.90$ ,  $p < .001$ . Gender ( $\beta = .17$ ,  $t = 3.63$ ,  $p < .001$ ) and ethnicity ( $\beta = .15$ ,  $t = 3.27$ ,  $p < .05$ ). This finding supports Dobbs et al. (2009) in females reporting a higher level of overall fearfulness of crime overall. With the further addition of Criminalisable space ( $\beta = .41$ ,  $t = 8.04$ ,  $p < .001$ ) and Power ( $\beta = .17$ ,  $t = 3.56$ ,  $p < .001$ ) as significant positive predictors. Meaning higher scores on these subscales predict a higher overall level in relation to fear of crime. Age remained a significant negative predictor of fear of crime overall ( $\beta = -.13$ ,  $t = -2.81$ ,  $p < .05$ )

At stage three,  $R^2_{adj} = .65$ ,  $F(12, 307) = 51.189$ ,  $p < .001$ . There was little change for the interaction between demographic predictors with the total fear of crime score. Gender ( $\beta = .13$ ,  $t = 3.54$ ,  $p < .001$ ) and ethnicity ( $\beta = .08$ ,  $t = 2.08$ ,  $p < .05$ ). The newly added subscales provided three significant positive predictors, with the revised Criminalisable Space ( $\beta = .58$ ,  $t = 10.28$ ,

$p < .001$ ), revised Evil Intent ( $\beta = .16, t = 2.78, p < .05$ ) and revised Power ( $\beta = .11, t = 2.73, p < .05$ ) all showing evidence that a higher score for these subscales indicated a higher overall fear of crime.

### **5.3.9 Violence subscale**

The second regression featured the Violence subscale from the Fear of Crime Scale as the criterion variable. With the equation at stage one,  $R^2_{adj} = .22, F(4, 315) = 23.786, p < .001$ . The predictors that shared a positive relationship with violent crime were, gender ( $\beta = .19, t = 3.73, p < .001$ ) and ethnicity ( $\beta = .21, t = 4.05, p < .001$ ). This finding supports the Dobbs et al. (2009)'s assumption that those who are female would be more fearful of violent crime. This regression also supports the finding that those who are in the "not white" category for ethnicity would be more fearful of violent crime than those who were white. These predictors were also the most significant predictors for phase one's data. In a further similarity age was a significant negative predictor ( $\beta = -.34, t = -6.73, p < .001$ ).

At stage two,  $R^2_{adj} = .42, F(8, 311) = 30.273, p < .001$ . Gender ( $\beta = .13, t = 2.82, p < .05$ ) and ethnicity ( $\beta = .14, t = 2.97, p < .001$ ) remained significant positive predictors of fear of violent crime. With the further addition of Criminalisable Space ( $\beta = .39, t = 7.64, p < .001$ ) and Evil Intent ( $\beta = .118, t = 2.43, p < .05$ ) as significant positive predictors. Age, ( $\beta = -.19, t = -4.13, p < .001$ ) shares a significant negative relationship with fear of violent crime.

At stage three,  $R^2_{adj} = .56, F(12, 307) = 35.611, p < .001$ . Gender ( $\beta = .11, t = 2.67, p < .001$ ) and a high score on the Criminalisable Space subscale ( $\beta = .11, t = 2.06, p < .05$ ) remained significant positive predictors of a fear of violent crime. With the further addition of the revised subscales a high score on the revised Criminalisable Space ( $\beta = .47, t = 7.41, p < .001$ ) and revised Evil Intent ( $\beta = .22, t = 3.38, p < .05$ ) subscales were significant positive predictors of a fear of violent crime.

### **5.3.10 Damage to Personal Property subscale**

The third regression included the “Damage to Personal Property” subscale as the criterion variable. With the equation at stage one  $R^2_{adj} = .22$ ,  $F(4, 315) = 23.786$ ,  $p < .001$ . The significant positive predictors included; gender ( $\beta = .15$ ,  $t = 2.82$ ,  $p < .05$ ), ethnicity ( $\beta = .20$ ,  $t = 3.65$ ,  $p < .001$ ) and location of residence ( $\beta = .11$ ,  $t = 3.65$ ,  $p < .001$ ). Age was a significant negative predictor ( $\beta = -.24$ ,  $t = -4.54$ ,  $p < .001$ ), indicating the lower age groups were more fearful of violence than those who were older.

Stage two, with the equation  $R^2_{adj} = .36$ ,  $F(8, 311) = 23.151$ ,  $p < .001$ . gender ( $\beta = .12$ ,  $t = 2.51$ ,  $p < .05$ ), ethnicity ( $\beta = .12$ ,  $t = 2.47$ ,  $p < .05$ ) and location of residence ( $\beta = .10$ ,  $t = 2.13$ ,  $p < .001$ ), were significant positive predictors. With the further addition of Criminalisable Space ( $\beta = .40$ ,  $t = 7.38$ ,  $p < .001$ ) and Power ( $\beta = .20$ ,  $t = 3.95$ ,  $p < .001$ ) as significant positive predictors. Age, ( $\beta = -.10$ ,  $t = -2.06$ ,  $p < .05$ ) remained the only significant negative predictor of fear of damage to personal property.

At stage three,  $R^2_{adj} = .63$ ,  $F(12, 307) = 35.611$ ,  $p < .001$ . Gender ( $\beta = .08$ ,  $t = 2.01$ ,  $p < .05$ ) and a high score on the Power subscale ( $\beta = .081$ ,  $t = 1.99$ ,  $p < .05$ ) remained significant positive predictors of a fear. With the further addition of the revised subscales analysis revealed that a high score on the revised Criminalisable Space ( $\beta = .58$ ,  $t = 9.98$ ,  $p < .001$ ), revised Power ( $\beta = .20$ ,  $t = 4.76$ ,  $p < .001$ ), and revised Evil Intent ( $\beta = .14$ ,  $t = 2.33$ ,  $p < .05$ ) subscales were significant positive predictors of a fearfulness.

### **5.3.11 Fraud subscale**

The fourth regression featured the “Fraud” subscale as the criterion variable. With the equation at stage one  $R^2_{adj} = .07$ ,  $F(4, 315) = 6.763$ ,  $p < .001$ . With gender ( $\beta = .23$ ,  $t = 4.28$ ,  $p < .001$ ) and ethnicity ( $\beta = .17$ ,  $t = 3.01$ ,  $p < .05$ ) identified as significant positive predictors of fearfulness of fraud.

At stage two,  $R^2_{adj} = .12$ ,  $F(8, 311) = 6.445$ ,  $p < .001$ . Gender ( $\beta = .24$ ,  $t = 4.20$ ,  $p < .001$ ) and ethnicity ( $\beta = .17$ ,  $t = 3.01$ ,  $p < .05$ ) were significant predictors of fear of fraud. Of the added subscales, Criminalisable Space ( $\beta = .18$ ,  $t = 2.88$ ,  $p < .05$ ) and Power ( $\beta = .18$ ,  $t = 2.96$ ,  $p < .05$ ) were significant positive predictors for fear of fraudulent crime. Evil Intent ( $\beta = -.14$ ,  $t = -2.36$ ,  $p < .05$ ) was a significant negative predictor.

Stage three,  $R^2_{adj} = .25$ ,  $F(12, 307) = 9.785$ ,  $p < .001$ . There was little change in predictors for fear of fraud as gender ( $\beta = .21$ ,  $t = 3.73$ ,  $p < .001$ ) and ethnicity ( $\beta = .12$ ,  $t = 2.10$ ,  $p < .05$ ). Age ( $\beta = .11$ ,  $t = 2.06$ ,  $p < .05$ ) was a positive predictor at this stage. With the further addition of the newly revised subscales also provided two significant positive predictors, with the revised Criminalisable Space ( $\beta = .42$ ,  $t = 4.99$ ,  $p < .001$ ) and revised Power ( $\beta = .22$ ,  $t = 3.70$ ,  $p < .001$ ) both showing evidence that a higher score for these subscales indicated a higher fear of fraudulent crime.

## **5.4 Phase two discussion**

The results of phase two showed an improvement (in reliability and validity) to those from phase one. Adding more items to the Social and Community Perceptions Scale has improved its predictability relating to fear of personal victimisation (Huffman et al., 2008).

The following section contains a discussion regarding the interactions between the socio-demographic variables, revised Social and Community Perceptions Scale, convergent validity measures and the Fear of Crime Scale from phase two.

This chapter includes discussion of the limitations of the analysis conducted in phase two regarding how to tackle and overcome these issues in the third and final phase of this research project.

### **5.4.1 PCA analysis**

This phase of the thesis (phase two) used PCA to assess the number of factors present within both the Fear of Crime Scale and the revised Social and Community Perceptions Scale.

Regarding the Fear of Crime Scale, items loaded similarly to the way they loaded for phase one of this project. This evidences the Fear of Crime Scale showing itself to be capable of producing results in a replicable study when necessary (Williamson et al., 2013).

The revised Social and Community Perceptions Scale showed a more reliable substructure than what was present as a result of the data collection from phase one (Nevo, 1985). Following the iterative process of removing items that cross load the Cronbach's alpha scores of the subscales were much higher than the same factor structure from the previous phase of research (Cortina, 1993). This indicated that adding more items has provided a factor solution more capable of measuring the Social and Community Perceptions of participants than the 8-item structure proposed by van der Wurff et al. (1989) (Mesko et al., 2004). This result also revealed that the measure has progressed in the right direction in terms of its reliability although two of the four subscales require more items to strengthen their factor solution (at

present there are a limited number of items on both). Due to the lower scores generated during PCA for the “Power” and “Attractivity” subscales, the scales need further refinement at the end of phase two. Following PCA “Power” and “Attractivity” retained fewer items than anticipated. Phase three repeated the process of item generation to expand the construct breadth of these subscales and to create a stronger factor solution (Huffman et al., 2008). This enabled the inclusion of CFA during the third phase to confirm the factor structure that emerged (Huffman et al., 2008).

#### ***5.4.2 Results of convergent and divergent validity***

The items of the revised Social and Community Perceptions Scale correlated more significantly with the convergent validity measure taken from (Hanslmaier et al., 2016) than the original 8-item scale. This confirms the new factor structure tests more highly for validity than the original scale. This provides further evidence for the refined scale improving with the new updates in terms of its ability to measure the reasoning behind individuals having an increased fear of personal victimisation (Nevo, 1985).

The refined measure also correlated with the items from the Fear of Crime Scale and its subscales more significantly than the original measure, suggesting that the measure was valid in relation to convergent validity (Nevo, 1985). The newly altered subscales of the social and community perceptions scale also correlate negatively with subscales from the BFI-2-xs suggesting some form of divergent validity can be established (nevo, 1985).

This, once again, provided evidence the refined measure is more valid in measuring fear of personal victimisation than the original 8-item measure from van der Wurff et al. (1989).

#### ***5.4.3 Results of regression analysis***

The Beta scores showed little change in the relationship between the Fear of Crime Scale and demographic predictors from the previous phase. However, results for phase two highlighted an interesting relationship between age and fear of personal victimisation, with results suggesting those who were younger

were more likely to be fearful of crime overall, violent crime and about damage to their personal property. This indicated that Barbaret et al. (2004)'s suggestion that those who were older would reduce their fearfulness by limiting their own self-perceived risk is likely to be accurate. Phase one also revealed this result, however, it was more prevalent here. Within this dataset those who were younger feared crime more than those who were older. It is important to note, the mean age of those surveyed at this stage was higher, therefore the effect suggested by Barbaret et al. (2004) would be more visible than at the previous stage (where the sample had a lower mean age). Findings are consistent with Jackson (2009) who suggested that those who were older would be more fearful of fraudulent crime.

Taking into account, for example, the Violence subscale and its regression analysis, in the previous phase the predictability was 35.7%, which is comparable to the 43.8% of variances predicted by the same (8) items in phase two. When adding the revised Social and Community Perceptions Scale the percentage of variance explained increased to 58.2% which was significantly higher than the first stage and the variance accounted for in Mesko et al. (2004).

When compared to the threshold of 24% of variance predicted by van der Wurff et al. (1989) and 25% by the demographics of Lavrakas (1982) it was clear the level of improvement of the Social and Community Perceptions Scale. The Fraud subscale is closest to the 25% (around 27% of variances explained) but the other subscales were significantly higher (the lowest being 58.2% of variance accounted for). The 8-item iteration has not been capable of predictability of an individual facet of fearfulness in analysis.

When compared to its use by Mesko et al. (2004) the scale was more useful in predicting fear of crime with the expansion of its item breadth at the end of phase two. To continue this improvement phase three required further item generation to refine the subscales and improve their construct breadth (Huffman et al., 2008). This involved strengthening the subscales that had a weaker factor structure by adding similar items that fit what the subscale was trying to measure to create a more robust measure that will perform better in parametric testing and regression analysis (Huffman et al., 2008; Mesko et al., 2004).

As previously described, there was an issue with the subscales generated as a result of this phase (MacCallum et al., 1996). Though two of the four subscales generated provided an excellent number of items, the last two components of the PCA had scarcely any in comparison.

The next phase of the research needs to address the subscales' predictability, which phase two's analysis has weakened (McDonald, 1985). From phase one to phase two the revised Social and Community Perceptions Scale has improved when considering predictability of variance, reliability and validity (Mesko et al., 2004; Nevo, 1985). This provides an excellent starting point for phase three to generate items with the view of creating a final structure of the Fear of Victimization Scale.

## **5.5 Future research and limitations**

Phase three contributed to these developments by adding more items to the weaker subscales that emerged as a result of the iterative process which eliminated a significant number of cross-loading items (Huffman et al., 2008). These new items will further bridge the final gap between the Social and Community Perceptions subscales and their predictability of fear of personal victimisation (Mesko et al., 2004). Following some testing to confirm any findings, this methodology provided a working model in line with the aims of this doctoral thesis (McDonald, 1985).

The final phase of this research project involved one final phase of PCA to, once again, eliminate items that are anomalous or do not provide any additional structure to the subscales of the final Fear of Personal Victimization Scale (Mesko et al., 2004; Nevo, 1985). This demonstrated the development of this thesis and assessed the legitimacy of the new scale and its subsequent subscales. This, in turn, further informs the new fear of personal victimisation measure and fulfils the aims of this thesis.

At this stage (phase two), three of the four subscales (Attractivity, Evil Intent and Criminalisable Space) performed as one would expect concerning internal consistency and validity (convergent) (MacCallum et al., 1996). The Power subscale was still failing to perform in many of the statistical tests. This

was due to the low number of items (MacCallum et al., 1996). In terms of reliability, validity and predictability of a fear of personal victimisation the revised Social and Community Perceptions Scale performed better than the original 8-item Social and Community Perceptions Scale and therefore adding more items to strengthen the weaker subscales was the necessary next step in fulfilling the overall aims of this thesis (Mesko et al., 2004).

The revised Criminalisable Space subscale performed the best of the four subscales in terms of predictability. It was also the largest of the four subscales in terms of the number of items in the factor solution that emerged in the PCA (MacCallum et al., 1996). This is further evidence that the best course of action was to add more items to the subscales that were not as useful in terms of their predictability at the end of phase two (the revised Power and revised Evil Intent subscales) (MacCallum et al., 1996; Mesko et al., 2004).

## 5.6 Conclusion

Overall the revised measure performed promisingly during phase two. Following on from phase one of this project the analysis focused generating items that would fit the four-factor system suggested by the original paper by van der Wurff et al. (1989).

Phase two accomplished this by calculating the means of the items created to be a part of the subscales for this phase, then placing the items from the updated Social and Community Perceptions Scale into PCA. This proved to be unsuccessful, as items would cross-load on multiple components. The analysis included removal of cross-loading items in order to obtain the strongest factor structure (Huffman et al., 2008).

An iterative process repeated this procedure several times which removed items that would not represent a single factor but would represent multiple facets of the Social and Community Perceptions Scale. This led items to cross load on several subscales (Huffman et al., 2008). The iterative process of eliminating cross-loading items, resulted in a solution where all items were representative of a single component rather than two or three.

Though some of the components possessed a good number of items, the final two subscales (Power and Attractivity) were lacking in the frequency of their items (Nevo, 1985).

Using the items that remained as a part of the underlying substructure as a basis (so as to maintain conceptual clarity), phase three would generate more items before repeating the iterative process of item removal using PCA and CFA. Generation of new items used the definitions from Mesko et al. (2004) to ensure subscales maintained conceptual clarity. This was to continue the aims of the overall thesis.

These new items form the basis of the final iteration of the Social and Community Perceptions Scale (later named the Fear of Personal Victimization Scale) and used correlation analysis with the eight original items from the van der Wurff et al. (1989) original research paper to assess their convergent validity. Following this, CFA investigated whether items generated represent each of the original subscales suitably and whether the new Fear of Personal

Victimisation Scale has a suitable factor structure following the overall aims of this thesis.

These data will be analysed allowing for additional development in the Fear of Personal Victimization Scale in a way that will assess the legitimacy subscales by generating new facets of fearfulness. This will inform the Fear of Personal Victimization Scale.

## **Chapter 6: Phase three - Refining and validating the fear of personal victimisation measure**

---

### **6.1 Phase three: Refining and validating the fear of personal victimisation measure (general overview)**

#### ***6.1.1 Introduction and background to phase three***

The design of phase three implemented necessary changes following phase two. Phase three started by extending on the PCA conducted on the Social and Community Perceptions Scale in phase two by generating further items to the scale's subscales and running a further exploratory PCA. This involved a final data collection period following the generation of new items based on those that survived the iterative process of elimination from phase two. Following PCA, this phase utilises Confirmatory Factor Analysis (CFA) to confirm the factor structure of the items that remained as a part of the newly generated subscales following item removal. The 33-items that emerged from CFA form the Fear of Personal Victimization Scale.

To examine the predictive power of the final factor solution, following CFA phase three concluded with a final hierarchical regression analysis with the demographic predictors from phase two entered at stage one, the original 8-item Social and Community Perceptions Scale (van der Wurff et al., 1989) at stage two and the Fear of Victimization Scale entered at stage three.

CFA is a powerful asset when establishing a measurement tool (MacCallum et al., 1996). CFA can tightly account for error where PCA cannot (MacCallum et al., 1996). The basic principle of CFA is to verify the factor structure of a set of observed variables (MacCallum et al., 1996). CFA allows the testing of a hypothesis to establish a relationship between observed variables and their underlying latent structure (MacCallum et al., 1996). CFA can more emphatically state that this latent structure exists within the observed variables.

Though this method requires support from previous research, the method confirmed the underlying structure of the new Fear of Personal Victimization Scale. The selection of CFA is based on previous work by van

der Wurff et al. (1989) suggesting an unconfirmed four-factor solution. This structure formed the basis of formulating the items during the revisions to the scale at each iteration. CFA is capable of confirming this factor structure is appropriate for the scale (MacCallum et al., 1996).

CFA also requires the researcher to know which items load on each factor, which was another reason the method is beneficial to confirm the latent factor structure (Morgado et al., 2018). The items generated loaded on the expected subscales following a PCA on these data, meaning CFA was an appropriate means of confirming the underlying factor structure of the third phase's revised scale.

The benefit of utilising CFA was that it could confirm the underlying factor structure and, in doing so, confirm the measurement tool fulfilled the overall aims of the current thesis (MacCallum et al., 1996).

Following CFA, the items that remained formed the new scale, a measurement tool designed to assess the underlying causes that will increase a fear of personal victimisation. The items that remain from CFA will form the new "Fear of Personal Victimisation Scale" (33 items).

### **6.1.2 Item Generation**

Following the analysis of phase two item generation was necessary to expand on the construct breadth of the subscales to further refine the measurement tool.

In the same methodology adopted for phase two, this involved creating items utilising the definitions for the four subscales provided by van der Wurff et al. (1989) and Mesko et al. (2004) in a similar approach utilised in phase two. An item pool was generated in order to allow for items to be eliminated and continue the iterative process of item removal for cross loading items. This methodology enabled a great amount of detail to be taken in maintaining the conceptual clarity of subscales, which is an issue based upon the definitions provided leading to items cross loading on multiple subscales.

This facilitated expansion of the construct breadth of each of the subscales without allowing the limitation of the subscales providing potentially

similar items having an impact on the conceptual clarity. Phase three used CFA to further improve the conceptual clarity of the subscales and to eliminate any items that did not fit the factor structure appropriately.

## **6.2 Methodology and Research Design**

To maintain consistency with the previous phases of this thesis the same correlational design was utilised in the final phase of research.

Predictor variables;

The predictor variables of the final phase of this thesis were the socio-demographic variables from the second phase of research, the original items from the Social and Community Perceptions Scale and the items that consist of the new Fear of Personal Victimization.

Criterion variables;

The criterion variables of this phase of research were the overall score of the Fear of Crime Scale and its subscales.

Hierarchical regression investigates the relationships between these variables determine whether the generated Fear of Personal Victimization Scale has improved in its ability to predict scores on the Fear of Crime Scale.

### **6.2.1 Participants**

For phase three of this thesis, 331 participants completed the questionnaire. Ages ranged from 18-88 years with a mean (*M*) of 32.89 and standard deviation (*SD*) of 13.65. 72.2% (239) were female and 27.8% (92) were male. Female ages ranged from 18-71 years, *M* = 30.93, *SD* = 12.33; Male ages ranged from 18-88 years, *M* = 38.00, *SD* = 15.54.

Utilisation of snowball sampling recruited participants. The inclusion criteria of this study were simply to be a resident of the UK and to be over the age of 18. Potential responders had inclusion criteria signposted to them throughout the advertisement process. Those who did not meet the age limit had their answers removed from the final sample. Exclusion criteria of this phase of the research were to not meet the inclusion criteria, meaning they

were; a past victim of traumatic crime, below the age of 18 and/or not a resident of the UK at the time of completion.

### **6.2.2 Measures**

The third phase of research consisted of six sections. A demographic section similar to the one used during phase two of the research. This further enabled inclusion of the main predictors of fear of personal victimisation in the analysis to determine any relationships between these demographic variables and fearfulness. Once again, this also enabled the anonymity of participants as no information collected could directly identify anyone.

### **6.2.3 Victimization measures, fear of crime and life satisfaction**

Just as in phase two, the survey included a measure taken from Hansmaier et al. (2016) as the second scale for this phase of the research. As this is an established measure its inclusion is solely for convergent validity testing, the measure will remain unaltered from phase two and the original study.

For this reason, the scoring on a Likert scale (1-7) enabled participants to identify the levels to which they believed in their opinion crime trends had altered in the given time frame. A score of 1 indicated they believe the crime has “Become much rarer” and 7 meaning they felt the crime had “Become much more frequent” in the 10-year time frame given.

This scale has a maximum score of 28, which would indicate the participant believes the crime trends in the UK are much worse than they were ten years ago. The lowest score possible, 4, would indicate that the crime trends in the participants’ opinion had decreased in the same time frame.

The first section featured three sets of questions asking participants to rate on a five-point Likert scale their experiences with their self-perceived risk of victimisation. The first allows participants to say the precautions they take when they go about their daily lives. Scoring used a Likert scale (1-5) where selecting 1 meant they “Never” take the precaution and 5 meaning they “Always” do what the statement says to protect themselves from crime. The lowest score of 8 indicated the individual never takes any precautions to

protect themselves from crime and the maximum score of 40 indicated the individual would take every precaution mentioned to protect themselves from being the victim of a crime.

The second section allows individuals surveyed to identify how often they have certain worries, rated on a Likert scale (1-5) where selecting 1 meant they “Never” worry about the crime mentioned and 5 meaning they “Always” worry about becoming the victim of the crime described. The minimum score from 6 from this section indicated the individual never worries about each of the crimes, where the maximum score of 30 would mean they were always worrying about crime.

The third and final section from the Hanslmaier et al. (2016) paper allowed individuals to state how likely they were to become the victim of each of the 6 crimes presented to them, these were the same items from the second section.

Once again, scoring of these items used a Likert scale (1-5) and allowed individuals to rate how likely they feel it is that, in their own opinion, they will become the victim of each crime within the next twelve months. On this Likert scale a score of 1 indicated that an individual felt it was “Very unlikely” they would be a victim and a score of 5 meaning they felt it was “Very likely” they would be the victim of the crime within the next twelve months.

The lowest possible score of 6 for these items would indicate the individual thought it was extremely unlikely they would be the victim of a crime in the next 12 months, the maximum score would mean the individual was convinced it was likely they would be a victim of the crimes listed within 12 months of taking the survey.

As these items are from the same paper and all statements are worded negatively the scores can be combined. The lowest possible score for these sections is 20 (indicating the individual would be less worried, take fewer precautions and generally be less fearful of being a victim). The highest score of 100 (meaning they took every precaution as they felt they would be the victim of a crime within the next twelve months).

According to Hanslmaier et al. (2016) the Cronbach’s alpha score for the “Affective Scale” .87 and the “Cognitive Scale” .89. Hanslmaier et al. (2016) indicated these scores were “satisfactory”.

#### **6.2.4 Social and Community Perceptions Scale**

The original 8 items from van der Wurff et al. (1989)'s Social and Community Perceptions Scale were presented to participants to compare them to results obtained from the Fear of Personal Victimization Scale in terms of predicting fear of personal victimisation.

This, as in phase one was an unchanged version of the 8-item scale developed by van der Wurff et al. for the 1989 paper "Fear of Crime in Residential Environments: Testing a Socio-Psychological Model".

By presenting those surveyed with several statements such as "I think that people are jealous of me", "I generally stay clear of rows/arguments" and "I generally trust strangers" the scale seeks to explore how uncomfortable individuals would be with certain situations. Participants then rated how strongly they agree with each of these statements. Scoring employed a Likert scale (1-5) ranging from 1, which indicated individuals "strongly disagree" to 5 indicating that an individual "strongly agrees". The lowest score on the Social and Community Perceptions Scale was 8 with the highest score being 40.

#### **6.2.5 Fear of Personal Victimization Scale**

Phase two of this thesis comprised of addition of items to the Social and Community Perceptions Scale. The concept improved the scale's reliability, validity and predictability of fear of personal victimisation. Following on from the results of phase two 38 items remained, during phase three addition of a further 22 items strengthen some of the weaker subscales. The (4) items that were a part of the original Social and Community Perceptions Scale were removed so they could be placed into the original scale which has been run separately.

56 items remained for PCA analysis. PCA suggested 13 cross-loading items which would weaken the factor structure. CFA assessed the 43 remaining items to determine any that did not contribute to the underlying factor structure. CFA identified a further 10 items for removal to strengthen the underlying factor structure. Before hierarchical regression an iterative process of item removal took place.

This left a total of 33 items as a part of the Fear of Personal Victimization Scale. The scale, utilises the same Likert scale (1-5) as the original study. Where a score of 1, indicated individuals “strongly disagree” and 5 representing “strongly agree” for each statement. The Fear of Personal Victimization Scale now has a maximum score of 165 and a minimum score of 33. To maintain consistency with the original scale and in order to enable comparisons between the two, the same four subscales from the original Social and Community Perceptions Scale were utilised. Section 6.3 comprises of the breakdown of the iterative process of item removal in the analysis of phase three’s data.

### **6.2.6 Fear of Crime Scale**

To maintain consistency with both previous phases of this research project, the penultimate section was the Fear of Crime Scale that has been adapted from the 12 commonly feared crimes from the National Crime Survey of England and Wales (UK Office for National Statistics, 2016).

To get the maximum level of comparison in relation to how the Fear of Personal Victimization Scale performs compared to previous phases, the Fear of Crime Scale will remain the same as in the previous phases of research.

This scale presented participants with each of these crimes and asked them to rate how fearful they were of becoming a victim of each crime. Scoring took advantage of a Likert scale (1-5). 1 indicated participants were “strongly non-fearful” and 5 indicating they were “Strongly fearful”.

As previously, the minimum score for this scale was 12, (which would mean the individual in question was not at all fearful the crimes listed) and the maximum score was 60 (indicating the individual was very fearful of these crimes).

### **6.2.7 Intensity and Frequency of Fearfulness Scale**

The final section of this study will also remain unchanged from previous phases. This section is three simple questions from Farrall et al. (2004), which asked an individual whether they have been fearful over the last 12 months.

If they answered “yes” the participant continued to the two further questions of the scale. The first was how frequently they have felt this crime, to which they report between “1 occasion” and “more than 10 occasions”. The second asked how intense this fearfulness was on the last occasion they experienced it. A Likert scale rated this final question where a score of 1 indicated they were “Not very fearful”, 2 indicated they chose “A little bit fearful”, 3 indicated they were “Quite fearful”, 4 means they were “Very fearful” with 0 (which was recoded to remove anyone who’s experience was less intense causing anomalous results) meaning they chose “Cannot remember”.

### **6.2.8 Procedure**

An information sheet presented to participants gave them instructions of how to fill out the questionnaire as well as the procedure that they should take if they wished for any reason to withdraw from the study at any time.

This information sheet also provided information on how to answer each of the sections and told the participants that there would be further information at the start of each section specifically stating how to answer the section is related to. This included the exclusion criterion of this phase of the research which was that those participating must be over the age of 18, must be a resident of the UK and could not be a past victim of crime. A full version of this information is available in the appendices along with the complete questionnaire presented to participants (pp. 277-304).

The data collection for phase three commenced during October 2019 and finished at the start of November of 2019. The scales were placed into SPSS version 26 where they were coded as previously described to enable analysis between the variables to be conducted.

### **6.2.9 Ethical considerations**

This study obtained full University ethical approval as a part of the thesis process. As a part of the MMU PhD process completion “RD1” form was a necessary step. Within this form was the information relating to the (at the time) potential study.

Specifically, the RD1 checklist included all necessary documents for ethical approval.

As the ethical approval cleared before the first phase of this thesis and as this project is entirely questionnaire-based, additional scrutiny was not required.

MMU ethics, governance and procedures can be accessed by the links below:

*General overview*

<http://www2.mmu.ac.uk/research/our-research/ethics-and-governance/ethics/>

And;

*Processes and Procedures*

<http://www2.mmu.ac.uk/media/mmuacuk/content/documents/research/MMU-Ethics-Processes.pdf>

Those participating were allowed to create a unique identifier at the end of their survey to withdraw if they so wished.

### **6.2.10 Data analysis and item removal**

Items on the Fear of Personal Victimization Scale were generated based on the original Social and Community Perceptions Scale for van der Wurff et al. (1989). Items remaining in the solution for phase two following analysis also formulated the criteria for new items. These were attempting to measure individual's responses on four underlying substructures some of which were negatively worded. For this reason, certain items had their scoring reversed to assure they contributed to the mean of the subscales generated in a meaningful way.

Items that had their scores reversed were items number 4 "I generally feel safe and in control", 14 "I am not worried by the thought of visiting new areas because I know I am able to handle novel situations", 15 "I am confident that my property is secure", 46 "I am able to resist the intentions of criminals",

49 “If my home is occupied it is protected from criminals” and 51 “I am confident in my ability to protect my property” of the Fear of Personal Victimization Scale.

As with phase two, in order to ensure meaningful comparisons within the data, participants of this study ( $n = 331$ ) can form several groups due to the demographic section they filled out. The median value of this dataset for age was 28, these data were dummy coded into two categories; those who were 18-27 ( $n = 163$ ) and those who were 28 and over ( $n = 168$ ). With gender, the participants give a ratio of females ( $n = 239$ ) and males ( $n = 92$ ).

When considering self-defined ethnicity, participants were able to define their ethnicity from the following categories; White ( $n = 268$ ), Black ( $n = 26$ ), Asian ( $n = 10$ ), Mixed ethnic background ( $n = 18$ ), Prefer not to say ( $n = 4$ ) and Other ( $n = 5$ ). Due to Nadal et al. (2015)’s suggestion that minorities would have a greater level of “fearfulness” this ratio breakdown to form more meaningful associations within these data. To accomplish this, the self-defined ethnicity category changed to “White” ( $n = 268$ ) and “Not white” ( $n = 63$ ), this separation used dummy coding.

The breakdown of household composition includes; living in a major city ( $n = 163$ ), those in a minor city ( $n = 57$ ), those in a major town ( $n = 38$ ), those in a small town ( $n = 66$ ) and those who live in an isolated property or village ( $n = 7$ ). The scoring indicates a positive relationship with the criterion variable would indicate the more secluded the living, the greater the perception of risk. A negative perception would be indicative that individuals living in a larger city or town, experience a greater the risk becomes of being fearful of personal victimisation.

The participants who identified they were a student by indicating “yes” to the question whether they were a student or not ( $n = 146$ ) and those that were not a student who selected “no” for the same question ( $n = 185$ ).

Those who selected “yes” ( $n = 146$ ) indicated what level of study they had undertaken. Those who indicated they were a student were in the ratio; “undergraduate” ( $n = 128$ ), and those who were a “postgraduate” ( $n = 28$ ).

The first stage of examining the relationships between the variables was to run PCA to determine if any subscales are present that could have a bearing on any kind of analysis that will take place. In the likely scenario in

which scales are present the analysis will investigate the relationships between the variables using hierarchical regression. These regressions were based on PCA outputs and will provide an easy to read and easily accessible method of determining which of the predictors have an impact on the fearfulness of personal victimisation.

Items that tested well for reliability on the suggested subscales for the Fear of Personal Victimization Scale remained a part of the final version at the end of phase three. The analysis used these remaining items to determine the predictive power of the revised scale to determine its ability to determine an individual's likelihood to experience a fear of personal victimisation.

Following this, SPSS Amos Version 26 applied CFA to assess the scale and determine the best model fit.

### **6.3 Results**

Phase three once again tested the measure regarding its factorability. Following PCA, CFA confirmed the underlying factor structure. Items were removed as a result of the RMSEA and CFI scores being below an acceptable threshold as suggested by Hair, Anderson, Tatham and Black (1998). Following this analysis performed hierarchical regression for each criterion of this phase of research. Phase three analysis deployed hierarchical regression in order to maintain consistency with the previous phases and to assess the criterion variable and incremental validity within the same set of regressions.

#### ***6.3.1 Aims of phase three analysis***

To maintain consistency with the overall aims of this thesis, the aims of phase three's analysis can be broken into two overall themes (psychometric evaluation and correlational analysis) and are outlined as follows;

- 1) To assess the psychometric properties of the measurement tools utilised and determine underlying factor structures utilising PCA and subsequently CFA.
- 2) To assess the predictability of the demographic and sociological predictors to determine their impact on a fear of personal victimisation.

The analysis was separated into these two aims in order to provide clarity throughout the results section.

### 6.3.2 Descriptive statistics

The following is a table of the descriptive data relating to the key predictors of phase three.

**Table 1.** Key predictors from phase three ( $N = 331$ ).

Total Sample ( $N=331$ )					
	Mean	SD	Min	Max	$\alpha$
Age	32.89	13.65	18	88	-
Attractivity	5.35	1.53	2	10	.31
Power	6.15	1.41	2	10	.01
Evil Intent	6.17	1.33	2	10	.14
Criminalisable	7.09	1.80	2	10	.67
Attractivity PCA	34.07	5.52	9	45	.89
Power PCA	29.43	9.07	11	55	.94
Evil Intent PCA	29.08	6.95	8	40	.93
Criminalisable PCA	48.96	13.05	15	75	.95
Attractivity CFA	14.33	3.08	4	20	.83
Power CFA	23.66	7.59	9	45	.94
Evil Intent CFA	24.89	6.38	9	35	.93
Criminalisable CFA	43.21	11.68	13	65	.95
Violence subscale	15.52	5.41	5	25	.90
Personal Property Subscale	16.73	4.58	5	25	.90
Fraud Subscale	7.66	2.07	2	10	.91

Due to the nature of the iterative process utilised for phase three, there are three iterations of each subscale as seen above in table 1. The first iteration features the items generated for the original Social and Community Perceptions Scale. The second, labelled “PCA” provides the breakdown of the 43 items that remained as part of the subscales of the revised scale following PCA. The last iteration labelled “CFA” are the final subscales generated for the 33-item structure of the Fear of Personal Victimization Scale following modification and item removal during CFA.

For the first iteration of each of the subscales (the original Social and Community Perceptions Scale items alone) indicate the participants were more likely to be fearful than non-fearful as all mean scores are above their respective median value. This observation is based on the Likert scale scoring from 1-5, with the middle value of 3 indicating that the participant was neutral to the situation. All three iterations of each subscale use the same Likert scale. A maximum score for any iteration of the Attractivity, Power, Evil Intent or Criminalisable Space subscale would indicate that the individual agreed completely with every item on the subscale.

The mean scores above for the 43 items remaining on the Attractivity, Power, Evil Intent and Criminalisable Space subscales (labelled PCA) indicate that participants are more fearful than non-fearful.

Proportionately the mean scores indicate that the most feared is the Attractivity subscale, as with the original Social and Community Perceptions Scale items.

For the remaining 33 items that form the Fear of Personal Victimization Scale generated following CFA. All subscales of the revised scale have scored above their median values meaning, individuals surveyed were more likely to be fearful than non-fearful of the given scenarios. The most feared revised subscale is Attractivity as with the other iterations. This finding is also a parallel to phase two's analysis.

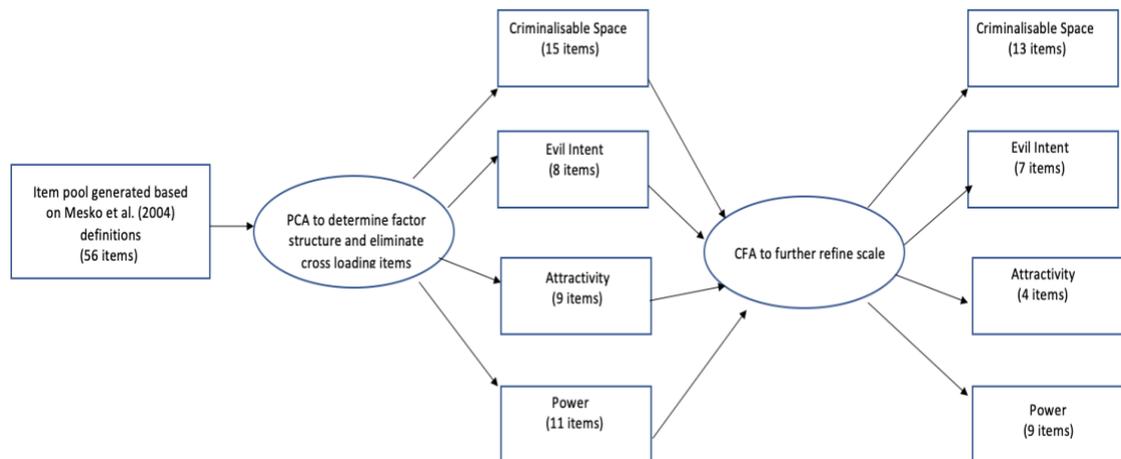
When comparing the standard deviation scores to the 43 items that remained following PCA, there is evidence scoring on the 33-item structure provides more consistent scoring as the means are less spread apart.

Considering the Fear of Crime Scale subscales, the maximum score of twenty-five on the Violence, Damage to Personal Property or a maximum score of ten on the Fraud subscale would indicate the individual was strongly fearful of every crime associated with that subscale. A minimum score of five or two respectively would indicate they were not at all fearful of any crimes associated. The mean scores indicate that all subscales scored above their median value (meaning all were more feared than not feared). Of the subscales, the Damage to Personal Property subscale is the most feared for this phase of analysis.

### 6.3.3 Aim one

In order to test the psychometric properties of the newly generated Fear of Personal Victimization Scale PCA was conducted to determine the underlying factor structure. As an additional step to ensure the model generated was suitable, CFA was conducted in order to confirm the factor structure.

The analysis to confirm the factor structure from the start of phase three is summarised in figure 1.



**Figure 1.** Summary of the analysis to determine and confirm the factor structure of the Fear of Personal Victimization Scale.

Following this analysis the subscales of the confirmed factor structure that emerged were placed into convergent validity analysis with the original 8-item structure of the van der Wurff et al. (1989) Social and Community Perceptions Scale to ensure the model was still measuring what it set out to originally.

### 6.3.4 PCA and reliability analysis

In order to be consistent with phase two of this thesis, analysis conducted PCA with a Promax rotation with Kaiser Normalisation on these data gathered from 331 participants to test the Fear of Personal Victimization Scale. The same forced entry fixed-four factor structure used in the original van der Wurff et al. (1989) study will be utilised in order to maintain consistency with the original study. The cut off value for factor loadings was set at .37. Employment of logic-

based statistics selected this number during the iterative process of item removal. Items had issues with cross loading at lower levels such as the .32 cut-off suggested by Tabachnick et al. (2001). In order to remove the items cross loading and improve the factor structure the number incrementally increased by .01 until items only loaded on one of the subscales. Removal of items that loaded on multiple factors generated the strongest possible factor solution with no cross-loading.

Kaiser-Meyer-Olkin's measure of sampling adequacy addressed the factorability of the 43 items on the new scale and resulted in a value of .931 (which is above the commonly recommended .50). Bartlett's test of Sphericity was significant  $\chi^2$  of 12559.11 ( $df = 903$ ,  $p = 0.00$ ) so the sample is factorable due to having equal variances.

Initial eigenvalues indicated that the four factors accounted for 42.21%, 11.19%, 4.65% and 4.49% of the variance respectively. As the four-factors accounted for 62.54% of variance, which is an acceptable threshold according to Hair et al. (2010), the four factor solution is suitable for analysis.

This would suggest that the 43 items that made up the scale at this stage were more factorable than the 8 items from the original van der Wurff et al. (1989) paper when considering the same dataset.

The 15 items of the newly generated Criminalisable Space subscale had a Cronbach's alpha of .95, which reveals an excellent level of reliability (Cortina, 1993). The 8 items of the newly generated Evil Intent subscale revealed a Cronbach's alpha of .93, which reveals an excellent level of reliability (Cortina, 1993). The 9 items of the newly generated Attractivity subscale reveal a Cronbach's alpha of .89, which reveals a good level of reliability (Cortina, 1993). The 11 items of the newly generated Power subscale revealed a Cronbach's alpha of .94, which reveals an excellent level of reliability (Cortina, 1993).

The reliability of the 12 items of the Fear of Crime Scale revealed a Cronbach's alpha score of .907 for the 12 items, which is within the range of an excellent level of internal consistency (Cortina, 1993). The crimes suggested for the "Violence" subscale were sexual assault, Interpersonal assault (ABH or GBH), Murder, Terrorism and Arson. When considered in the

context of reliability this subscale revealed a Cronbach's Alpha of .90, which is within the range for a good level of internal consistency (Cortina, 1993).

For the "Damage to Personal Property" subscale, the crimes suggested were Damage to property (e.g., personal vehicle), My house being broken into, When parked in an area I am unfamiliar with, my car/vehicle being broken into, When in an area I am unfamiliar with, someone mugging me. And when in an area I am familiar with, someone mugging me.

When considered in the context of reliability this subscale revealed a Cronbach's Alpha score of .90, which is within the range of a good level of internal consistency (Cortina, 1993). And finally, for the "Fraud" subscale, the crimes included online fraud and conventional fraud. When considered in the context of reliability this subscale revealed a Cronbach's Alpha score of .91, which is within the range of an excellent level of internal consistency (Cortina, 1993).

In the appended records is a breakdown of the factorability of the Fear of Crime Scale for these data collected for phase three (pp. 328). The assessment of the factorability made use of PCA with Varimax rotation and Kaiser Normalisation. To eliminate cross-loading SPSS suppressed coefficients below .40 (Cortina, 1993).

### **6.3.5 CFA**

Following the PCA for the Fear of Personal Victimization Scale, it was determined that it would be useful to conduct a CFA in order to test the remaining items individually in a more parsimonious way. CFA can tightly account for error.

The solution originally placed into CFA is available in the appendices (pp. 318). This solution was a poor fit for the model. With scores  $\chi^2 = 4886.57$ , RMSEA = .116, CFI = .676 indicating the model needed adjustment at an individual level as all scores are lower than their acceptable levels (Hair, Anderson, Tatham and Black, 1998).

In order to obtain a more useful solution that would be a better fit for the model structure the CFA included changes based on the suggestions made by modification indices. These suggestions identified which items needed

removal and which error terms needed to be correlated. A table listing the removed items following suggestions from the modification indices is available in appendices (pp. 319).

The following table summarises the regression estimates that remained following the removal of items based on suggestions from the modification indices. All remaining regressions are above the .60 threshold suggested by Hair et al. (1998).

**Table 2.** *The regression values of the items that remained following the suggested changes from the modification indices.*

Item	Subscale	Regression estimate
criminable1	Criminalisable	.708
criminable2	criminalisable	.725
criminable3	criminalisable	.804
criminable5	criminalisable	.792
criminable6	criminalisable	.701
criminable7	criminalisable	.704
criminable8	criminalisable	.769
criminable9	criminalisable	.741
criminable10	Criminalisable	.778
criminable11	criminalisable	.824
criminable12	criminalisable	.729
criminable13	criminalisable	.803
criminable16	criminalisable	.808
evilintent2	Evil intent	.786
evilintent3	Evil intent	.888
evilintent4	Evil intent	.756
evilintent5	Evil intent	.879
evilintent6	Evil intent	.773
evilintent7	Evil intent	.828
evilintent8	Evil intent	.744
Attractivity2	Attractivity	.719
Attractivity3	Attractivity	.716
Attractivity10	Attractivity	.752
Attractivity15	Attractivity	.786
power3	Power	.804
power4	Power	.801
power5	Power	.789
power7	Power	.694
power8	Power	.849
power12	Power	.758
power13	Power	.803
power16	Power	.763
power17	Power	.861

**Table 3.** *Item key for regression estimates table.*

Item Label	Item
Criminalisable 1	When I am at home alone I am fearful of unexpected callers.
Criminalisable 2	When I go to sleep at night I am fearful of someone breaking in.
Criminalisable 3	In public places I fear for the safety of my possessions.
Criminalisable 5	I feel vulnerable to crime.
Criminalisable 6	Novel situations, such as visiting new cities make me feel at risk from crime.
Criminalisable 7	Due to the criminal intent of others I do not feel my property is secure.
Criminalisable 8	I worry about the safety of my possessions when not at home.
Criminalisable 9	On public transport I am concerned about the threat of strangers.
Criminalisable 10	New places are a constant source of criminal threat.
Criminalisable 11	I am cautious of wrongdoing when walking down the high street.
Criminalisable 12	I check my pockets when I am out because I lack control.
Criminalisable 13	Late at night I feel vulnerable to criminals.
Criminalisable 16	Due to a lack of self-assurance the presence of others makes me feel vulnerable.
Evil2	People are generally manipulative.
Evil3	People will do anything to get what they want.
Evil4	People are bad natured.
Evil5	People today are less trustworthy.
Evil6	I am suspicious of people's intentions.
Evil7	The world is a threatening place, full of criminal wrongdoing.
Evil8	There are many criminals within society.
Attractivity 2	As an item's value increases so does risk of theft.
Attractivity 3	People with obvious wealth are targeted by criminals.
Attractivity 10	My precious possessions are at risk of theft.
Attractivity 15	Purchasing costly items increases the likelihood I will become a victim of crime.
Power 3	I am able to protect my personal possessions from criminals.
Power 4	I am able to protect my personal effects from criminals.
Power 5	I am able to physically protect myself from criminals.
Power 7	I am able to resist the intentions of criminals.
Power 8	I am confident in my ability to defend myself from criminal attack.
Power 12	I am confident in my ability to protect my property.
Power 13	I am prepared to deal with criminal intent.
Power 16	No one could take my possession if they tried.
Power 17	I am able to handle any threatening situations that may arise.

In order to establish the best model fit, following the PCA for the Fear of Personal Victimization Scale the analysis included an experimental CFA. Following the removal of items according to the modification indices the number of items reduced to a final 33 from 43. Covariances suggested by the indices were put in place in order to group items that were suggested by the model to be performing in a similar fashion and correlating significantly. This suggests the final model of the Fear of Personal Victimization Scale to be the items in the above table.

The CFA for the revised scale included the removal of ten items based on the standardised regression weights being lower than .65 based on suggestions made by the modification indices. Items also had correlations of their error terms based on suggestions made by the same modification indices. The summary of the CFA for the revised scale following this process is available in the appendices (pp. 322).

CFA models are estimated for the four-factor solution. This solution fit reasonably well  $\chi^2 = 1730.94$ ,  $df = 481$ ,  $p < .001$ , CFI = .869. The solution

following CFA provided a Root Mean Square Error of Approximation, RMSEA = .089 (LO 90 = .084, HI 90 = .093). This value is within the cut-off of a mediocre fit according to MacCallum, Browne and Sugawara (1996).

The factor solution provided a Standardised Root Mean Square Residual (SRMR) lower than the suggested by Hu and Bentler (1999) as a good fit, SRMR = .068. This model serves for testing the predictive validity of the newly generated Fear of Personal Victimization Scale.

### **6.3.6 Reliability following CFA**

Following CFA a further reliability analysis assessed the subscales generated for the final Fear of Personal Victimization Scale ahead of a final regression analysis.

The 13 items of the Criminalisable Space subscale revealed a Cronbach's alpha score of .95. The 7 items of the Evil Intent revealed a Cronbach's score of .93. The 4 remaining items of the Attractivity subscale revealed a Cronbach's of .83. The 9 items relating to the Power subscale revealed a Cronbach's of .94.

This reliability analysis reveals that the Criminalisable Space, Evil Intent and Power subscales are within the range of an excellent level of internal consistency according to Cortina (1993). Cortina (1993) also indicates that Cronbach's alpha for the Attractivity subscale is also within the range of a good level of internal consistency.

### **6.3.7 Convergent validity**

Below is a Pearson's correlation matrix measuring the original subscales from van der Wurff et al. (1989) paper and the subscales of the newly revised scale. The matrix attempts to establish convergent validity with the previous paper to establish if the new measure is a valid measurement tool and is measuring the same concept as the original.

**Table 4.** *Pearson's correlation of revised subscales following CFA and subsequent removal of items and original van der Wurff et al. (1989) subscales.*

	Revised Criminalisable Space	Revised Evil Intent	Revised Attractivity	Revised Power
Criminalisable Space	.68**	.36**	.40**	-.48**
Evil Intent	.11*	.05	-.10	.02
Attractivity	.51**	.55**	.53**	-.30**
Power	-.36**	-.14*	-.28**	.56**

\*\* . Correlation is significant at  $p < .001$  level (1-tailed).

\* . Correlation is significant at  $p < .05$  level (1-tailed).

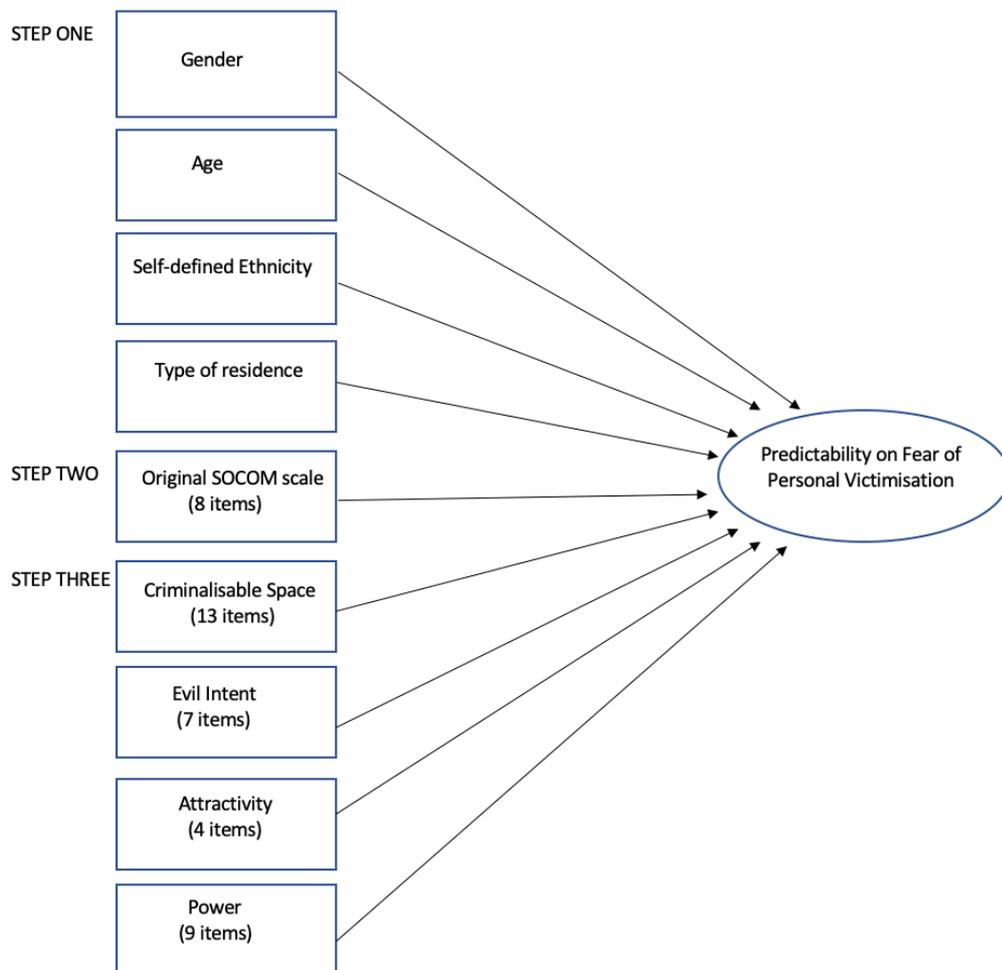
Evidence gathered from convergent validity analysis shows the items correlate well with the original Social and Community Perceptions Scale. The measure also correlates with itself overall well, however the original Evil Intent subscale provides some issues due to the lack of depth due to a limited number of items. Overall, the scale correlates well with the original iteration and provides a good amount of support of convergent validity when speaking generally.

### 6.3.8 Aim two

For the final part of phase three's analysis multiple hierarchical regression was utilised in order to assess the level to which the newly confirmed structure of the Fear of Personal Victimisation Scale was capable of predicting fearfulness.

In order to accomplish this aim the demographic predictors were entered at stage one, the original 8-items suggested by (Mesko et al., 2004; van der Wurff et al., 1989) at stage two and the newly confirmed factor structure of the Fear of Personal Victimisation Scale emerging from CFA at stage three.

A summary of this regression is available in figure 2.



**Figure 2.** Summary of the regression model utilised in phase three of this thesis

### **6.3.9 Regression analysis**

As with the previous phases of this thesis, testing of assumptions ensured a hierarchical regression was a valid means of analysing these data. The analysis of standard residuals showed that these data contained no outliers for the Violence subscale (Std. Residual Min = -2.54, Std. Residual Max = 2.79), Damage to Personal Property subscale (Std. Residual Min = -3.25, Std. Residual Max = 2.52), Fraud subscale (Std. Residual Min = -4.22, Std. Residual Max = 2.20) and overall Fear of Crime Scale (Std. Residual Min = -2.88, Std. Residual Max = 3.38)

Collinearity tests indicated that these data met the assumption of no multicollinearity at stage one (gender, Tolerance = .94, VIF = 1.07; age, Tolerance = .95, VIF = 1.06; ethnicity, Tolerance = .99, VIF = 1.01, area of residence Tolerance = .98, VIF = 1.02).

Stage two (gender, Tolerance = .61, VIF = 1.65; age, Tolerance = .90, VIF = 1.11; ethnicity, Tolerance = .98, VIF = 1.02, area of residence Tolerance = .91, VIF = 1.10, Criminalisable Space original, Tolerance = .50, VIF = 2.02, Evil Intent original, Tolerance = .92 VIF = 1.08, Attractivity original, Tolerance = .80, VIF = 1.26 and Power original, Tolerance = .84, VIF = 1.20).

Stage three (gender, Tolerance = .55, VIF = 1.84; age, Tolerance = .88, VIF = 1.14; ethnicity, Tolerance = .95, VIF = 1.05, area of residence Tolerance = .91, VIF = 1.01, Criminalisable Space original, Tolerance = .41, VIF = 2.46, Evil Intent original, Tolerance = .90, VIF = 1.14, Attractivity original, Tolerance = .60, VIF = 1.71 Power original, Tolerance = .65, VIF = 1.55, Criminalisable Space revised, Tolerance = .24, VIF = 4.13, Evil Intent revised, Tolerance = .45, VIF = 2.24, Attractivity revised, Tolerance = .43, VIF = 2.32 and Power revised, Tolerance = .43, VIF = 2.20).

These data met the assumption of independent errors for the Violence subscale (Durbin-Watson = 2.00) Damage to Personal Property subscale (Durbin-Watson = 1.90), Fraud subscale (Durbin-Watson = 2.07) and overall Fear of Crime Scale (Durbin-Watson = 2.08). Finally, the scatterplot of standard residuals indicated that these data met the assumptions of linearity and homoscedasticity.

To ensure comparison was possible with the previous phases analysis incorporated the same method of conducting four three-stage hierarchical regressions. The predictors included the demographics section, the original 8-items of the Social and Community Perceptions Scale and the final iteration of the subscales for the 33-items of the Fear of Personal Victimization Scale. Inclusion of the predictor variables added to the solution at the following stages; the demographics as stage one, suggested subscales from the van der Wurff et al. (1989) paper added as stage two and the Fear of Personal Victimization Scale during stage three. The criterion variables included the dependents taken from the Fear of Crime Scale, which when placed into PCA and revealed three subscales; Violence (5 items), Damage to Personal Property (5 items) and Fraud (2 items). All items on these subscales remained consistent with the previous phases of this doctoral thesis. The fourth criterion featured the overall score generated for the Fear of Crime Scale.

Summaries of the findings of these regressions are in the following tables.

**Table 5.** Hierarchical regressions with demographics entered at step 1 and van der Wurff et al. (1989) subscales entered at step 2 with revised subscales entered at step 3.

	Fear of crime overall	Violence	Damage to personal Property	Fraud
Step 1	$F(4, 326) = 41.136^{**}$ , $R^2_{adj} = .33$	$F(4, 326) = 57.406^{**}$ , $R^2_{adj} = .41$	$F(4, 326) = 17.460^{**}$ , $R^2_{adj} = .17$	$F(4, 326) = 5.888^{**}$ , $R^2_{adj} = .06$
Step 2	$F(8, 322) = 52.556^{**}$ , $R^2_{adj} = .56$	$F(8, 322) = 50.198^{**}$ , $R^2_{adj} = .54$	$F(8, 322) = 21.897^{**}$ , $R^2_{adj} = .34$	$F(8, 322) = 17.584^{**}$ , $R^2_{adj} = .29$
Step 3	$F(12, 318) = 70.149^{**}$ , $R^2_{adj} = .72$	$F(12, 318) = 49.602^{**}$ , $R^2_{adj} = .64$	$F(12, 318) = 32.731^{**}$ , $R^2_{adj} = .54$	$F(12, 318) = 17.404^{**}$ , $R^2_{adj} = .37$

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

**Table 6.** Beta scores for hierarchical regressions with demographics entered at step 1 and van der Wurff et al. (1989) subscales entered at step 2 with revised subscales entered at step 3.

	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$
Gender (step 1)	.49	10.57**	.54	12.41**	.34	6.56**	.18	3.26*
Age (step 1)	-.14	-2.95*	-.22	-5.14**	-.07	-1.28	.08	1.43
Ethnicity (step 1)	.13	2.92*	.08	1.81	.13	2.54*	.15	2.75*
Residence (Step 1)	-.06	-1.33	.01	.18	-.10	-2.01*	-.08	-1.56
Gender (step 2)	.21	4.48**	.35	7.35**	.05	.92	-.03	-.45
Age (step 2)	-.06	-1.66	-.17	-4.23**	.00	.05	.12	2.46*
Ethnicity (step 2)	.11	2.96*	.06	1.55	.11	2.37*	.13	2.85*
Residence (step 2)	.03	.66	.06	1.46	-.01	-.29	.002	.05
Criminalisable	.31	5.96**	.20	3.77**	.34	5.33**	.21	3.22*
Space (step 2)								
Evil Intent (step 2)	-.05	-1.27	.03	.83	-.04	-.87	-.23	-4.69**
Attract (step 2)	.33	7.93**	.29	7.01**	.20	3.90**	.36	6.95**
Power (step 2)	-.14	-3.41*	-.06	-1.36	-.19	-3.88**	-.08	-1.73
Gender (step 3)	.16	3.94**	.29	6.48**	.01	.22	-.04	-.59
Age (step 3)	-.03	-1.09	-.13	-3.55**	.01	.16	.15	3.25*
Ethnicity (step 3)	.11	3.72**	.08	2.25*	.09	2.33*	.14	3.09*
Residence (step 3)	.03	.87	.06	1.67	-.01	-.27	-.001	-.01
Criminalisable	.10	2.25	.06	1.18	.09	1.60	.12	1.77
Space (Step 3)								
Evil Intent (step 3)	-.03	-.98	.05	1.42	-.03	-.78	-.21	-4.50**
Power (step 3)	.10	2.68*	.12	2.75*	.01	.16	.16	2.85*
Attractivity (step 3)	-.04	-1.11	.06	1.51	-.14	-3.02*	-.04	-.80
CFA Criminalisable	.41	6.86**	.18	2.62*	.63	8.23**	.11	1.19
CFA Evil	.09	2.14*	.17	3.39	-.10	-1.74	.23	3.48*
CFA Attractivity	.16	3.63**	.06	1.27	.21	3.62**	.15	2.26*
CFA Power	.01	.20	-.17	-3.55**	.21	3.84**	.02	.38

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

**Table 7.** Showing % of variance predicted at each stage of regression according to  $R^2$  score

	Fear of crime overall	Violence	Damage to personal Property	Fraud
Step 1	33.5	41.3	17.6	6.7
Step 2	56.6	55.5	35.2	30.4
Step 3	72.6	65.2	55.3	39.6

### 6.3.10 Fear of crime total

The first of the four regressions featured the total score generated from the Fear of Crime Scale as the criterion variable. At stage one, with the demographics in the equation,  $R^2_{adj} = .33$ ,  $F(4, 326) = 41.136$ ,  $p < .001$ . As with the previous phase, gender, ( $\beta = .49$ ,  $t = 10.57$ ,  $p < .001$ ) and ethnicity ( $\beta$

= .13,  $t = 2.92$ ,  $p < .05$ ) revealed a positive relationship with fear of crime overall. Age was a significant negative predictor ( $\beta = -.14$ ,  $t = -2.95$ ,  $p < .05$ ).

At stage two with the equation  $R^2_{adj} = .56$ ,  $F(8, 322) = 52.556$ ,  $p < .001$ . Gender ( $\beta = .21$ ,  $t = 4.48$ ,  $p < .001$ ) and ethnicity ( $\beta = .11$ ,  $t = 2.96$ ,  $p < .05$ ). The subscales added revealed a positive relationship between the criterion variable and both the Criminalisable space ( $\beta = .31$ ,  $t = 5.96$ ,  $p < .001$ ) and Attractivity ( $\beta = .33$ ,  $t = 7.93$ ,  $p < .001$ ) subscales. Power ( $\beta = -.14$ ,  $t = -3.41$ ,  $p < .05$ ) was a significant negative predictor for overall score on the Fear of Crime Scale.

At stage three, with the equation  $R^2_{adj} = .72$ ,  $F(12, 318) = 70.149$ ,  $p < .001$ . Gender ( $\beta = .16$ ,  $t = 3.94$ ,  $p < .001$ ), ethnicity ( $\beta = .11$ ,  $t = 3.72$ ,  $p < .001$ ) and power ( $\beta = .10$ ,  $t = 2.68$ ,  $p < .05$ ) remained significant positive predictors. The newly added subscales also provided three significant positive predictors, with the revised Criminalisable Space ( $\beta = .41$ ,  $t = 6.86$ ,  $p < .001$ ), revised Attractivity ( $\beta = .16$ ,  $t = 3.63$ ,  $p < .001$ ) and revised Power ( $\beta = .09$ ,  $t = 2.14$ ,  $p < .05$ ).

### **6.3.11 Violence subscale**

The second regression featured the Violence subscale from the Fear of Crime Scale as the criterion variable. With the equation at stage one  $R^2_{adj} = .41$ ,  $F(4, 326) = 57.406$ ,  $p < .001$ , gender ( $\beta = .54$ ,  $t = 12.41$ ,  $p < .001$ ) was a significant positive predictor. Age was a significant negative predictor ( $\beta = -.22$ ,  $t = -5.14$ ,  $p < .001$ ).

At stage two, with the equation  $R^2_{adj} = .54$ ,  $F(8, 322) = 50.198$ ,  $p < .001$ . Gender ( $\beta = .35$ ,  $t = 7.35$ ,  $p < .001$ ) remained a significant positive predictor of fear of violent crime. Criminalisable Space ( $\beta = .20$ ,  $t = 3.77$ ,  $p < .001$ ) and Attractivity ( $\beta = .29$ ,  $t = 7.01$ ,  $p < .001$ ) were significant positive predictors. Age, ( $\beta = -.17$ ,  $t = -4.23$ ,  $p < .001$ ) remained a significant negative predictor.

At stage three, with the equation  $R^2_{adj} = .64$ ,  $F(12, 318) = 49.602$ ,  $p < .001$ . Gender ( $\beta = .29$ ,  $t = 6.48$ ,  $p < .001$ ), ethnicity ( $\beta = .08$ ,  $t = 2.25$ ,  $p < .05$ ) and a high score on the Power subscale ( $\beta = .12$ ,  $t = 2.75$ ,  $p < .05$ ) were in a significant positive relationship. With the further addition of the revised subscales, a high score on the revised Criminalisable Space ( $\beta = .18$ ,  $t = 2.62$ ,  $p < .05$ ) was a significant positive predictor. A high score on the Power ( $\beta = -.17$ ,  $t = -3.55$ ,  $p < .001$ ) subscale was a significant negative predictor.

### **6.3.12 Damage to Personal Property subscale**

The third regression conducted featured the “Damage to Personal Property” subscale as the criterion variable. With the equation at stage one  $R^2_{adj} = .17$ ,  $F(4, 326) = 17.460$ ,  $p < .001$ , gender ( $\beta = .34$ ,  $t = 6.56$ ,  $p < .001$ ) and ethnicity ( $\beta = .13$ ,  $t = 2.54$ ,  $p < .05$ ) were in a significant positive relationship with the criterion. Location of residence was a significant negative predictor ( $\beta = -.10$ ,  $t = -2.01$ ,  $p < .05$ ), indicating those living a small town were more fearful of the criterion variable.

At stage two, with the equation  $R^2_{adj} = .34$ ,  $F(8, 322) = 21.897$ ,  $p < .001$ . Ethnicity ( $\beta = .11$ ,  $t = 2.37$ ,  $p < .05$ ) remained a significant positive predictor. With the further addition of Criminalisable Space ( $\beta = .34$ ,  $t = 5.33$ ,  $p < .001$ ) and Attractivity ( $\beta = .20$ ,  $t = 3.90$ ,  $p < .001$ ) as significant positive predictors. A high score on the Power, ( $\beta = -.19$ ,  $t = -3.88$ ,  $p < .001$ ) subscale was a significant negative predictor.

At stage three, with the equation  $R^2_{adj} = .54$ ,  $F(12, 318) = 32.731$ ,  $p < .001$ . Ethnicity ( $\beta = .09$ ,  $t = 2.33$ ,  $p < .05$ ) was a significant positive predictor of fear of Damage to Personal Property. A high score on the Attractivity subscale ( $\beta = -.14$ ,  $t = -3.02$ ,  $p < .05$ ) was a significant negative predictor. With the further addition of the revised subscales, a high score on the revised Criminalisable Space ( $\beta = .63$ ,  $t = 8.23$ ,  $p < .001$ ), revised Attractivity ( $\beta = .21$ ,  $t = 3.62$ ,  $p < .001$ ), and revised Power ( $\beta = .21$ ,  $t = 3.84$ ,  $p < .001$ ) subscales

were in a significant positive relationship with the Damage to Personal Property subscale.

### **6.3.13 Fraud Subscale**

The fourth regression employed with the “Fraud” subscale as the criterion variable. With the equation at stage one  $R^2_{adj} = .06$ ,  $F(4, 326) = 5.888$ ,  $p < .001$ , gender ( $\beta = .18$ ,  $t = 3.26$ ,  $p < .05$ ) and ethnicity ( $\beta = .15$ ,  $t = 2.75$ ,  $p < .05$ ) were significant positive predictors.

At stage two,  $R^2_{adj} = .29$ ,  $F(8, 322) = 17.584$ ,  $p < .001$ . Age ( $\beta = .12$ ,  $t = 2.46$ ,  $p < .05$ ) and ethnicity ( $\beta = .13$ ,  $t = 2.85$ ,  $p < .05$ ) remained significant positive predictors. With the addition of a high score on the Criminalisable Space ( $\beta = .21$ ,  $t = 3.22$ ,  $p < .05$ ) and Attractivity ( $\beta = .36$ ,  $t = 6.95$ ,  $p < .001$ ) subscales as significant positive predictors. Evil Intent ( $\beta = -.23$ ,  $t = -4.69$ ,  $p < .001$ ) was a significant negative predictor.

At stage three, with the equation  $R^2_{adj} = .37$ ,  $F(12, 318) = 17.404$ ,  $p < .001$ . Age ( $\beta = .15$ ,  $t = 3.25$ ,  $p < .05$ ) and ethnicity ( $\beta = .14$ ,  $t = 3.09$ ,  $p < .05$ ) remained significant positive predictors, with a high score on the original Power ( $\beta = .16$ ,  $t = 2.85$ ,  $p < .05$ ) also discovered as sharing a similar positive relationship. It was determined at this stage that a high score on the original Evil Intent ( $\beta = -.21$ ,  $t = -4.50$ ,  $p < .001$ ) subscale was a significant negative predictor.

With the further addition of the newly revised subscales also provided two significant positive predictors, with the revised Evil Intent ( $\beta = .23$ ,  $t = 3.48$ ,  $p < .05$ ) and revised Attractivity ( $\beta = .10$ ,  $t = 2.26$ ,  $p < .05$ ) showing evidence for a positive relationship with the criterion variable.

### **6.3.14 Regression summary**

In relation to the revised scale’s predictability of fear of personal victimisation there has been a constant trend of improvement for crimes associated with Violence and Fraud (as well as for a fear of personal victimisation overall).

Illustrated in the following table is a comparison of the predictability of variance of the Demographics, original Social and Community Perceptions Scale and the revised scale, later renamed the Fear of Personal Victimization Scale following phase three.

**Table 8.** *Showing a summary of % of variance predicted at each stage of regression according to R<sup>2</sup> score at each phase of the thesis overall*

	Demographics	Original 8 items	Revised scale
Fear of Crime Total Phase One	.086	.320	-
Fear of Crime Total Phase Two	.194	.420	.654
Fear of Crime Total Phase Three	.327	.556	.715
Violence Phase One	.178	.353	-
Violence Phase Two	.222	.423	.555
Violence Phase Three	.406	.544	.639
Damage to Personal Property Phase One	.033	.248	-
Damage to Personal Property Phase Two	.133	.357	.630
Damage to Personal Property Phase Three	.166	.336	.536
Fraud Phase One	.019	.083	-
Fraud Phase Two	.067	.120	.248
Fraud Phase Three	.056	.287	.374

## **6.4 Phase three discussion**

### **6.4.1 Factorability analysis**

When considering the factorability of the Fear of Personal Victimization Scale the results of phase three showed a clear improvement in reliability. Cronbach's alpha revealed generated improved scores by the revised items subscales compared to previous phases (Cortina, 1993). The results evidence an enhanced scale when compared to the original items from van der Wurff et al. (1989) and from the scores generated as a result of phase two of this thesis.

This alone is indicative that the generated subscales have improved the original measure more than previously anticipated, transforming a scale that previously was without any kind of rigorous psychometric evaluation or parametric tests, into a measure that currently improves with each iteration (Cortina, 1993).

The Fear of Personal Victimization Scale was significantly more reliable as a whole and regarding its specific subscales when compared to the original items suggested by van der Wurff et al. (1989). Researchers in the future are now capable of assessing the psychometric properties of a robust measurement tool before their analysis (Matell et al., 1971; Nevo, 1985; Williamson et al., 2013). This meets one of the overall aims of this thesis as the assessment of the Social and Community Perceptions Scale led to improvements.

The Fear of Crime Scale also performed well as a tool with a strong underlying substructure, with factors testing well at each stage of this thesis and subscales being consistent at each phase according to Cortina (1993).

The CFA revealed an RMSEA score that indicated a solution that fit reasonably well (MacCallum et al., 1996). Improving this score is a useful consideration for future research. The focus of this research would be to improve the model fit. The reliability analysis of the factor structure that emerged from the CFA showed there was not much difference with the removal of items (Cortina, 1993). The same is true for the predictability of the revised scale (Cortina, 1993). Two of the tested variables (including the overall fear of crime score) improved in their predictability when placed into a regression analysis with the items suggested from CFA.

### **6.4.2 Results of regression analysis**

The Beta scores for the demographic predictors reveal a similar relationship to the Fear of Crime Scale and its subscales (Violence, Damage to Personal Property and Fraud) as with previous phases of the thesis. Gender and ethnicity have remained the most common positive predictors of the Fear of Crime Scale and its subscales. Age once again maintained a negative relationship with fear of violent crime and fear of victimisation overall. These three predictors have remained consistent with their relationships to fear of crime overall and concerning violent crime. This once again finds support for assumptions relating to the relationship between demographic variables and fear of personal victimisation suggested by Barbaret et al. (2004) and Jackson (2009) among others.

As with previous stages of the thesis adding the items from the Social and Community Perceptions Scale improved the predictability of a fear of personal victimisation over the demographic predictors alone. The Fear of Personal Victimization Scale improved this predictability further still with the total predictability of the Fear of Crime Scale being above 70%. The improvements made to this measure are clear across both reliability and regression analysis with the revised scale performing better within both disciplines.

Killias et al. (2000) postulate the notion of vulnerability as a cause of fear of crime overall. Tseloni et al. (2008) added that there was little research to determine the effect of this vulnerability on the public.

An assessment of vulnerability takes place on a unidimensional level relating to the specific predictors that could cause a fear of personal victimisation e.g., gender (Warr, 1984). Vulnerability has lacked any deeper research into discovering other potential facets for experimentation (Killias et al., 2000). The revisions to the Social and Community Perceptions Scale provide the first steps into examining new avenues and facets that may be likely to make an individual feel this increased vulnerability and, in turn, an increased risk of fear of personal victimisation. The current research provides evidence for Killias et al. (2000)'s theory that the concept of vulnerability stretches far further than demographic predictors alone.

All subscales of the Fear of Crime Scale had a higher percentage of variances predicted over the threshold set by Lavarakas (1982) of 25% by demographic predictors.

## **6.5 Future research and limitations**

The current fear of personal victimisation measure can now form the basis for future research into fearfulness as a result of the self-reported risk in real-world settings (MacCallum et al., 1996). This can involve using measures such as the Mental Toughness Questionnaire (MTQ) (Clough, 2007) or a more in-depth version of the Big Five Inventory (BFI) (Soto et al., 2017). Investigating relationships between these scales and the current measure would benefit the field of fear of crime research overall as it would expand the knowledge of the implications of fearfulness on daily life (Robinson et al., 2003). Hanslmaier et al. (2016) found a negative correlation between life satisfaction and the fear of crime. This evidence is some of the first to suggest the impact of this fear outside of a theoretical position (i.e., what causes it).

Limitations with the current scale lie in the number of items present in the Fraud subscale of the Fear of Crime Scale. This is due to the number of items being exceptionally low (only 2) (McDonald, 1985). This will have impacted the internal consistency when compared to the other subscales present on the Fear of Crime Scale (McDonald, 1985). To address this limitation a qualitative study in which crimes linked to fraud could form the questions asked during a semi-structured interview as a means of a pilot study before thematic analysis on the transcript obtained (Williamson et al., 2013). The crimes that emerge could then form the basis a study on a general population to determine which are most feared specifically regarding fraudulent crime to generate a more complete Fraud subscale (Williamson et al., 2013).

The model generated as a result of this doctoral thesis is not without its flaws and is only within the range of a “mediocre fit” according to MacCallum et al. (1996). The model that emerged as a result of the CFA is fit for purpose and has successfully fulfilled the aims of this thesis (MacCallum et al., 1996).

For this reason it is unlikely that the model fit would have any negative impact on the performance of the Fear of Personal Victimization Scale, especially when considering the improvements made in comparison to the original Social and Community Perceptions Scale (MacCallum et al., 1996; Mesko et al., 2004; van der Wurff et al., 1989). This model is only the latest iteration of a scale that has improved with every iteration and is a suitable starting point for any future research attempting to revise the measure (MacCallum et al., 1996). There has been a significant improvement over the original van der Wurff et al. (1989) paper's contribution as the revised model has tested highly for reliability analysis and in terms of its ability to predict fear of personal victimisation. With the confirmation from CFA that the model does indeed fit and is suitable for purpose (MacCallum et al., 1996). The model generated meets the aims of this thesis, in creating a scale capable of predicting a fear of personal victimisation (MacCallum et al., 1996). This model will serve to be a starting point for any future revisions to the measure. According to the results obtained phase three of this thesis the current measure could be utilised as a robust measurement tool (MacCallum et al., 1996).

Future revisions should also incorporate some form of qualitative methods to generate items (Lorenc et al., 2013; Williamson et al., 2013). This could involve semi-structured interviews followed by thematic analysis of the transcripts generated. This method of item generation will allow exploration of new avenues for both scenarios in which people fear crimes, and the crimes they fear in these situations (Clark, 2003; Cohen, 2008).

Research into coping mechanisms of fearfulness may also prove beneficial (Skogan et al., 1981). As previously mentioned, the MTQ would be a useful measurement tool to provide insight to fear of crime in a real-world setting (Clough, 2007). Using the measure generated for this doctoral research, this could provide an understanding between relationships related to fear of crime and mental toughness (Clough, 2007). Previous research has indicated that mental toughness improves emotional coping mechanisms (Cough, 2007). Exploring this concept against fearfulness in given scenarios would provide a great deal of information regarding the type of individual who would be fearful. This would be on a more multi-dimensional level than

previous research into either simply scenarios (Jackson, 2004, 2009) or just demographic predictors (Scheider et al., 2003; Warr, 1984).

## **6.6 Conclusion**

This phase further established the revised scale concerning validity and internal consistency. The current findings suggest the scale would benefit from constant further refinement to provide the strongest factor solution in an ever-changing world (Grabosky, 1995; MacCallum et al., 1996; Vilalta, 2012). The scale performed as one would expect (showing evidence of validity, internal consistency and predictability of variance) and will be a suitable theoretical framework for future revisions (Vilalta, 2012). This will involve further assessment of the subscales and addition of new items to explore the concept of fear of crime at different levels, in different scenarios and for different crimes (Grabosky, 1995). Further refinement will create a more robust, complete fear of personal victimisation measure, a more coherent set of subscales and will be able to more emphatically predict fear of crime with psychometric support (Lavrakas, 2008).

The current measure has provided evidence that the items generated for this thesis alone provide a suitable factor structure capable of predicting a vastly improved level of fear of personal victimisation. The newly generated Fear of Personal Victimization Scale (33 items) can predict the variance of fear scores on its own, or with the Social and Community Perceptions Scale (8 items). For the best results using the two of these scales alongside the demographic predictors provides a measure capable of assessing the fear of personal victimisation and a more in-depth overview of the factors associated with increasing it.

The Fear of Personal Victimization Scale has improved at each iteration with the final factor structure confirmed with CFA. The result of phase three is a scale that is now a self-report tool that is capable (when used within the measure suggested) of predicting a large amount of the variance of fear of personal victimisation.

### 7.1 Methodological interest

#### 7.1.1 Overview

By examining the content of existing measures within the field (e.g., Hanslmaier et al., 2016; van der Wurff et al., 1989) at a construct and item level, this doctoral thesis has extended the measurement of fear of personal victimisation. The review process of the scales within the literature led to the development of a reliable and valid measurement tool capable of measuring the factors associated with a fear of personal victimisation. Based on the findings within this thesis, the measurement tool generated at the end of phase is capable of functioning at a factorial level (McDonald, 1985). With some alterations to the Fear of Crime Scale to make the crimes region-specific the measurement tool (such as car-jacking for a South African population) would be capable of operating at a global level (Blakely and Snyder, 1997; Haddad, 2019; Williamson et al., 2013). In line with McDonald (1985) the inclusion of new items enhanced the breadth subscales from the existing Social and Community Perceptions Scale of van der Wurff et al. (1989). The improvements to the subscale structure seen within this thesis enable the measurement of the underlying situations and perceptions that lead to an increased fear of personal victimisation more reliably than the previous measurement tool (Mesko et al., 2004). This was due to a lack of items on each of the subscales of the original measure leading to too few items assessing different aspects of several constructs, meaning the reach of the items was too broad and lacked depth (McDonald, 1985).

This method of scale refinement was more organic for the specific needs of the measure and was less rigid than conventional methods of scale development (Morgado et al., 2018). Self-report measures with the nature of this scale could benefit from a periodic review to facilitate the accommodation of new crimes as they become more feared by an ever-changing society (Yeager et al., 2011). As mentioned in Graboksy (1995) the addition of Closed-

Circuit Television (CCTV) reduced fearfulness of certain inter-personal crimes. Vilalta (2012) affirms this affect, stating that advancements in technology and society are what have led to changes like fearfulness concerning crime over the years.

The concept of a systematic review of scales is common within psychometric evaluation tools, for instance, the Mental Toughness Questionnaire (MTQ) (Clough, 2007) is under constant review to determine a shorthand version of the measure and to determine if the items are still necessary in an ever-altering world.

As previously discussed, this will mean the fear of personal victimisation measure generated for this thesis will require updating (Kahneman & Krueger, 2006). Pleysier et al. (2005) mentions temporal stability is something within the fear of crime field that cannot be assumed. In line with this, the 12 crimes on the Fear of Crime Scale will need to be reviewed to maintain scale currency (Markowitz et al., 2001; Nunnally, 1978). The inclusion of these new crimes will benefit the scale in terms of longevity and relevance. These alterations will improve scale reliability and validity over time (Holmes et al., 1967; Jansen, 1983; Nunnally, 1978).

### ***7.1.2 Item reversal and removal***

Negatively worded items caused some issues (Roszkowski & Soven, 2010). It is a common phenomenon within the field of psychometrics that positively worded statements are more reliable and offer stronger item to total correlations (Roszkowski et al., 2010). Negatively worded statements also offer the issue that participants struggle to comprehend what the statement is saying (Lavrakas, 2008; van Sonderen, Sanderman, & Coyne, 2013).

This translated to issues with loading scores when the measure was placed into PCA. Several items, often negatively worded, would load for multiple subscales. In the current thesis, this occurred largely in phase three, wherein the PCA a great number of negatively worded items clustered together (McDonald, 1985). PCA revealed an issue with cross-loading items during the second and third phase of this thesis. Aside from the issues with negatively worded items, the issue could also lie in the similarity of the items

on the subscales due to the lack of conceptual clarity provided by the original paper (Roszkowski et al., 2010).

To ensure there was no lack of clarity any items that cross-loaded on two or more scales were removed (Roszkowski et al., 2010). This was also done to eliminate their effect on factorial structure (McDonald, 1985). Though this did affect the construct breadth. It was deemed this was necessary as though these items may reduce potential response bias their inclusion would greatly impact the internal consistency of the subscales overall, breaching its dimensionality (Huffman et al., 2008).

There also lies an issue with understanding the impact of negative affixes and suffixes (Groves et al., 2008). Adding these morphemes (such as 'non-', or '-less-') can impact a respondent's overall response leading to a participant responding negatively to an item as they disagree with the perceived negative word rather than the context of the item overall (Lavrakas, 2008; van Sonderen et al., 2013). The same abnormality is seen with negative words such as 'not' (Christian & Dillman, 2004; van Sonderen et al., 2013). The impact of these negative inferences is magnified greatly due to response fatigue when an individual stops paying attention to the context of the items they are more likely to respond to either the negatively worded item or a previous item believing they are answering a question with a similar wording (Lavrakas, 2008).

Another issue aside from the wording of items is complexity (Blair & Zinkhan, 2006). If an item is too difficult to understand (either due to length or specific terminology) then a respondent will struggle to interpret the meaning (Blair et al., 2006; Fraley et al., 2000). This will lead to the participant struggling to respond appropriately to the item (Fraley et al., 2000).

To counteract these issues, it was deemed an essential practice to incorporate negatively worded items sparingly while ensuring the clarity of wording (Roszkowski et al., 2010). This thesis, like many other projects, provided evidence of the impact of negatively worded items and how they perform poorly in comparison to positively worded alternatives (Roszkowski et al., 2010). Though necessary to monitor and limit response bias there needs to be a great deal of discussion and future research into how to best incorporate negatively phrased items when modifying existing scales or

creating new measurement tools for fear of personal victimisation (Roszkowski et al., 2010).

Factor analysis in the context of this thesis raised several concerns. This included the loss of a great number of items, reversed item performance, contextual clarity of subscales and subsequent items and their factor loadings as a result of these issues (McDonald, 1985). Subscales being conceptually familiar and a lack of clarity at the start of generating new items created issues with cross-loading and subsequently, the number of items featuring in the final factor solution was greatly reduced (McDonald, 1985). This conceptual clarity will be less of an issue with the subscales becoming more defined with each iteration (McDonald, 1985). Though a robust measurement tool is created, a systematic review would be beneficial to combat the issues with conceptual clarity in its early creation (McDonald, 1985). This may, in turn, lead to the creation of new items to be a part of the weaker subscales, improving the breadth of the concepts overall (McDonald, 1985).

### ***7.1.3 Item generation***

Researchers rely on questionnaires as the primary method of data collection in quantitative studies according to Lavrakas (2008). Within the context of this thesis the subscales already existed (van der Wurff et al., 1989), so the challenge was to create idiosyncratic statements that related to four concepts that lacked clarity due to a small number of items. Statements such as “People generally do things they feel they can get away with” link to the original subscales, expanding on the breadth of the construct while not impacting the clarity of the concept. Statements such as “Late at night I feel vulnerable to criminals” link to widely accepted concepts that would lead an individual to be more likely to experience a fear of personal victimisation (Baumer, 1978; Lavrakas, 2008).

According to Lavrakas (2008), double-barrelled items would have been an issue. Items were therefore generated with a single focus (rather than mentioning two places an individual could feel vulnerable there would have been two separate items created) (Lavrakas, 2008). If not rectified this could, in turn, lead an item that would potentially make an individual feel vulnerable

not respond to the item appropriately, leading to a mid-range loading score that should be higher (Lavrakas, 2008).

#### **7.1.4 Scale development**

With the nature of fear of personal victimisation research being somewhat disjointed with a lack of conceptual clarity throughout, it became apparent that a measure that could fill the gap could be produced by altering the Social and Community Perceptions Scale of van der Wurff et al. (1989). For this thesis, this involved first psychometrically testing the properties of the scale as it currently is in the literature (Mesko et al., 2004; van der Wurff et al., 1989). Following this, the subscales were altered and tested. The benefit of this method was the ability to test the subscales at the same time (Morgado et al., 2018). These subscales would come together to assess the nature of fear of crime and fear of personal victimisation at a more multi-dimensional level than previously tested (Franklin et al., 2008). It could also be tested along with the other predictors (Franklin et al., 2008; Jackson, 2009).

The issue with developing the measure using this method was the lack of items leading to a weak factor structure, which was widely accepted despite a lack of rigorous testing (Morgado et al., 2018). Therefore, testing was a necessary first step for this thesis (Morgado et al., 2018). It became apparent there was a lack of breadth and the factor structure lacked reliability overall (Mesko et al., 2004). For this reason, it was deemed necessary to add items to each of the subscales to better measure the underlying constructs in a more reliable way (Morgado et al., 2018). It was deemed that the minimum number of items to be generated should be 8 per subscale to allow for removal of items at a later stage if necessary.

To ensure no overlap, at each stage the items generated were scrutinised and cross-checked to ensure that the breadth of the subscale was improved, without impacting the clarity of the subscales (Morgado et al., 2018). Within subscales, there was a reversal of selected items to counter response bias that could potentially occur (Pickett et al., 2018). This was deemed a necessary step to negate any response fatigue that would occur due to the length of the survey taken overall (Lavrakas, 2008).

### **7.1.5 Redevelopment of refined measure**

The redevelopment of the current measure could take many forms including those previously discussed. One of the most important ways in which this should be done is to be sure to include specific crimes to facilitate intra-crime comparisons (Block, 1988). The current measure clusters crimes based on three subscales (Violence, Damage to Personal Property and Fraud) it would be beneficial to use qualitative methods to ask members of the public what crimes they are most fearful of (Williamson et al., 2013). This would lead to the new avenue of new crimes that may affect the current subscales or generate new ones (Williamson et al., 2013).

Future research should also target specific cultural adaptations, as previously discussed the fear of crime questions at the end of the current questionnaire will need to be adapted if used on a global sample (depending on the country/countries they are used in) (Grabosky, 1995). The adaptations could be necessary on a more immediate level with certain regions within the same country requiring representation to respond appropriately with their fears in relation to crime (Dammert et al., 2003). For instance, within a five-year period in England and Wales crimes involving a sexual assault increased by 152% compared with only 57% in Scotland (Scottish Government, 2019). This would mean any future research should consider the backgrounds both socially and economically of the regions the measure is used as well as the crimes that are most reported by law enforcement and the media (Dammert et al., 2003).

As previously discussed, the temporal stability of the measure will at some point become an issue for the performance of the measure (Huber, 1985; van den Wollenberg, 1973; Vilalta, 2012). For this reason, there should be a periodic review of items to ensure they continue to perform at the same level (Huber, 1985). This problem should rectify itself with the continued development of the scale using the methods previously described. If these are kept up to date, there should be minimal impact concerning the age of the scale as the methods will alter the scale according to up to date fears of members of the public (Grabosky, 1995; Vilalta, 2012).

Redevelopment of the factors should also consider item polarity, with potential 'yes or no', 'true or false' items leading to a comparable set of results with those formulated from a Likert scale (1-5) (Morgado et al., 2018). Though this would be less useful when considering scenarios in which one is being asked to report a level of fearfulness. Exploring a Likert scale with a wider spectrum of levels of fearfulness (1-10, 1-100) could be a way of generating a more accurate score (Lavrakas, 2008; Morgado et al., 2018).

There can be no shortage of scenarios in the redevelopment of the scale. For this reason, presenting the public with scenarios that cover many potential risk scenarios is necessary to give an accurate representation of the issue surrounding fear of personal victimisation (Farrall et al., 2004). This leads to qualitative research becoming more essential to generate items that would differ from previous items generated by the same researchers (Lorenc et al., 2013).

#### **7.1.6 Method of collection**

For this doctoral thesis, internet-mediated research was used to explore the fear of personal victimisation (Yeager et al., 2011). Online questionnaires gathered information regarding social perceptions, crimes individuals feared demographic information, thinking styles and perceptions of the police. This wide range of concepts has not been previously attempted within the field of "fear of crime" research, thus the current doctoral thesis has expanded the knowledge of the concept overall (Nadal et al., 2015).

The method of the collection also allowed new items to be generated, further expanding this improvement (Morgado et al., 2018). The new items benefit from the nature of collection (self-report measures) where an easy method of collecting data allows large datasets and a large, varied pool of statistical information (Morgado et al., 2018). This also enabled the constructs to be evaluated in a convenient way that has a great deal of statistical strength over previously implemented studies (Morgado et al., 2018).

The benefits of self-report measures stretch from being inexpensive, provide a wide range of information, and examine the beliefs of participants in a way that encourages them to talk about themselves (Morgado et al., 2018).

Some limitations need to be addressed with this method of collecting data (Morgado et al., 2018). The wording of questions becomes significantly more important as even a minor change to the wording can impact the format of the overall item which in turn affects the strength of results (Pickett et al., 2018). Extreme responses impact the overall dataset (Pickett et al., 2018). These extreme responses can be due to the question has not been understood by the respondent (Groves et al., 2008). Response bias can play a role, leading to participants responding to items in a favourable way specific to the item content (Pickett et al., 2018).

The method of data collection allowed the previously outlined issues with the Social and Community Perceptions Scale and the lack of a gold standard measure in a way that highlighted existing (but unconfirmed) relationships between fear of personal victimisation and the social perceptions of an individual (Mesko et al., 2004). This leads the current doctoral research into having contributed to both fear of crime research and linking it to overall critical thinking.

### ***7.1.7 Methodology of thesis***

This thesis conducted a thorough review of relevant literature and the fear of crime/ personal victimisation measures (Hanslmaier et al., 2016; Mesko et al., 2004; Nadal et al., 2015). This led to finding limitations with one of the most prevalent scales present within the literature (van der Wurff et al., 1989). The limitations of this measure were outlined in the first phase of this thesis with the second and third phases seeking to improve on the measure. This was done by improving on the poor level of internal consistency that was evidenced from phase one's data collection (Huffman et al., 2008).

The factorability of the scale was also thoroughly assessed at each stage. This too showed improvement with each iteration of the scale. The final phase of assessing the factor structure was to place the scale into CFA. The findings of this method suggested a great number of items could be removed. To fit the latent factor structure appropriately it was established that this would be a useful step (Woods, 2006).

Following this removal of items, the final Fear of Personal Victimization Scale was generated. The subscales of this final iteration were placed into reliability analysis and a final set of regressions. There was some improvement from the previous iteration for two of the four subscales in terms of their ability to predict fear of personal victimisation (the other two showing minimal differences in their prediction of variances). The same was true for the levels of internal consistency of the revised scale's subscales (Cortina, 1993). The model following from CFA showed similar internal consistency to that of the model that emerged from PCA (Cortina, 1993; Woods, 2006).

In order to overcome the issues associated with PCA not providing a suitable factor structure, CFA was deemed necessary based on suggestions made by (Cortina, 1993; Woods, 2006). Due to CFA's ability to tightly account for errors at a much more accurate level, it was deemed the model following CFA should be used as the final measure (MacCallum et al., 1996). The finding of this reliable and robust measurement tool is a contribution not previously established within the literature surrounding a fear of personal victimisation. This improvement on the Social and Community Perceptions Scale (van der Wurff et al., 1989) is a useful finding as it not only establishes weaknesses with the previous scale but also has improved on the previous scale creating a scale which is true to the original, but vastly improved at every level (Mesko et al., 2004).

### **7.1.8 Limitations**

Limitations of the research would be primarily providing the most accurate and realistic picture of fear of personal victimisation for a large population using a single measure. While a useful measurement tool has been established, this research is not without its issues. For instance, temporal stability (which is the level to which the scale will be affected as the world changes over time) (Huber, 1985). Pleysier et al. (2005) state emphatically that with a fear of personal victimisation of crime a measure's temporal invariance cannot be assumed. This will at some point be an issue with the Fear of Personal Victimization Scale and the associated 12 items of the Fear of Crime Scale due to the ever-changing environment in which crimes may take place, as

evidenced in Grabosky (1995) and Vilalta (2012). The Fear of Crime Scale that is used to measure the crimes is based on The National Crime Survey of England and Wales (UK Office For National Statistics, 2016). This will need periodic updates to ensure the accurate picture of fear of personal victimisation is reflected (Baumer, 1978, 1985). Crimes tend to be feared based on what technological advancements will take place over the coming years. For instance, Grabosky (1995) established that surveillance cameras had reduced fearfulness in Australia. Vilalta (2012) indicates a greater fearfulness has led individuals in recent years to purchase more home security systems, indicating the situations individuals find themselves in are still in a state of fluidity and change, meaning the scale would need constant revision (Huber, 1985). This would take several forms, firstly maintaining the temporal stability of the scale is an endless task that will never be complete (Huber, 1985).

This will be a constant review process to ensure the crimes, as well as the scenarios, are representative of the current fearfulness present within the population (Huber, 1985). Secondly, providing the most accurate representation of scenarios in which individuals would be fearful would provide difficulty (Mesko et al., 2004). To ensure this would not be a contributing factor, continuous qualitative methods (thematic analysis of transcripts from semi-structured interviews) would be a useful step (Lorenc et al., 2013).

The second issue with this scale is that it will need to be modified for use in different populations (Dammert et al., 2003). While it is likely that most populations will fear similar crimes, it is also likely they may differ from one participant pool to another (Cohen, 2008). For this reason, a method will be needed to establish the highly feared crimes within another population (either using a National Crime Survey's results or a pilot study) before using this scale (Grabosky, 1995; UK Office For National Statistics, 2016; Vilalta, 2012). Krulichová (2019) found that though across 23 European countries there was a consistent positive correlation between fear of crime and risk perception, the levels of this positive correlation differed from country to country.

The crimes surveyed may need further consideration, there is a much wider spectrum of crime than the 12 featured as part of this doctoral thesis (Dobbs et al., 2009; Lee, Choi, Choi, & Englander, 2019; Maxfield, 1984). This

will allow for expansion of the concepts at an item to item level (Lee et al., 2019). Crimes such as “sexual assault/rape” are a broad spectrum alone, allowing for the generation of more specific items will broaden the factors surrounding a fear of personal victimisation (Dobbs et al., 2009). These limitations are unlikely to have limited the current thesis and would be more of a limiting factor moving forward utilising the measurement tool to target more specific crimes (Scheider et al., 2003).

## **7.2 Future research**

The field of fear of crime is large and has had a number of disciplines and projects this thesis has not attempted to address. With the generation of the Fear of Personal Victimisation Scale it would be possible to assess these studies to determine the level to which they could be improved.

The measure in itself will also need to be improved based on limitations described in previous sections. Section 7.2 will discuss these potential studies and how they could facilitate the use (or improvement of) the Fear of Personal Victimisation Scale.

### ***7.2.1 Improvements to the Fear of Personal Victimisation Scale***

As previously stated, the generated scale is capable of being used as a starting point for future research. This could involve attempting to further improve the factor structure. This should incorporate the inclusion of new items to improve the breadth and dimensionality of measures (Franklin et al., 2008). Potentially incorporating qualitative research e.g., thematic analysis, which would enable items generated to be based more on an individual’s experience with a fear of personal victimisation rather than a theory-driven approach (Hartnagel 1979; Lorenc et al., 2013). This would also remove the issues surrounding the dating of the scale, relevance the current day would be ensured due to the research taking place in the immediate present (Williamson et al., 2013).

There could be some attempt to target the amount of time it will take for the crimes associated with the Fear of Crime Scale to become obsolete. As

suggested by Grabosky (1995) some crimes are less feared than they were previously due to the ever-changing world, meaning any further research should seek to establish the crimes that will be feared by the population the project is attempting to question.

To facilitate useful intra-crime comparisons, the inclusion of more specific crimes would be a vital endeavour (Williamson et al., 2013). This would involve the same type of small-scale study as previously mentioned to research which crimes react with one another when attempting to measure fearfulness (Duncan, 1975; Friedman & Rosenman, 1974). Understanding these interactions and the impact they have on fear would be beneficial to better understand the fear of personal victimisation (Garofalo & Laub, 1978).

Understanding a fear of personal victimisation and what can cause it is an important endeavour (Garofalo et al., 1978). The very impact of life satisfaction alone is a standout reason to continue attempting to develop an understanding of the phenomenon (Gibson, Jihong, Lovrich, & Gaffney, 2002).

This could come in the form of qualitative methods such as using interviews to generate materials following analysis using thematic analysis (Lorenc et al., 2013; Yeager et al., 2011). This would extend the research conducted within this doctoral thesis and help to create new items (Lorenc et al., 2013). Specifically, this should target different members of the public from different demographic categories (e.g., genders, sexual orientations, ethnicities) to generate new fear of personal victimisation factors using their specific experiences with being fearful of crime (Blakely et al., 1997; Dammert et al., 2003). The current research only employed quantitative methods but in doing so examined a wide spectrum of different facets of fear of personal victimisation within the subscales, which in turn aided in developing a new fear of personal victimisation measure (Mesko et al., 2004).

Previously within the field of fear of crime/personal victimisation research, measures have been without a gold standard, have lacked psychometric evaluation and have often only examined a single predictor of fearfulness at a time (Dobbs et al., 2009; Mesko et al., 2004). This has enabled the predictors of fearfulness to be identified but not to identify which are the most significant contributors to fear of personal victimisation overall (Dobbs et al., 2009; Erskine, 1974). With these limitations, there was a need to create a

new measure that would more completely assess and measure an individual's fearfulness regardless of the predictors that had caused it (Mesko et al., 2004).

The purpose of this doctoral research was to develop a rigorously tested, extensive fear of personal victimisation measure expanding on the previous research by van der Wurff et al. (1989). This was accomplished with three distinct phases of research: phase one (PCA), phase two (generation of new items and further PCA), phase three (further generation of items, PCA, CFA and establishing the reliability of the refined measure). Future research into different facets of fearfulness and potential predictors is necessary to further enhance the refined measure and ensure the complete picture of fearfulness is reflected (Lerner et al., 2001). If this is focused on creating a refined questionnaire and specific experiences of individuals using qualitative methods previously discussed, then this new avenue of research would lead to the creation of new common themes of fear of personal victimisation, potential new factors and items within those factors (Lorenc et al., 2013; Williamson et al., 2013). This, as previously described, could lead to new research focusing on one facet of fearfulness (such as a particular type of crime) as the focus of research and examining the underlying causes using a single factor deemed a predictor as a measure (Mesko et al., 2004).

Other areas could benefit from the measure created within this thesis. Cossman, Porter and Rader (2016) indicated "self-reported health" as a factor impacted by a fear of personal victimisation. Targeting this with a well-rounded measurement tool that has been psychometrically evaluated would be a useful step in assessing the levels to which this "self-reported health" is impacted. This is a way to utilise the scale in a real-world environment (Cossman et al., 2016).

Other possibilities for real-world investigation are possible with the correct consideration (Cozjin & van Dijk, 1976; Dowler, 2003). There is an opportunity to use specific respondents in these studies to provide a more accurate depiction of their perception surrounding the specific crime (e.g., females and their experiences around sexual assault). Providing this will complete a more in-depth analysis of each of the individual facets of the Fear of Crime Scale and enable a more in-depth analysis of the underlying

scenarios in which individuals feel the most fearful (John Howard Society of Alberta, 1999).

The real-world applications of the scale could also be a focus of future studies, using a more widely accepted version of the Big Five Inventory (BFI) or even the Mental Toughness Questionnaire (MTQ 48) could be a focus of future research to establish any real-world applications of the current research (Clough, 2007; Soto et al., 2017).

There is an interesting link to “hate crimes” and vulnerability that could be explored (Carr, Haynes, & Schweppe, 2012). The term “hate crime” is referring to a crime in which an individual is specifically targeted based on a group of individuals the perpetrator perceives that they represent (Carr et al., 2012). Due to the targeted nature of this type of crime, there are different social implications associated when compared to non-targeted victimisation (Carr et al., 2012). With its link to vulnerability, the crimes people fear being targeted by could be the focus of a future study using the current thesis’ measure. There would be little to no need to change the measure as there is already a demographic section (Tseloni, 2007). The study by Carr et al. (2012) would benefit from the revised scale that has emerged from this paper as it would enable crimes to be considered on a more generalisable approach rather than the Irish population that was utilised (Williamson et al., 2013).

In a direct comparison to Social Learning Theory (where an amplified media coverage increases awareness and in turn anxiety) can create a state of panic (Carr et al., 2012). The impact of this can also be seen from the level of fear of plane hijacking which increased drastically with the increased criminalisation of such offences (Simons, 1998).

This example suggests that fear of personal victimisation and the anxiety associated with one’s self-perceived level of risk of victimisation are social constructs that are constantly being reappraised and negotiated (Carr et al., 2012).

Future research will also need to take into consideration the nature of the positivist approach of fear of crime research (Miers, 1989). With the nature of this field, police statistics will have a direct impact on the level of fearfulness of individuals (Miers, 1989). These police statistics, however, vary as a function of the criteria that is used (Miers, 1989). This means the nature of fear

of personal victimisation would hypothetically change based on the criteria used to report a crime (those that are reported as more frequent are likely to be more feared) (Miers, 1989).

The recent developments within the fear of crime field can now be considered for future research using the measure this thesis has produced. The theory behind these facets of fearfulness was sound, but the lack of measurement coherence prevented any significant strides or ability to generalise (or compare) findings (Pleysier et al., 2005).

One area of note is media consumption (Callanan, 2012). Callanan (2012) states that there was a significant increase in fear when individuals were shown certain stimuli such as news articles or footage. These stimuli were more effective in increasing fear when they were local news from an area the participant recognised (Callanan, 2012). Using the current doctoral thesis' measure, it would be useful to recreate this study to reduce measurement variance (Pleysier et al., 2005). This would enable the results to be compared in different populations, which would help in addressing the lacunae present within the field (Pleysier et al., 2005).

### ***7.2.2 Risk perception and affect***

Slovic and Peters (2006) indicate that risk in humans is perceived in two fundamental ways. Risks as feelings are related to an individual's instinctive reaction to danger (Slovic et al., 2006). Risks as analysis bring more of a logical approach with reason and "scientific deliberation" to manage risk (Slovic et al., 2006).

With a fear of crime, it is useful to assess risk perception, in a 1978 paper Lichtenstein, Slovic, Fischhoff, Layman and Combs assessed risk by asking individuals how they judged the frequency of death. It was found that although an individual was 39 times more likely to die of heart disease than of homicide, homicide was still more feared. Lichtenstein et al. (1978) attribute this phenomenon to the media coverage. Lichtenstein et al. (1978) states a disproportionate amount of news coverage in favour of homicide when newspapers were analysed. Analysis of newspapers in Lichtenstein et al. (1978) revealed stories relating to heart disease received only 111 inches of

space, where homicide-related incidents received 5042.9 inches of space within the same sample (Lichtenstein et al., 1978). This provides some context for the statement made that “fear of crime is a much larger issue than crime itself” by Prieto Curiel et al. (2018) and sheds some light on the potential reasoning behind this disparity in fear levels (p. 46).

Kasperson et al. (1988) also indicate that risk is amplified at two levels. The first is the transfer of information about the risk, the second being the response mechanisms of society to the risk (Kasperson et al., 1988). The transfer of this information is usually via media outlets, public agencies and social stations (Kasperson et al., 1988). Social stations transmit the information alluding to the risk using several communication channels such as phone calls or direct conversation. At each stage of hearing of the risk, individuals amplify the risk based on the information they receive (Kasperson et al., 1988). These amplified risks resulted in behavioural changes (Kasperson et al., 1988). This can be linked to fear of crime as those who are older generally will engage in risk management strategies to reduce their self-perceived risk of becoming the victim of a crime (Barbarett et al., 2004).

With this clear link to Social Learning Theory, it would be useful to consider the impact of media coverage in future research applications to determine the impact of the media on fear of crime in a modern sample due to the temporal limitations of the previously described papers (Pleysier et al., 2005). Using the measure that has been established by the current thesis, this could involve measuring the level of fearfulness both before and after introduction to media content that could elicit a fear response.

### ***7.2.3 Temporal bias***

Temporal bias is a concept that sees emotional changes based on the amount of time between a participant and a stimulus (Gilovich, Kerr, & Medvec, 1993). Confidence change is a temporal bias that focuses on diminishing levels of confidence the closer an event becomes (Gilovich et al., 1993). For instance, those who were asked to complete a test immediately were less confident than those who were told they could do so with a few weeks’ notice (Gilovich et al.,

1993). It is deemed that with this bias confidence is reduced when there is a more immediate need to perform (Gilovich et al., 1993).

Impact bias is a phenomenon where individuals predict their emotionality to be more severe in response to a given stimulus than is realistic (Sanna & Schwartz, 2004).

Hindsight bias is a phenomenon where with the benefit of knowing the outcome of stimulus participants claim they “knew all along” that the result would be what has happened (Sanna et al., 2004). This phenomenon can take place regardless of how unlikely events seemed in the run-up to the incident in question (Sanna et al., 2004). For example, if an individual won the lottery and claimed after winning that they had a “good feeling” despite the insurmountable odds they would not win (Sanna et al., 2004). This bias is common in medical diagnoses and political results (Sanna et al., 2004).

Utilising the current measurement tool and the method of assessing the different types of temporal bias in Sanna et al. (2004) it would be a possible future research consideration to evaluate the impact of fear of personal victimisation on these temporal biases to establish a link. Participants in Sanna et al. (2004) were asked to rate their likelihood of success in a given task depending on when they had to complete it on a 100-point Likert scale, this method could easily be adapted to be used with the current measure in a way that could provide meaningful insight into the possible link between the two phenomena (Pleysier et al., 2005).

#### ***7.2.4 Social constructionism and cultural bias***

Social constructionism perceives discourse to be a result of communal exchange (Gergen, 1985). In other words, it is that an individual’s personality is not just a set notion or idea, but rather a constantly changing set of decisions and interactions with others (Gergen, 1985).

Social constructionists such as Gergen (1985) believe that the terms in which individuals come to understand the world is a direct product of this discourse. Gergen (1985) goes on to state that the world is understood through the interchanges among people rather than some environmentally driven force that leads to understanding. When several concepts such as love

(Averill, 1985), what a child was (Aries, 1962) and a mother's love (Badinter, 1980) it was found that there are broadly different understandings of the concepts historically speaking (Gergen, 1985).

In the context of fear of personal victimisation, there is likely to be a similar alternation in perception (and understanding of right and wrong), which would need careful consideration in the context of using the current measurement tool in a different population (Gergen, 1985).

Cultural bias is rooted in the notion of this discourse being different in a dissimilar population, based on a culture having an alternative understanding of a concept or idea (Haddad, 2019). With the fear of crime research, this cannot be ignored as some cultures (such as South Africa) are more accustomed to general crime or specific crimes such as carjacking (Haddad, 2019). These different cultures would likely perceive given stimuli differently due to the discourse they have experienced in their lifetimes (Haddad, 2019).

The current measurement tool created as a result of this thesis would be able to be altered for this cultural adaptation with the qualitative study previously mentioned to assess the different crimes that a culture feared (Williamson et al., 2013). With these adaptations, the Fear of Personal Victimisation Scale would still be a suitable measure for fearfulness, but would be able to measure crimes more specifically feared in a given population (Williamson et al., 2013).

### **7.2.5 Mental toughness**

Mental toughness as a concept is a measure of an individual's ability to have confidence and resiliency, which could in turn provide them success in their daily life or workplace (Clough, 2007). The term is also used in order to describe a set of generally positive attributes that help the individuals that possess them to cope in more difficult, challenging or stressful situations with ease (Clough, 2007). Research at the university of Hull conducted by Clough (2007), identified four key components of this "mental toughness".

These are namely; control, challenge, commitment and confidence (Clough, 2007). These components all play a role in developing an individual's ability to handle a situation with more strength and leadership (Clough,

2007). Control refers to an individual's self-perceived level of control (Clough, 2007). Those who scored higher in control in this study tend to feel they are more in control of their work and the environment in which they work (Clough, 2007). They are also reported as being more able to exert control on their working environment and thus can complete more complicated tasks or even perform in situations which require some form of multi-tasking (Clough, 2007). It is reported that there are two subscales to this scale related to control of emotion and control of life (Clough, 2007). Those who scored lower on the first subscale were less able to keep their emotional state hidden and were more likely to reveal their emotions and inner thoughts to those around them (Clough, 2007). Those who scored higher for this subscale were also more able to keep their anxieties in check (Clough, 2007). Those who scored higher on the control of life subscale were more likely to believe that they controlled aspects of their own lives (Clough, 2007). They believed that only they could control the outcome of their lives and believe that their plans could not be thwarted by anything outside of their own actions (Clough, 2007).

Challenge (or change orientation) is a description of the extent to which those surveyed saw challenge as opportunity (Clough, 2007). It was deemed that those who scored higher for challenge would be likely to seek out challenges actively as they perceived them as a way to improve on their self-development (Clough, 2007). These individuals thrive in constantly changing environments (Clough, 2007). Whereas those who scored lower would perceive challenges as problems or threats, they will prefer to minimise their exposure to those environments that will change and the perceived problems that will come with this change (Clough, 2007). These individuals will prefer "strongly stable work environments" (Clough, 2007).

Commitment, also known as "stickability" is used to describe how well an individual carries out a task in the presence of problems and obstructions to the goals associated with the task (Clough, 2007). An individual who scored highly on this scale would be able to achieve their goals in challenging situations (such as a short deadline) (Clough, 2007). Those who scored on the lower end of the scale will need the assistance of less challenges in order to achieve a similar goal (Clough, 2007). Individuals who scored higher in confidence have the self-belief to complete tasks they set out

on more successfully than those of a similar skill set in terms of ability but a lower score for confidence (Clough, 2007).

This lack of confidence can make them less persistent and make more frequent errors, which could be a cause for them completing tasks with any degree of success less frequently (Clough, 2007). Those who scored higher in confidence were able to take any setbacks in their stride and kept their heads even when the situation went wrong significantly (Clough, 2007). On the other end of the scale individuals who scored lower for this scale would be unsettled by similar setbacks and will feel undermined, some even reported their heads to physically “drop” (Clough, 2007).

The idea of mental toughness and control could be targeted in the future by presenting participants with a scale in which items will attempt to determine how likely an individual will be to react in certain situations (i.e., changing their habits based on a self-perceived lack of control). The idea of “stickability” is also interesting as those who indicate they are more frequently afraid of crime should also demonstrate that they are more likely to change their habits on the social scale based on how frequently they are afraid. Establishing these links could provide a link between mental toughness and an individual’s self-perceived risk of personal victimisation. The measure created to fulfil the aims of the current thesis alongside the MTQ could provide a link between the two concepts to provide some real-world application for the Fear of Personal Victimization Scale.

### ***7.2.6 Mapping “fear of crime”***

In recent years there have been attempts to “map” a fear of crime/personal victimisation as a context specific experience (Jackson & Gouseti, 2015; Solymosi et al., 2020). Solymosi et al. (2020) states fear of crime is a “situational experience” that is transitional. Similar to the theory that has driven the current thesis, Solymosi et al. (2020) reports that it is the situation an individual finds themselves in, rather than simply demographics that make them fearful. Solymosi et al. (2020) goes on to report that though many studies find statistical support for females reporting higher levels of fear than males,

that in certain situations males will report a higher level of fear (though it is not specified which situations these are).

Using a literature review of app-based studies, Solymosi et al. (2020) attempted to quantify the results of 27 studies with a given inclusion criteria that they must be an app-based measure. Though it was found in this study that the benefits included that location specific fears could be identified, there were a significant number of issues with the methodology applied (Solymosi et al., 2020). One such issue was the attempt to combine factors on a number of studies that suffered a great deal of measurement variance as described by Pleysier et al. (2005).

Though the method applied identified the nature of fear of personal victimisation being specific to situations the necessity for a gold standard measure is necessary to allow for such cross-study comparisons (Pleysier et al., 2005). In creating the Fear of Personal Victimization Scale the current doctoral thesis has created a measure capable of addressing these issues in a way that would allow for this “mapping” of fear of personal victimisation to take place on a global level as attempted here. The difference being there would be less limitations created due to measurement invariance (Pleysier et al., 2005; Solymosi et al., 2020).

### **7.3 Scale effectiveness and applications**

Development of scales should also examine what specific type of measurement tool is most effective for collecting data for fear of personal victimisation. This could be Likert scales (strongly agree/fearful, strongly disagree/non-fearful) or polarity scales (agree vs disagree) (Pickett, 2017; Pickett et al., 2018).

As the field of fear of crime is large and without rigorous psychometric evaluation, implementing these scales on populations and testing their effectiveness is an essential aspect of expanding the knowledge of the fear of personal victimisation overall (Pleysier et al., 2005). The revised scale was tested against the crimes most feared by the UK in 2016 and revealed that the subscales were useful in predicting whether an individual was likely to be more

fearful of crime overall, but also at a specific level in a similar method utilised by Williamson et al. (2013).

The revised subscales of the Fear of Personal Victimization Scale were useful in predicting the fear of Violence (Criminalisable Space and Power) and Damage to Personal Property (Criminalisable Space and Attractivity). Evil Intent only predicted a likelihood to be fearful of fraudulent crime (alongside Attractivity) meaning the concepts could be useful to explore on a more unidimensional level. This could take the shape of a study focusing on how fear of fraud is impacted by the perceived “Evil Intent” of individuals. This unidimensional approach could also target the other subscales in order to develop a deeper understanding of the impact the socio-demographic variables have on more specific types of crime.

Demographic variables and their impact on fear of crime and personal victimisation are well documented (Scheider et al., 2003) but fail to assess the complex and multidimensional construct that is fear of crime. The results of this doctoral thesis, therefore, have further bridged the gap between social constructs, socio-demographic categories and fear of personal victimisation. This has expanded the ever-growing concept of fear of personal victimisation in a way that reliability and validity are quantifiable and statistically supported (Cortina, 1993; MacCallum et al., 1996).

Future applications of the Fear of Personal Victimization Scale should investigate further situations (socially speaking) in which an individual may be fearful and factors that may impact (either increase or decrease) their level of fearfulness of personal victimisation of crime in a given set of circumstances (Williamson et al., 2013). The current measurement tool will be an excellent starting point with further scenarios improving on the breadth of constructs while expanding the knowledge of what may cause an individual to be more likely to experience a fear of personal victimisation. (Lorenc et al., 2013; Williamson et al., 2013).

There have been recent developments attempting to reduce fear in given populations (Maier et al., 2019). The issue with these papers is the same as the lacunae that have plagued the field of fear of crime research, in their lack of generalisability (Pleysier et al., 2005). These measures also fail to take into consideration the complex nature of fear of personal victimisation and

often fail to measure in a way that tackles the broad term of “crime” and what facet individuals perceive themselves to be at risk of (Pleysier et al., 2005). The revised scale generated for this thesis could fill this void and provide a method of measuring fearfulness alongside perceptions of various methods of fear reduction.

### 8.1 Concluding comments

The Fear of Personal Victimization Scale and Fear of Crime Scale consider a wide range of crimes individuals could be fearful of and a broad spectrum of scenarios in which this fearfulness could be experienced. Any future developments of the measure that has emerged as a result of this thesis would benefit in refining the measure and providing a deeper understanding of the factors associated with a fear of personal victimisation.

The research conducted in creating the refined measure has affirmed the use of the original items and generated new items in line with previous research (van der Wurff et al., 1989). The research conducted has also contributed to the field of fear of crime research by examining a range of crimes and scenarios to assess the commonality of themes that led to an increased fearfulness.

Several important aspects of this research have contributed overall to a wider understanding of fear of personal victimisation. This thesis has succeeded in its aim to create a robust measurement tool capable of measuring a fear of personal victimisation and the reasons that may be causing it. Improvements have also been made to existing measures within the field, including the addition of items to subscales and determining the limitations to research conducted and a solution that would rectify issues. A side effect of this research is the examination of negatively worded items and their effects on the overall effectiveness of an item.

At the very beginning of this thesis, the identification of the Social and Community Perceptions Scale as a means of assessing fearfulness on a more complete level was the first step. This led to collecting data using the measure as it existed in the literature. Involving PCA in order to assess the scale as it had been treated in the past (as having 4 subscales in a forced solution). This included 8 items on 4 subscales: Criminalisable Space, Attractivity, Power and Evil Intent. The performance of these subscales was rather poor in relation to internal consistency but did have the theoretical framework necessary to

facilitate the creation of additional content that would strengthen the factorial structure.

Though polarity has been discussed at length within the concluding discussion, it would be useful to note that these may not be useful responses for fearfulness. Individuals who are on the fence between being fearful and not fearful would be more likely to pick the negative when forced into a bi-polar argument where they must pick a side (Christian et al., 2004; Servidio, Bocci, & Bianchi, 2018). This may lead to them responding inappropriately to something they would otherwise have indicated they were, for instance, 'slightly fearful' of (Pickett et al., 2018).

With this lack of a need to take a stand on the given topic, the question is easier to answer for the participant (Pickett et al., 2018). That being said, a Likert scale only allows responses on a fixed number of levels of (e.g., 1-5) (Pickett et al., 2018). This may lead to the incorrect perceptions of the concept being gathered and thus led the researcher to provide conclusions that do not accurately reflect the perceptions of those surveyed (Argyle, 1999; Matell et al., 1971).

Future research into the field should have the aim of both adding items and refining scales, thus; exploring the item breadth, exploring new avenues for causes of fearfulness and attempting to produce a concise and easy way to administer the fear of personal victimisation measure (Huffman et al., 2008; Lorenc et al., 2013). Though a promising start has been the result of this thesis, the revised Fear of Crime Scale needs further enhancement on its items and factors (Morgado et al., 2018). The clarity of factors must be addressed at each stage to ensure there is no overlap between the subscales (Morgado et al., 2018). The preliminary testing of the final factorial structure from phase three's CFA indicated the scale is psychometrically performing well according to MacCallum et al. (1996). The scale possesses excellent reliability, has evidence of validity and has a great deal of promise in predicting many different types of crime more consistently than the demographics used previously (Cortina, 1993; Mesko et al., 2004).

The development of this scale also provides the option for a more global attempt to consolidate fear of crime research. With some minor alterations to the crimes that are more likely to be feared (to allow for cultural/social

differences) the scale could operate with any given population (Williamson et al., 2013). The current doctoral thesis established existing measures, identified limitations, identified improvements, facilitated the enhancement of self-reported levels of fear of personal victimisation. This has been accomplished by:

- 1) Identifying the limitations in the 8-item factor structure of the van der Wurff et al. (1989) subscales.
- 2) Added additional items and dimensions to these subscales to improve the factorial structure and improve the construct breadth.
- 3) Improved subscales internal consistency and reliability with the addition of new items.
- 4) Providing a measure with enough breadth to explore individual dimensions of crime (e.g., violent crime).
- 5) Examined the weight of response bias against the consequences of reversing items.
- 6) Considered item clarity and the effect this can have on respondent's ability to respond appropriately.

The research conducted has also considered the functionality of the subscales in relation to items with negative wording. Van Sonderen et al. (2013) specifically highlights response bias as being an issue when developing measurement tools as the validity of self-report measures is heavily compromised. This doctoral thesis has found consistent evidence for the benefit of including a selective and balanced inclusion of both positive and negative wording of items. Lavrakas (2008) argues that reverse-item scoring can reduce response bias. Roszkowski et al. (2010) states that these items need careful consideration in relation to their placement as their inclusion at random may cause issues with results. For this reason, there should be a careful consideration of their inclusion, placement and wording (Roszkowski et al., 2010). This should also lead researchers to be cautious of reversing items ahead of factor analysis and be aware of any factor loadings that do not fit the overall model (Woods, 2006).

Future research into the phenomenon of fear of personal victimisation should involve a review process to evaluate the effectiveness and temporally sensitive nature of the measure created. This research should almost

definitively include qualitative methodology in order to facilitate individual experiences with fear of personal victimisation and self-reported risk (Lorenc et al., 2013). The inclusion of such practise will improve the scale's currency and allow the generation of new factors to explore (for both crimes and scenarios) and subsequent items (Lorenc et al., 2013). Research into the continued development of the fear of crime field should focus on enriching item breadth, maintaining clarity and creating studies that use the Fear of Personal Victimization Scale (with subsequent developments) to assess standalone crimes and the scenarios specific individuals may be fearful of them (Huber, 1985; Huffman et al., 2008).

## **8.2 Significance and scope**

Developing this measure has enabled a more well-rounded picture of a “fear of personal victimisation” to be created as it enables further investigation into underlying causes of this fearfulness. The measure created will enable testing alongside scales that are present within the literature that measure other psychological principals as described previously.

## Chapter 9: References

---

Alvi, S., Schwartz, M., DeKeseredy, W., & Maume, M. (2001). Women's fear of crime in Canadian public housing. *Violence Against Women*, 7(1), 638-661. <https://doi.org/10.1177/10778010122182640>

Argyle, M. (1999). Causes & correlates of happiness. In D. Kahneman, E. Diener & N. Schwarz (Eds.), *Well-being. The foundations of hedonic psychology* (pp. 353-373). New York, NY: Russel Sage Foundation.

Aries, P. (1962). *Centuries of childhood: A social history of family life*. New York, NY: Vintage.

Averill, J. (1985). The social construction of emotion: With special reference to love. In K.J. Gergen & K.E. Davis (Eds.), *The social construction of the person*. New York, NY: Springer. [https://doi.org/10.1007/978-1-4612-5076-0\\_5](https://doi.org/10.1007/978-1-4612-5076-0_5)

Badinter, E. (1980). *Mother love, myth and reality*. New York, NY: Macmillan.

Baier, D., Kemme, S., Hanslmaier, M., Doering, B., Rehbein, F., & Pfeiffer, C. (2011). *Fear of crime, criminal needs and perceived crime development*. Results of population representative surveys from the years 2004, 2006 and 2010.

Barbarett, R., Fisher, B., & Taylor, H. (2004). University student safety in the East Midlands. *Home Office*, 1(1), 1-59. <https://doi.org/10.1037/e635352007-001>

Baumer, T. L. (1978). Research on fear of crime in America. *Victimology*, 3(1), 254-264.

Baumer, T. L. (1985). Testing a general model of fear of crime: Data from a national sample. *The Journal of Research in Crime and Delinquency*, 22(1), 239-255. <https://doi.org/10.1177/0022427885022003004>

Bilsky, W., & Wetzels, P. (1997). On the relationship between criminal victimisation and fear of crime. *Psychology, Crime & Law*, 3(1), 309-318. <https://doi.org/10.1080/10683169708410826>

Birnbaum, I. (1981). *An introduction to causal analysis in sociology*. London, UK: Macmillan. <https://doi.org/10.1007/978-1-349-16466-0>

Blair, E., & Zinkhan, G. (2006). Nonresponse and generalizability in academic research. *Journal of the Academy of Marketing Science*, 34(1), 4-7. <https://doi.org/10.1177/0092070305283778>

Blakely, E. J., & Snyder, M. G. (1997). *Fortress America*. Washington, DC: Brookings Institution.

Blöbaum, A., & Hunecke, M. (2005). Perceived danger in urban public space the impacts of physical features and personal factors. *Environment and Behavior*, 37(1), 465-486. <https://doi.org/10.1177/0013916504269643>

Block, R. (1988). A comparison of victimization, crime Assessment and fear of crime in England/Wales, The Netherlands, Scotland and the United States. *The Netherlands Journal of Housing and Environmental Research*, 3(4), 345-360. <https://doi.org/10.1007/BF02506082>

Braungart, M. M., Braungart, R. G., & Hoyer, W. J. (1980). Age, sex, and social factors in fear of crime. *Sociological Focus*, 1(1), 55-66. <https://doi.org/10.1080/00380237.1980.10570360>

Britt, C. L. (2001). Health consequences of criminal victimisation. *International Review of Victimology*, 8(1), 63-73. <https://doi.org/10.1177/026975800100800104>

Brown, B., & Benedict, W. (2002). Policing: Perceptions of the police: Past findings, methodological issues, conceptual issues and policy implications. *An*

*International Journal of Police Strategies & Management*, 25(3), 543-580.  
<https://doi.org/10.1108/13639510210437032>

Brunton-Smith, I., & Sturgis, P. (2011). Do neighborhoods generate fear of crime? An empirical test using the British Crime Survey. *Criminology*, 49(1), 331-369. <https://doi.org/10.1111/j.1745-9125.2011.00228.x>

Burby, R. J., & Rohe, W. M. (1989). Deconcentration of public housing: Effects of residents' satisfaction with their living environments and their fear of crime. *Urban Affairs Quarterly*, 25(1), 117-141. <https://doi.org/10.1177/004208168902500108>

Bursik Jr., R. J., & Grasmick, H. G. (1993). *Neighborhoods and crime: The dimensions of effective community control*. Lexington, MA: Lexington Books.

Callanan, V. J. (2012). Media consumption, perceptions of crime risk and fear of crime: examining race/ethnic differences. *Sociological Perspectives*, 55(1), 93-115. <https://doi.org/10.1525/sop.2012.55.1.93>

Carifia, J., & Perla, R. (2007). Ten common misunderstandings, misconceptions, persistent myths and urban legends about Likert scales and Likert response formats and their antidotes. *Journal of Social Sciences*, 3(3), 106-116. <https://doi.org/10.3844/jssp.2007.106.116>

Carr, J., Haynes, A., & Schweppe, J. (2017). Hate crime: an overview of significant and relevance to Irish sociology. *Irish Journal of Sociology*, 25(1), 73-83. <https://doi.org/10.7227/IJS.0012>

Ceccato, V. (2020). The architecture of crime and fear of crime: Research evidence on lighting, CCTV and CPTED features 1. In *Crime and Fear in Public Places* (pp. 38-72). Routledge. <https://doi.org/10.4324/9780429352775-4>

Chadee, D., & Ng Ying, N.K. (2013), General fear versus perceived risk. *Journal of Applied Social Psychology*, 43(1), 1896-1904. <https://doi.org/10.1111/jasp.12207>

Chon, D. S., & Wilson, M. (2016). Perceived risk of burglary and fear of crime: Individual and country-level mixed modeling. *Journal of Offender Therapy and Comparative Criminology*, 60(3), 308-325. <https://doi.org/10.1177/0306624X14551257>

Christian, L. M., & Dillman, D. A. (2004). The influence of symbolic and graphical language manipulations on answers to self-administered questionnaires: Results from 14 experimental comparisons. *Public Opinion Quarterly*, 68(1), 57-80. <https://doi.org/10.1093/poq/nfh004>

Clark, A. E. (2003). Unemployment as a social norm: Psychological evidence from panel data. *Journal of Labor Economics*, 21(1), 323-351. <https://doi.org/10.1086/345560>

Clark, A. E., & Oswald, A. J. (1996). Satisfaction and comparison income. *Journal of Public Economics*, 61(1), 359-381. [https://doi.org/10.1016/0047-2727\(95\)01564-7](https://doi.org/10.1016/0047-2727(95)01564-7)

Clough, P. (2007). MTQ 48 Handbook. *Mental Toughness*. [https://repository.edgehill.ac.uk/3322/1/MTQ48\\_Technical\\_Manual\\_Jan\\_2007.pdf](https://repository.edgehill.ac.uk/3322/1/MTQ48_Technical_Manual_Jan_2007.pdf)

Cobbina, J. E., Miller, J., & Brunson, R. K. (2008). Gender, neighborhood danger, and risk-avoidance strategies among urban African-American youths. *Criminology*, 46(2), 673-709. <https://doi.org/10.1111/j.1745-9125.2008.00122.x>

Cohen, M.A. (2008). The effect of crime on life satisfaction. *Journal of Legal Studies*, 37(1), 325-353. <https://doi.org/10.1086/588220>

Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of applied psychology*, 78(1), 98. <https://doi.org/10.1037/0021-9010.78.1.98>

Cossman, J. S., Porter, J. R., & Rader, N. E. (2016). Examining the effects of health in explaining fear of crime: A multi-dimensional and multi-mevel analysis. *American Journal of Criminal Justice*, 41(1), 565-582. <https://doi.org/10.1007/s12103-015-9310-x>

Cozens, P., & Sun, M. (2019). "Exploring crime prevention through environmental design (CPTED) and students' fear of crime at an Australian university campus using prospect and refuge theory", *Property Management*, 37(2), 287-306. <https://doi.org/10.1108/PM-04-2018-0023>

Cozjin, C., & van Dijk, J. J. M. (1976). *Onrustgevoelens in Nederland [Fear of crime in the Netherlands]*. The Hague, Netherlands: Research and Documentation Center of the Ministry of Justice.

Cronbach, L. J., & Meehl, P. E. (1955) Construct validity in psychological tests. *Psychological Bulletin*, 52(1), 281-302. <https://doi.org/10.1037/h0040957>

Cunningham, W., Preacher, K., & Banaji, M. (2001). Implicit attitude measures: consistency, stability and convergent validity. *SAGE Journals*, 12(2), 163-170. <https://doi.org/10.1111/1467-9280.00328>

Dammert, L., & Malone, M. F. T. (2003). Public insecurities in Chile: Fear of crime or fear of life? *Bulletin of Latin American Research*, 22(1), 79-101. <https://doi.org/10.1111/1470-9856.00065>

Denkers, A., & Winkel, F. W. (1998). Crime victims' well-being and fear in a prospective longitudinal study. *International Review of Victimology*, 5(1), 141-163. <https://doi.org/10.1177/026975809800500202>

Dobbs, R. R., Waid, C. A., & Shelley, T. O. (2009). Explaining fear of crime as fear of rape among college females: An examination of multiple campuses in the United States). *International Journal of Social Inquiry*, 2(2), 105-122.

D'Orsogna, M. R., & Perc, M. (2015). Statistical physics of crime: a review. *Physics of life reviews*, 12, 1-21.

<https://doi.org/10.1016/j.plrev.2014.11.001>

Dowler, K. (2003). Media consumption and public attitudes toward crime and justice: The relationship between fear of crime, punitive attitudes, and perceived police effectiveness. *Journal of Criminal Justice and Popular Culture*, 10(1), 109-126.

Duncan, O. D. (1975). *Introduction to structural equation models*. New York, NY: Academic Press. <https://doi.org/10.1016/B978-0-12-224150-5.50005-8>

Erskine, H. (1974). The polls: Fear of violence and crime. *Public Opinion Quarterly*, 38(1), 131-145. <https://doi.org/10.1086/268142>

Eysenck, H. (1998). *Dimensions of personality*. Transaction Publishers.

Eysenck, H. J. (1990). Biological dimensions of personality. In L.A. Pervin (Eds.), *Handbook of personality: Theory and research* (pp. 244-276). The Guilford Press.

Eysenck, H. J., & Eysenck, M. W. (1985). *Personality and individual differences*. New York, NY: Plenum Press. <https://doi.org/10.1007/978-1-4613-2413-3>

Eysenck, M. W. (1987). *Trait theories of anxiety*. In J. Strelau & H.J. Eysenck (Eds.), *Perspectives on individual differences. Personality dimensions and arousal* (pp. 79-94). New York, NY: Plenum Press. [https://doi.org/10.1007/978-1-4899-2043-0\\_5](https://doi.org/10.1007/978-1-4899-2043-0_5)

Fanghanel, A. (2014). Approaching/departure: Effacement, erasure and 'undoing' the fear of crime. *Cultural Geographies*, 21(1), 343-361. <https://doi.org/10.1177/1474474013495643>

Farrall, S., & Gadd, D. (2004). The frequency of fear of crime. *British Journal of Psychology*, 44(1), 127-132. <https://doi.org/10.1093/bjc/44.1.127>

Farrall, S., Gray, E., & Jackson, J. (2007). Theorising the fear of crime: The cultural and social significance of insecurities about crime: Experience and expression in the fear of crime working paper No. 5. *SSRN Electronic Journal*. <https://www.researchgate.net/deref/http%3A%2F%2Fdx.doi.org%2F10.2139%2Fssrn.1012393>

Fattah, E. A., & Sacco, V. F. (1989). *Crime and victimization of the elderly*. New York, NY: Springer. <https://doi.org/10.1007/978-1-4613-8888-3>

Ferguson, K., & Mindel, C. (2007). Modeling fear of crime in Dallas neighborhoods: A test of social capital theory. *Crime & Delinquency*, 53(1), 322-349. <https://doi.org/10.1177/0011128705285039>

Ferraro, K. F. (1995). *Fear of crime: Interpreting victimization and risk*. New York, NY: State University of New York.

Ferraro, K. F., & LaGrange, R. L. (1987). The measurement of fear of crime. *Sociological Inquiry*, 57(2), 70-101. <https://doi.org/10.1111/j.1475-682X.1987.tb01181.x>

Ferraro, K. F., & LaGrange, R. L. (1992). Are older people most afraid of crime: Reconsidering age differences in fear of victimization. *Journal of Gerontology*, 47(1), 233-244. <https://doi.org/10.1093/geronj/47.5.S233>

Fisher, B. S., & Sloan, J. J. (2003). Unravelling the fear of victimization among college women: Is the "shadow of sexual assault hypothesis" supported? *Justice Quarterly*, 20(2), 633-659. <https://doi.org/10.1080/07418820300095641>

Fowler, F. (2002). *Survey research methods* (3rd ed.). Newbury Park, CA: Sage.

Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item-response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology*, 78(1), 350-365. <https://doi.org/10.1037/0022-3514.78.2.350>

Franklin, T. W., Franklin, C. A., & Fearn, N. E. (2008). A multilevel analysis of the vulnerability, disorder, and social integration models of fear of crime. *Social Justice Research*, 21(1), 204-227. <https://doi.org/10.1007/s11211-008-0069-9>

Frey, B. S. (2008). *Happiness. A revolution in economics*. Cambridge, UK: MIT Press. <https://doi.org/10.7551/mitpress/9780262062770.001.0001>

Frey, B. S., & Stutzer, A. (2002). *Happiness and economics: How the economy and institutions affect well-being*. Princeton, NJ: Princeton University Press. <https://doi.org/10.1515/9781400829262>

Friedman, M., & Rosenman, R. H. (1974). *Type A behavior and your heart*. New York, NY: Knopf.

Furstenberg, F. F. (1971). Public reaction to crime in the streets. *American Scholar*, 40(1), 601-610.

Furstenberg, F. F. (1972). "Fear of crime and its effects on citizen behavior". In A. Biderman (Eds.), *Crime and justice: A symposium*. New York, NY: Nailburg.

Gabriel, U., & Greve, W. (2003). The psychology of fear of crime. Conceptual and methodological perspectives. *British Journal of Criminology*, 43(1), 600-614. <https://doi.org/10.1093/bjc/43.3.600>

Gale, J. A., & Coupe, T. (2005). The behavioural, emotional and psychological effects of street robbery on victims. *International Review of Victimology*, 12(1), 1-22. <https://doi.org/10.1177/026975800501200101>

- Gaquin, D. A. (1978). Measuring fear of crime. *Victimology*, 3(1), 314-328.
- Garofalo, J. (1979). Victimization and the fear of crime. *Journal of Research in Crime and Delinquency*, 16(1), 80-97. <https://doi.org/10.1177/002242787901600107>
- Garofalo, J. (1981). The fear of crime: Causes and consequences. *Journal of Criminal Law and Criminology*, 72(1), 839-857.
- Garofalo, J., & Laub, J. (1978). The fear of crime: Broadening our perspective. *Victimology*, 3(1), 242-253.
- Gerber, M. M., Hirtenlehner, H., & Jackson, J. (2010). Insecurities about crime in Germany, Austria and Switzerland: A review of research findings. *European Journal of Criminology*, 7(1), 141-157. <https://doi.org/10.1177/1477370809356871>
- Gergen, K. (1985). The social constructionist movement in modern psychology. *American Psychology*, 40(3), 266-275. <https://doi.org/10.1037/0003-066X.40.3.266>
- Gerlach, K., & Stephan, G. (1996). A paper on unhappiness and unemployment in Germany. *Economics Letters*, 52(1), 325-330. [https://doi.org/10.1016/S0165-1765\(96\)00858-0](https://doi.org/10.1016/S0165-1765(96)00858-0)
- Gibson, C. L., Jihong, Z., Lovrich, N. P., & Gaffney, M. J. (2002). Social integration, individual perceptions of collective efficacy, and fear of crime in three cities. *Justice Quarterly*, 19(1), 537-564. <https://doi.org/10.1080/07418820200095341>
- Gilovich, T., Kerr, M., & Medvec, V. H. (1993). Effect of temporal perspective on subjective confidence. *Journal of Personality and Social Psychology*, 64(1), 552-560. <https://doi.org/10.1037/0022-3514.64.4.552>
- Goldstein, R. (1996). Testing dependent correlation coefficients. STATA technical bulletin, 32(1), 18.

Grabosky, P. N. (1995). Fear of crime and reduction strategies. *Australian Institute of Criminology*, 44(1), 2-5. <https://doi.org/10.1080/10345329.1995.12036675>

Groves, R. M., & Peytcheva, E. (2008). The impact of nonresponse rates on nonresponse bias. *Public Opinion Quarterly*, 72(1), 167-189. <https://doi.org/10.1093/poq/nfn011>

Haddad, A. (2019). Cultural bias. *Health Professional and Patient Interaction*, 9(1), 60-76. <https://doi.org/10.1016/B978-0-323-53362-1.00005-0>

Hagan, F. E. (2006). *Research methods in criminal justice and criminology* (7<sup>th</sup> ed.). Boston, MA: Pearson Education.

Hair, J., Anderson, R., Tatham, R., & Black, W. (1998) *Multivariate data analysis*. (5<sup>th</sup> ed.). Prentice Hall, NJ.

Hair, J., Black, W., Babin, B., & Anderson, R. (2010), *Multivariate Data Analysis*. Prentice Hall, NJ.

Hale, C. (1996). Fear of crime: A review of the literature. *International Review of Victimology*, 4(2), 79-150. <https://doi.org/10.1177/026975809600400201>

Haner, M., Sloan, M. M., Cullen, F. T., Kulig, T. C., & Lero Jonson, C. (2019). Public concern about terrorism: Fear, worry, and support for anti-muslim policies. *Socius*, 5(1), 1-14. <https://doi.org/10.1177/2378023119856825>

Hanslmaier, M., Baier, D., & Kemme, S. (2016). Victimisation, Fear of Crime and Life Satisfaction. <https://doi.org/10.5771/9783845273679-251>

Hartnagel, T. F. (1979). The perception and fear of crime: Implications for neighborhood cohesion, social activity, and community affect. *Social Forces*, 58(1), 176-193. <https://doi.org/10.2307/2577792>

Hathaway, S. R., & McKinley, J. C. (1943). *Manual for the Minnesota Multiphasic Personality Inventory*. New York, NY: Psychological Corporation.

Heggestad, E. D., Rogelberg, S., Goh, A., & Oswald, F. (2015). Considering the effects of nonresponse on correlations between survey variables: A simulation study to provide context to evaluate survey results. *Journal of Personnel Psychology*, 14(1), 91-103. <https://doi.org/10.1027/1866-5888/a000129>

Hinkle, J., & Weisburd, D. (2008). The irony of broken windows policing: A micro-place study of the relationship between disorder, focused police crackdowns and fear of crime. *Journal of Criminal Justice*, 36(1), 503-512. <https://doi.org/10.1016/j.jcrimjus.2008.09.010>

Holmes, T. H., & Rahe, R. H. (1967). The social readjustment rating scale. *Journal of psychosomatic research*, 11(2), 213-218. [https://doi.org/10.1016/0022-3999\(67\)90010-4](https://doi.org/10.1016/0022-3999(67)90010-4)

Hozo, S. P., Djulbegovic, B., & Hozo, I. (2005) Estimating the mean and variance from the median, range, and the size of a sample. *BMC Medical Research Methodology*, 5(13), 1471-2288. <https://doi.org/10.1186/1471-2288-5-13>

Hu, L.-t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1-55. <https://doi.org/10.1080/10705519909540118>

Huber, G. (1985) Temporal stability and response-order biases in participant descriptions of organizational decisions. *The Academy of Management Journal*, 28(4), 943-950. <https://doi.org/10.5465/256247>

Huffman, A., Culbertson, S., Payne, S., & Castro, C. (2008). The importance of construct breadth when examining interrole conflict. *Educational and Psychological Measurement: SAGE Journals*, 68(1), 515-530. <https://doi.org/10.1177/0013164407308472>

Hughes, P. P., Marshall, D., & Sherrill, C. (2003). Multidimensional analysis of fear and confidence of university women relating to crimes and dangerous

situations. *Journal of Interpersonal Violence*, 18(1), 33-49.  
<https://doi.org/10.1177/0886260502238539>

Innes, M. (2004). Signal crimes and signal disorders: notes on deviance as communicative action. *The British Journal of Sociology*, 55(3), 335-355. <https://doi.org/10.1111/j.1468-4446.2004.00023>

Izard, C. (1972). Forms and functions of emotions: Matters of emotion-cognition interactions. *Emotion Cognition: SAGE Journals*, 3(4), 371-378.  
<https://doi.org/10.1177%2F1754073911410737>

Jackson, J. (2004). Experience and expression: Social and cultural significance in the fear of crime. *British Journal of Criminology*, 44(6), 946-966.  
<https://doi.org/10.1093/bjc/azh048>

Jackson, J. (2009). A psychological perspective on vulnerability in the fear of crime. *Psychology, crime and law*, 15(4), 6-26.  
<https://doi.org/10.1080/10683160802275797>

Jackson, J., & Gouseti, I. (2013). Fear of crime: An entry to the Encyclopedia of Theoretical Criminology. <https://doi.org/10.1002/9781118517390.wbetc130>

Jackson J., & Gouseti I. (2015). Psychological proximity and the construal of crime: A commentary on 'Mapping fear of crime as a context-dependent everyday experience that varies in space and time'. *Legal and Criminological Psychology*, 20, 212–214. <https://doi.org/10.1111/lcrp.12082>

Jackson, J., & Stafford, M. (2009). Public health and fear of crime: A prospective cohort study. *The British Journal of Criminology*, 49(6), 832-847.  
<https://doi.org/10.1093/bjc/azp033>

Jackson, J., Bradford, B., Hohl, K., & Farrall, S. (2009). Does the fear of crime erode public confidence in policing? *Policing: a journal of policy and practice*, 3(1), 100-111. <https://doi.org/10.1093/police/pan079>

James, C. (2017). Carjacking in South Africa: exploring its consequences for victims. *Acta Criminologica: African Journal of Criminology*, 30(2), 147-161.

Jansen, P. (1983). *Rasch analysis of attitudinal data*. Nijmegen, Netherlands: University of Nijmegen.

Jaycox, V. H. (1978). The elderly's fear of crime: Rational or irrational? *Victimology*, 3(1), 329-335.

John Howard Society of Alberta. (1999). *Fear of crime*. <http://www.johnhoward.ab.ca/pub/pdf/C49.pdf>

Joseph, J. (1997). Fear of crime among black elderly. *Journal of Black Studies*, 27(1), 698-717. <https://doi.org/10.1177/002193479702700507>

Kahneman, D., & Krueger, A.B. (2006). Developments in the measurement of subjective well-being. *The Journal of Economic Perspectives*, 20(1), 3-24. <https://doi.org/10.1257/089533006776526030>

Kanan, J. W., & Pruitt, M. V. (2002). Modeling fear of crime and perceived victimization risk: (in) significance of neighborhood integration. *Sociological Inquiry*, 72(1), 527-548. <https://doi.org/10.1111/1475-682X.00033>

Kasperson, R., Renn, O., Slovic, P., Brown, H., Emel, J., Goble, R., Kasperson, J., & Ratick, S. (1988). The social amplification of risk: A conceptual framework. *Risk Analysis*, 8(2), 177-187. <https://doi.org/10.1111/j.1539-6924.1988.tb01168.x>

Kelley, T. L. (1927). *Interpretation of educational measurements*. New York, NY: Macmillan.

Kennedy, L. W., & Silverman, R. A. (1985). Significant others and fear of crime among the elderly. *International Journal of Aging and Human Development*, 20(1), 241-256. <https://doi.org/10.2190/MTL4-GM8M-CUQ8-C0VB>

Killias, M. (1990). Vulnerability: Towards a better understanding of a key variable in the genesis of fear of crime. *Violence and Victims*, 5(1), 97-108. <https://doi.org/10.1891/0886-6708.5.2.97>

Killias, M., & Clerici, C. (2000). Different measures of vulnerability in their relation to different dimensions of fear of crime. *The British Journal of Criminology*, 40(1), 437-450. <https://doi.org/10.1093/bjc/40.3.437>

Kirchhoff, G. F., & Kirchhoff, C. (1984). "Victimological research in Germany: Victim survey and research on sexual victimization". In R. Block, *Victimization and fear of crime: World perspectives* (pp. 57-64). Washington, DC: United States Government Printing Office.

Klama, E. K., & Egan, V. (2011). The Big-Five, sense of control, mental health and fear of crime as contributory factors to attitudes towards punishment. *Personality and Individual Differences*, 51(5), 613-617. <https://doi.org/10.1016/j.paid.2011.05.028>

Knapen, C., & Lichtenberg, B. (1978). Onrustgevoelens bij jonge vrouwen ten aanzien van criminaliteit en het beeld wat ze hebben van verkrachting. [Feelings of fear among young women as related to crime and their image of rape]. *Justitiele Verkenningen*, 9(1), 63-73.

Krulichová, E. (2019). The relationship between fear of crime and risk perception across Europe. *Criminology & Criminal Justice*, 19(2), 197-214. <https://doi.org/10.1177/1748895818757832>

Kury, H., Dormann, U., Richter, H., & Wurger, M. (1992). Opfererfahrungen und Meinungen zur Inneren Sicherheit in Deutschland. Wiesbaden: Bundeskriminalamt. (Victim experience and opinions on internal security in Germany. Wiesbaden: Federal Criminal Police Office.) BKA-Forschungsreihe: Wiesbaden.

- Laerd Statistics. (2018). One way ANOVA in SPSS statistics. Retrieved from <https://statistics.laerd.com/spss-tutorials/one-way-anova-using-spss-statistics.php>
- Lane, J., & Fisher, B. S. (2009). Unpacking the relationship between gender and fear of crime: Explaining why there are similarities and differences. *Journal of Contemporary Criminal Justice*, 25(1), 260-263. <https://doi.org/10.1177/1043986209334986>
- Lavrakas, P. J. (1982). Fear of crime and behavioral restrictions in urban and suburban neighborhoods. *Population and Environment*, 5(1), 242-264. <https://doi.org/10.1007/BF01257073>
- Lavrakas, P. J. (2008). *Encyclopedia of survey research methods*, (1<sup>st</sup> ed.). Thousand Oaks, CA: Sage. <https://doi.org/10.4135/9781412963947>
- Lee, S., Choi, K., Choi, S., & Englander, E. (2019). A test of structural model for fear of crime in social networking sites. *International Journal of Cybersecurity Intelligence & Cybercrime*: 2(2), 5-22. <https://vc.bridgew.edu/ijcic/vol2/iss2/2>
- Leiber, M. J., Nalla, M. K., & Farnworth, M. (1998). Explaining juveniles' attitudes toward the police, *Justice Quarterly*, 15(3). 151-73. <https://doi.org/10.1080/07418829800093671>
- Lerner, J., & Keltner, D. (2001). Fear, anger and risk, *Journal of Personality and Social Psychology*, 81(1). 146-159. <https://doi.org/10.1037/0022-3514.81.1.146>
- Levy, S., & Guttman, L. (1982). "Worry, fear and concern differentiated". In C. Spielberger, I. Sarason & N. Milgram, *Stress and anxiety* (8<sup>th</sup> ed., Vol. 1, pp. 49-62). Washington, DC: Hemisphere.
- Lichtenstein, S., Slovic, P., Fischhoff, B., Layman, M., & Combs, B. (1978). Human learning and memory. *Journal of Experimental Psychology*, 4(6), 551-578. <https://doi.org/10.1037/0278-7393.4.6.551>

Liska, A. E., Lawrence, J. J., & Sanchirico, A. (1982). Fear of crime as a social fact. *Social Forces*, 60(1), 760-770. <https://doi.org/10.2307/2578391>

Lorenc, T., Clayton, S., Neary, D., Whitehead, M., Petticrew, M., Thomson, H., Cummins, S., Sowden, A., & Renton, A. (2013). Fear of crime and the environment: systematic review of UK qualitative evidence, *BMC Public Health*, 13(1), 496. <https://doi.org/10.1186/1471-2458-13-496>

Lumb, R. C. (1996). Community attitudes regarding police responsibility for crime control, *The Police Journal*, 69(1), 319-329. <https://doi.org/10.1177/0032258X9606900407>

MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods*, 1(2), 130-149. <https://doi.org/10.1037/1082-989X.1.2.130>

Maier, S., & DePrince, B. (2020). College students' fear of crime and perception of safety: The influence of personal and university prevention measures. *Journal of Criminal Justice Education*, 31(1), 63-81. <https://doi.org/10.1080/10511253.2019.1656757>

Markowitz, F. E., Bellair, P. E., Liska, A. E., & Liu, J. (2001). Extending social disorganization theory: Modeling the relationships between cohesion, disorder and fear. *Criminology*, 39(1), 293-321. <https://doi.org/10.1111/j.1745-9125.2001.tb00924.x>

Matell M. S., & Jacoby, J. (1971) Is there an optimal number of alternatives for Likert scale items? Study 1: Reliability and validity. *Educational and Psychological Measurements*, 31(1), 657-674. <https://doi.org/10.1177/001316447103100307>

Maxfield, M. (1984). *Fear of crime in England and Wales*. London, UK: Her Majesty's Stationery Office.

Maxfield, M. G. (1984). The limits of vulnerability in explaining fear of crime: A comparative neighborhood analysis. *The Journal of Research in Crime and Delinquency*, 21(1), 233-250. <https://doi.org/10.1177/0022427884021003004>

May, D. C., Vartanian, L. R., & Virgo, K. (2002). The impact of parental attachment and supervision on fear of crime among adolescent males. *Adolescence*, 37(6), 267-289.

McDonald, R. P. (1985). *Factor-analysis and related methods*. Hillsdale, NJ: Erlbaum.

Mesch, G. S. (2000). Perceptions of risk, lifestyle activities, and fear of crime. *Deviant Behavior, An Interdisciplinary Journal*, 21(3), 47-62. <https://doi.org/10.1080/016396200266379>

Mesko, G., Arek, I., & Kury, H. (2004) Testing social-demographic and social psychological models of fear of crime in Slovenia. *Policing in Central and Eastern Europe: Dilemmas of Contemporary Criminal Justice*, 1(1), 1-14.

Michalos, A. C., & Zumbo, B. D. (2000). Criminal victimisation and the quality of life. *Social Indicators Research*, 50(1), 245-295. <https://doi.org/10.1023/A:1006930019814>

Miers, D. (1989). Positivist victimology: A critique. *International Review of Victimology*, 1(1), 3-22. <https://doi.org/10.1177/026975808900100102>

Møller, V. (2005). Resilient or resigned? Criminal victimisation and quality of life in South Africa. *Social Indicators Research*, 72(1), 263-317. <https://doi.org/10.1007/s11205-004-5584-y>

Moore, S. C. (2006). The value of reducing fear: An analysis using the European social survey. *Applied Economics*, 38(1), 115-117. <https://doi.org/10.1080/00036840500368094>

Morgado, F. F. R., Meireles, J. F. F., & Neves, C. M. (2018). Scale development: ten main limitations and recommendations to improve future

research practices. *Psychology: Research and Review*, 30(3),  
<https://doi.org/10.1186/s41155-016-0057-1>

Mueller, U., & Schroettle, M. (2004). *Living situation, safety and health of women in German. A representative study of violence against women in Germany*. Bielefeld: Interdisciplinary Women's Research Center.

Nadal, K., & Davidoff, K. (2015). Perceptions of Police Scale (POPs): Measuring attitudes towards law enforcement and beliefs about police bias, *Journal of Psychology and Behavioural Science*, 3(1), 1-9.  
<https://doi.org/10.15640/jpbs.v3n2a1>

Nevo, B. (1985). Face validity revisited. *Journal of Educational Measurement*, 22(4), 287-293. <https://doi.org/10.1111/j.1745-3984.1985.tb01065.x>

Norris, F. H., & Kaniasty, K. (1994). Psychological distress following criminal victimisation in the general population: Cross-sectional, longitudinal, and prospective analyses. *Journal of Consulting and Clinical Psychology*, 62(1), 111-123. <https://doi.org/10.1037/0022-006X.62.1.111>

Norris, G., Dowell, D., & Basol, M. (2016) Vulnerability and online fraud. <https://ukdataservice.ac.uk/media/604669/norrisbasol.pdf>

Nunnally, J. C. (1978). *Psychometric theory*. New York, NY: McGraw-Hill.

Öhman, A. (2008). Fear and anxiety: Overlaps and dissociations. In M. Lewis, J.M. Haviland-Jones & L.F. Barrett (Eds.), *Handbook of emotions* (pp. 709-728). New York, NY: The Guilford Press.

Oswald, A. J. (1997). Happiness and economic performance. *The Economic Journal*, 107(1), 1815-1831. <https://doi.org/10.1111/j.1468-0297.1997.tb00085.x>

Oswald, A. J., & Powdthavee, N. (2008). Death, happiness, and the calculation of compensatory damages. *Journal of Legal Studies*, 37(1), 217-252.  
<https://doi.org/10.1086/595674>

- Oswald, A. J., & Powdthavee, N. (2008). Does happiness adapt: A longitudinal study of disability with implications for economists and judges. *Journal of Public Economics*, 92(1), 1061-1077. <https://doi.org/10.1016/j.jpubeco.2008.01.002>
- Pantazis, C. (2000). Fear of crime, vulnerability and poverty. *British Journal of Criminology*, 40(1), 414-436. <https://doi.org/10.1093/bjc/40.3.414>
- Pavlovic, Z. (1998). *International victimisation survey 1997*. Ljubljana, Slovenia: Institute of Criminology at the Faculty of Law in Ljubljana.
- Pedersen, P. J., & Schmidt, T. D. (2009). Happiness in Europe: cross-country differences in the determinants of subjective well-being. *Journal of Socioeconomics*, 40(5), 480-489. <https://doi.org/10.1016/j.socec.2010.10.004>
- Perloff, L. S. (1983). Perceptions of vulnerability to victimization. *Journal of Social Issues*, 39, 41-61. <https://doi.org/10.1111/j.1540-4560.1983.tb00140.x>
- Pickett, J. T. (2017). Methodological myths and the role of appeals in criminal justice journals: The case of response rates. *Academy of Criminal Justice Sciences Today*, 41(1), 61-69.
- Pickett, J., Cullen, F., Bushway, S., Chiricos, T., & Alpert, G. (2018). The response rate test: Nonresponse bias and the future of survey research in criminology and criminal justice. *The Criminologist*, 43(1), 7-11. <https://doi.org/10.2139/ssrn.3103018>
- Pleysier, S., Pauwels, L., Vervaeke, G., & Goethals, J. (2005). Temporal invariance in repeated cross-sectional 'fear of crime' research. *International Review of Victimology*, 12(3), 273-292. <https://doi.org/10.1177/026975800501200304>
- Powdthavee, N. (2005). Unhappiness and crime: Evidence from South Africa. *Economica*, 72(1), 531-547. <https://doi.org/10.1111/j.0013-0427.2005.00429.x>

Prieto Curiel, R., & Bishop, S. (2017). Modelling the fear of crime. *Palgrave Communications*, 473(1), 2203. <https://doi.org/10.1098/rspa.2017.0156>

Prieto Curiel, R., & Bishop, S. (2018). Fear of crime: The impact of different distributions of victimisation. *Palgrave Communications*, 4(1), 46. <https://doi.org/10.1057/s41599-018-0094-8>

Prieto Curiel, R., Cresci, S., Muntean, C. I., & Bishop, S. (2020). Crime and its fear in social media. *Palgrave Communications*, 6(1), 57. <https://doi.org/10.1057/s41599-020-0430-7>

Quann, N., & Hung, K. (2002). Victimization experience and the fear of crime: a cross-national study. In P. Nieuwbeerta (Eds.), *Crime victimisation in a comparative perspective. results from the international crime victim survey, 1989-2000* (pp. 301-316). Germany: Nomos.

Reisig, M., & Parks, R. (2004). Can community policing help the truly disadvantaged? *Crime and Delinquency*, 50(1), 139-167. <https://doi.org/10.1177/0011128703253157>

Robinson, J. B., Lawton, B. A., Taylor, R. B., & Perkins, D. D. (2003). Multilevel longitudinal impacts of incivilities: Fear of crime, expected safety, and block satisfaction. *Journal of Quantitative Criminology*, 19(1), 37-274. <https://doi.org/10.1023/A:1024956925170>

Ross, C. E., & Mirowsky, J. (1999). Disorder and decay: The concept and measurement of perceived neighborhood disorder. *Urban Affairs Review*, 34(1), 412-432. <https://doi.org/10.1177/10780879922184004>

Ross, C. E. (1993). Fear of victimisation and health. *Journal of Quantitative Criminology*, 9(1), 159-175. <https://doi.org/10.1007/BF01071166>

Ross, E., & Rasool, S. (2019). 'You go to campus with fear and you come back with fear': University students' experiences of crime. *South African Crime*

*Quarterly*, 68(1), 7-20. <https://doi.org/10.17159/2413-3108/2019/v0n68a4895>

Roszkowski, M. J., & Soven, J. (2010). Shifting gears: Consequences of including two negatively worded items in the middle of a positively worded questionnaire. *Assessment and Evaluation in Higher Education*, 35(1), 113-130. <https://doi.org/10.1080/02602930802618344>

Rountree, P. W. (1998). A Reexamination of the crime-fear linkage. *Journal of Research in Crime and Delinquency*, 35, 341-372. <https://doi.org/10.1177/0022427898035003005>

Rountree, P. W., & Land, K. C. (1996). Perceived risk versus fear of crime: Empirical evidence of conceptually distinct reactions in survey data. *Social Forces*, 74(1), 1353-1376. <https://doi.org/10.2307/2580354>

Russo, S., & Roccatò, M. (2010). How long does victimisation foster fear of crime? A longitudinal study. *Journal of Community Psychology*, 38(1), 960-974. <https://doi.org/10.1002/jcop.20408>

Rusting, C. L., & Larsen, R. J. (1997). Extraversion, neuroticism, and susceptibility to positive and negative affect: A test of two theoretical models. *Personality and Individual Differences*, 22(5), 607-612. [https://doi.org/10.1016/S0191-8869\(96\)00246-2](https://doi.org/10.1016/S0191-8869(96)00246-2)

Sacco, V. F. (1990). Gender, fear, and victimization: A preliminary application of power-control theory. *Sociological Spectrum*, 1, 485-506. <https://doi.org/10.1080/02732173.1990.9981942>

Sampson, R. J., & Raudenbush, S. W. (2004). Seeing disorder: Neighborhood stigma and the social construction of "Broken Windows". *Social Psychology Quarterly*, 67(1), 319-342. <https://doi.org/10.1177/019027250406700401>

Sampson, R. J., Raudenbush, S. W., & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science*, 277(1), 918-924. <https://doi.org/10.1126/science.277.5328.918>

Sanna, L., & Schwartz, N. (2004). Integrating temporal biases the interplay of focal thoughts and accessibility theories. *Psychological Science*, 15(7), 474-481. <https://doi.org/10.1111/j.0956-7976.2004.00704.x>

Saris, W., & Stronkhorst, H. (1984). *Causal modelling in nonexperimental research*. Amsterdam, Netherlands: Sociometric Research Foundation.

Saxbe, D. (2005). *The Fear of Fear Itself*. Psychology Today. <https://www.psychologytoday.com/articles/200511/the-fear-fear-itself>.

Scarborough, B., Like-Haislip, T., Novak, K., Lucas, W., & Alarid, L. (2010). Assessing the relationship between individual characteristics, neighborhood context, and fear of crime. *Journal of Criminal Justice*, 38(1), 819-826. <https://doi.org/10.1016/j.jcrimjus.2010.05.010>

Schafer, J., Huebner, B., & Bynumer, T. (2006). Fear of crime and criminal victimization: Gender-based contrasts. *Journal of Criminal Justice*, 34(1), 285-301. <https://doi.org/10.1016/j.jcrimjus.2006.03.003>

Scheider, M. C., Rowell, T., & Bezdikian, V. (2003). The impact of citizen perceptions of community policing on fear of crime: Findings from twelve cities. *Police Quarterly*, 6(5), 363-386. <https://doi.org/10.1177/1098611102250697>

Scottish Government. (2019). Recorded crime in Scotland: 2018-2019. Retrieved from <https://www.gov.scot/publications/recorded-crime-scotland-2018-19/pages/4/>

Servidio, E., Bocci, G., & Bianchi, V. (2018). (Dis)agreement, polarity and focus: Answering negative polar questions. *Glossa: A Journal of General Linguistics*, 3(1), 3. <https://doi.org/10.5334/gjgl.360>

Shaw, C., & McKay, H. (1942). *Juvenile delinquency and urban areas*. Chicago, IL: University of Chicago Press. <https://doi.org/10.2307/1334446>

Simons, M. (1998). A review of issues concerned with aerial hijacking and terrorism: Implications for Australia's security and the Sydney 2000 Olympics, *Journal of Air, Law & Commerce*, 63(4), 731.

Singer, A. J., Chouhy, C., Lehmann, P. S., Walzak, J. N., Gertz, M., & Biglin, S. (2019). Victimization, fear of crime, and trust in criminal justice institutions: A cross-national analysis. *Crime & Delinquency*, 65(6), 822-844. <https://doi.org/10.1177/0011128718787513>

Skogan, W. (1978). *The fear of crime among the elderly*. United States: Northwestern University.

Skogan, W. (1986). Fear of crime and neighborhood change. *Crime and Justice*, 8(1), 203-229. <https://doi.org/10.1086/449123>

Skogan, W. (2009). Concern about crime and confidence in the police: Reassurance or accountability? *Police Quarterly*, 12(1), 301-318. <https://doi.org/10.1177/1098611109339893>

Skogan, W. G. (1987). Crime and delinquency. *The impact of victimization on fear*, 33(2), 135-154. <https://doi.org/10.1177/0011128787033001008>

Skogan, W. G., & Maxfield, M. G. (1981). *Coping with crime: Individual and neighborhood reactions*. Beverly Hills, CA: Sage.

Skogan, W. G. (1987). The impact of victimisation on fear, crime & delinquency, 33(1), 135-154. <https://doi.org/10.1177/0011128787033001008>

Skogan, W. G. (1993). The various meanings of fear. In W. Bilsky, C. Pfeiffer & P. Wetzels (Eds.), *Fear of Crime and Criminal Victimization* (pp. 131-140). Stuttgart, Germany: Enke.

Slovic, P., & Peters, E. (2006). Risk perception and affect. *Current Directions in Psychological Science*, 15(6), 322-325. <https://doi.org/10.1111/j.1467-8721.2006.00461.x>

Smith, C. P. (Ed.). (1992). *Motivation and personality: Handbook of thematic content analysis*. Cambridge, UK: Cambridge University Press. <https://doi.org/10.1017/CBO9780511527937>

Smith, S. J. (1986). *Crime, space and society*. Cambridge, UK: Cambridge University Press.

Solymosi, R., Buil-Gil, D., Vozmediano, L., & Guedes, I. S. (2020). Towards a Place-based Measure of Fear of Crime: A Systematic Review of App-based and Crowdsourcing Approaches. *Environment and Behavior*. <https://doi.org/10.1177/0013916520947114>

Sorenson, S. B., & Golding, J. M. (1990). Depressive sequelae of recent criminal victimisation. *Journal of Traumatic Stress*, 3(1), 337-350. <https://doi.org/10.1002/jts.2490030303>

Soto, C., & John, O. (2017). The next big five inventory (BFI-2): Developing and assessing a hierarchical model with 15 facets to enhance bandwidth, fidelity, and predictive power. *Journal of Personality and Social Psychology*, 113(1), 117-143. <https://doi.org/10.1037/pspp0000096>

Stafford, M., Chandola, T., & Marmot, M. (2007). Association between fear of crime and mental health and physical functioning. *American Journal of Public Health*, 97(11), 2076-2081. <https://doi.org/10.2105/AJPH.2006.097154>

Stanko, E. (1995). Women, crime, and fear. *Annals of the American Academy of Political and Social Science* 539, 46-58. <https://doi.org/10.1177/0002716295539001004>

Svensson, E. (2001) Construction of a single global scale for multi item assessments of the same variable. *Statistics in medicine*, 20(1), 3831-3846. <https://doi.org/10.1002/sim.1148>

Sylvers, P., Lilienfeld, S., & LaPrarie, J. (2011). Differences between trait fear and trait anxiety: Implications for Psychology. *Clinical psychology*, 31(1), 122-137. <https://doi.org/10.1016/j.cpr.2010.08.004>

Tabachnick, B., & Fidell, L. (2001). *Using Multivariate Statistics* (4<sup>th</sup> ed.). Needham Heights, MA: Allyn & Bacon.

Taylor, R. B. (2002). Fear of crime, social ties, and collective efficacy: Maybe masquerading measurement, maybe deja vu all over again. *Justice Quarterly*, 19(1), 773-792. <https://doi.org/10.1080/07418820200095421>

Torres, S., & Vogel, R. E. (2001). An international journal of police strategies and management. Pre and post-test differences between Vietnamese and Latino residents involved in a community policing experiment: Reducing fear of crime and improving attitudes towards the police. *Oxford Academic: Policing*, 24(1), 40-55. <https://doi.org/10.1108/13639510110382250>

Tseloni, A. (2007). Fear of crime, perceived disorders and property crime: A multivariate analysis at the area level. In G. Farrell, K. Bowers, S.D. Johnson & M. Townsley (Eds.), *Imagination for crime prevention: Essays in honor of Ken Pease. Crime Prevention Studies* (1<sup>st</sup> ed., Vol 21, pp. 163-185). New York, NY: Criminal Justice Press.

Tseloni, A., & Zarafonitou, C. (2008). Fear of crime and victimisation: A multivariate multilevel analysis of competing measurements. *European Journal of Criminology*, 5(1), 387-409. <https://doi.org/10.1177/1477370808095123>

Tyler, T. R., & Rasinski, K. (1984). Comparing psychological images of the social perceiver: Role of perceived informativeness, memorability, and affect in mediating the impact of crime victimization. *Journal of Personality and*

*Social Psychology*, 46(1), 308-329. <https://doi.org/10.1037/0022-3514.46.2.308>

UK Office for National Statistics. (2016). *Crime in England and Wales: Year ending Mar 2016*. Office for National Statistics. <https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/bulletins/crimeinenglandandwales/yearendingmar2016#toc>

van den Wollenberg, A. L. (1973). *The Rasch model and time limit tests*. Nijmegen, Netherlands: University of Nijmegen.

van der Heijden, A. W. M. (1984). Onrustgevoelens in verband met criminaliteit: 1982-1984 [Feelings of fear as related to crime: 1982-1984]. *Maandstatistiek van Politie, Justitie en Brandweer*, 28(1), 8-14.

van der Wurff, A., & Stringer, P. (1988). Measuring fear of crime in residential surroundings. In D. Canter, C. Jesuino, L. Soxzka & G. Stephenson (Eds.), *Environmental social psychology* (pp. 135-148). Nijmegen, Netherlands: Springer. [https://doi.org/10.1007/978-94-009-2802-2\\_12](https://doi.org/10.1007/978-94-009-2802-2_12)

van der Wurff, A., Stringer, P., & Timmer, F. (1986). Feelings of unsafety in residential surroundings. In D. Canter, C. Jesuino, L. Soxzka & G. Stephenson (Eds.), *Environmental social psychology* (pp. 135-148). Nijmegen, Netherlands: Kluwer.

van der Wurff, A., van Staalduinen, L., & Stringer, P. (1989). "Fear of crime in residential environments: Testing a social psychological model". *Journal of Social Psychology*, 129(2), 141-160. <https://doi.org/10.1080/00224545.1989.9711716>

van Dijk, J. J. M. (1978). Public attitudes toward crime in the Netherlands. *Victimology*, 3(1), 265-273.

van Sonderen, E., Sanderman, R., & Coyne, J. C. (2013) Ineffectiveness of reverse wording of questionnaire items: Let's learn from cows in the rain. *PLoS*

8(9). <https://doi.org/10.1371/annotation/af78b324-7b44-4f89-b932-e851fe04a8e5>

Vilalta, C. (2012). Fear of crime and home security systems. *Police Practice and Research*. <https://doi.org/10.1080/15614263.2011.607651>

Vitelli, R., & Endler, N. S. (1993). Psychological determinants of fear of crime: A comparison of general and situational prediction models. *Personality and Individual Differences*, 14(1), 77-85. [https://doi.org/10.1016/0191-8869\(93\)90176-4](https://doi.org/10.1016/0191-8869(93)90176-4)

Ward, R. A., LaGory, M., & Sherman, S. R. (1986). Fear of crime among the elderly as person/environment interaction. *The Sociological Quarterly*, 27(1), 327-341. <https://doi.org/10.1111/j.1533-8525.1986.tb00264.x>

Warr, M. (1984). Fear of victimization: Why are women and the elderly more afraid? *Social Science Quarterly*, 65(2), 681-702.

Warr, M. (1987). Fear of victimization and sensitivity to risk. *Journal of Quantitative Criminology*, 3(1), 29-46. <https://doi.org/10.1007/BF01065199>

Warr, M. (2000). Fear of Crime in the United States: Avenues for research and policy. *Criminal Justice*, 4(1).

Warr, M., & Stafford, M. (1983). Fear of victimization: A look at the proximate causes. *Social Forces*, 61(1), 1033-1043. <https://doi.org/10.2307/2578277>

Watson, D., & Clark, L. A. (1984). Negative affectivity: The disposition to experience aversive emotional states. *Psychological Bulletin*, 96(3), 465-490. <https://doi.org/10.1037/0033-2909.96.3.465>

Weiting, N. (2009). Clarifying the relation between neuroticism and positive emotions. *Personality and Individual Differences*, 47(1), 69-72. <https://doi.org/10.1016/j.paid.2009.01.049>

- Wilcox, P., Jordan, C. E., & Pritchard, A. J. (2007). A multidimensional examination of campus safety: Victimization, perceptions of danger, worry about crime, and precautionary behavior among college women in the post-Clery era. *Crime and Delinquency*, 53(2), 219-254. <https://doi.org/10.1177/0097700405283664>
- Will, J. A., & McGrath, J. H. (1995). Crime, neighborhood perceptions, and the underclass: The relationship between fear of crime and class position. *Journal of Criminal Justice*, 23(1), 163-176. [https://doi.org/10.1016/0047-2352\(95\)00004-A](https://doi.org/10.1016/0047-2352(95)00004-A)
- Williams, H., & Pate, A. (1987). Returning to first principles: Reducing the fear of crime in Newark. *Crime and Delinquency*, 33(1), 53-70. <https://doi.org/10.1177/0011128787033001004>
- Williamson, L., Brown, M., Wathan, J., & Higgins, V. (2013). Analysing the fear of crime using the British Crime Survey. *Economic and social research council*, 1(1), 18.
- Winkel, F. W. (1998). Fear of crime and criminal victimisation: Testing a theory of psychological incapacitation of the 'stressor' based on downward comparison processes. *British Journal of Criminology*, 38(1), 473-484. <https://doi.org/10.1093/oxfordjournals.bjc.a014258>
- Winkel, F. W., Blaauw, E., Sheridan, L., & Baldry, A. C. (2003). Repeat criminal victimization and vulnerability for coping failure: A prospective examination of a potential risk factor, *Journal of Psychology, Crime & Law*, 9(1), 87-95. <https://doi.org/10.1080/10683160308137>
- Woods, C. M. (2006). Careless responding to reverse-worded items: Implications for Confirmatory Factor Analysis. *Journal of Psychopathological Behavioural Assessment*, 28(1), 189-194. <https://doi.org/10.1007/s10862-005-9004-7>

Wyant, B. (2008). Multi-level impacts of perceived incivilities and perceptions of crime risk on fear of crime. *Journal of Research in Crime and Delinquency*, 45(1), 39-64. <https://doi.org/10.1177/0022427807309440>

Wynne, T. (2008). An Investigation into the Fear of Crime: Is there a Link between the Fear of Crime and the Likelihood of Victimization? *Internet Journal of Criminology*, 1(1), 1-7.

Xu, Y., Fiedler, M. L., & Flaming, K. H. (2005). Discovering the impact of community policing: The broken windows thesis, collective efficacy, and citizens' judgment. *Journal of Research in Crime and Delinquency*, 42(1), 147-186. <https://doi.org/10.1177/0022427804266544>

Yeager, D. S., Krosnick, J. A., Chang, L., Javitz, H. S., Levendusky, M. S., Simpser, A., & Wang, R. (2011). Comparing the accuracy of RDD telephone surveys and internet surveys conducted with probability and non-probability samples. *Public Opinion Quarterly*, 75(4), 709-747. <https://doi.org/10.1093/poq/nfr020>

Zhao, J. S., Scheider, M., & Thurman, Q. (2002). The effect of police presence on public fear reduction and satisfaction: A review of the literature. *The Justice Professional*, 15(1), 273-299. <https://doi.org/10.1080/0888431021000049471>

## Appendix

## Chapter 10: Appendices

---

### 10.1 Phase one questionnaire booklet

---

#### Start of Block: Consent

**Q1 Perceptions of Fear of Crime: A General Population Study** Thank you for considering taking part in this study. The purpose of this questionnaire is to explore perceptions of fear of crime among the general population. If you have been the victim of a traumatic crime and/or are under the age of 18, please do not take part in this study. You will be asked to complete an anonymous questionnaire, which should take approximately 10-15 minutes. The questionnaire contains several sections; each contains a number of statements. Additionally, you will be asked to provide a small amount of demographic information (e.g., age, preferred gender). In order to complete the survey, you must complete all sections fully. There are no right or wrong answers and there is no time limit. All information provided will be treated anonymously. If you would like to withdraw from the study, you can do so at any point up to four weeks after taking part. To withdraw, please email the lead researcher quoting the unique ID that you will have the opportunity to create towards the end of the study. The email address of the lead researcher is: [Benjamin.l.hall2@stu.mmu.ac.uk](mailto:Benjamin.l.hall2@stu.mmu.ac.uk) Thank you for taking the time to read this information. Pressing continue below is equivalent to giving your consent to take part:

Continue (1)

#### End of Block: Consent

---

#### Start of Block: Demographic

Q2 Please type your age in the box below:

\_\_\_\_\_

---

Q3 Please select your preferred gender from the options below:

Male (1)

Female (2)

Prefer not to say (3)

---

Q4 Select your self-defined ethnicity from the options below:

- White (1)
  - Black (2)
  - Asian (3)
  - Mixed ethnic background (4)
  - Prefer not to say (5)
  - Other (6)
- 

Q5 Choose your sexual orientation from the options below:

- Heterosexual (1)
  - Homosexual (2)
  - Bisexual (3)
  - Prefer not to say (4)
- 

Q6 What is your current level of income per annum?

- Under 15,000 (1)
  - 15,000-30,000 (2)
  - 30,000-50,000 (3)
  - 75,000-100,000 (4)
  - 100,000 and over (5)
-

Q7 What is the highest level of education that you have achieved?

- High School (1)
  - College/Sixth Form (2)
  - Bachelor's Degree (3)
  - Masters Degree (4)
  - Doctorate (5)
- 

Q8 Household Composition - please select the option from below that most accurately indicates how many people live in your current residency with you:

- 0 (none) (1)
  - 1 (2)
  - 2 (3)
  - 3 (4)
  - 4 (5)
  - 5 (6)
  - 6 (7)
  - more than 6 (8)
-

Q9 Which of the following options best describes where your house is located?

- Small Town (1)
  - Large town (2)
  - City (3)
  - Estate (4)
  - Countryside (5)
  - Suburban Residence (6)
- 

Q10 Which of the following options best describes the house you currently live in?

- Terraced (1)
  - Semi-Detached (2)
  - Detached (3)
  - Cottage (4)
  - Bungalow (5)
  - Flat/Apartment (6)
- 

Q11 How long have you lived in the area you currently live in?

- Less than one year (1)
  - 1-5 years (2)
  - 5-10 years (3)
  - 15-20 years (4)
  - 20 years or more (5)
-

Q12 How would you describe your health within the last twelve months?

- Poor (1)
  - Average (2)
  - Good (3)
  - Excellent (4)
- 

Q13 How would you describe how well you know the people living in your area?

- Not very well (1)
  - Slightly well (2)
  - Moderately well (3)
  - Very well (4)
  - Extremely well (5)
- 

Q14 How often do you partake in some form of hobby that does not take place in your house (e.g., running, attending language classes)?

- Never (1)
- Once every few months (2)
- Once every month (3)
- Once a week (4)
- Multiple times a week (5)

**End of Block: Demographic**

---

**Start of Block: POPS**

**Q15 Perceptions of Police Scale** Please indicate your agreement with the following statements using the response scale from 'strongly disagree' to 'strongly agree'.

	Strongly disagree (1)	Disagree (2)	Neither agree or disagree (3)	Agree (4)	Strongly agree (5)
Police officers are friendly (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Police officers protect me (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Police officers treat all people fairly (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like the police (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The police are good people (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The police do not discriminate (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The police provide safety (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The police are helpful (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The police are trustworthy (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The police are reliable (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Police officers are unbiased (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Police officers care about my community (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**End of Block: POPS**

---

**Start of Block: Block 7**

**Q16 Social/Community Perceptions Scale** Please indicate your agreement with the following statements using the response scale from 'strongly disagree' to 'strongly agree'.

	Strongly disagree (1)	Disagree (2)	Neither agree or disagree (3)	Agree (4)	Strongly agree (5)
I think that people who are up to no good are likely to target me and my possessions. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think that people are jealous of me. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think I'm capable of chasing off a potential assailant. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I generally stay clear of rows/arguments. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I generally trust strangers. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I distrust particular people in my surroundings. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I'm on my way home, I sometimes imagine that someone will obstruct my path. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I have to go out somewhere, I make sure that I take a safe route. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**End of Block: Block 7**

---

**Start of Block: Block 8**

**Q17 Fear of Crime Scale** Rate how fearful you are of each of the following crimes happening to you from 'strongly non fearful' to 'fearful'.

	Strongly non fearful (1)	Not fearful (2)	Neither fearful/non fearful (3)	Fearful (4)	Strongly fearful (5)
My house being broken into. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When parked in an area I am unfamiliar with, my car/vehicle being broken into. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When in an area I am unfamiliar with, someone mugging me. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When in an area I am familiar with, someone mugging me. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sexual assault. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interpersonal assault (ABH or GBH). (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Murder. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Terrorism. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conventional Fraud (e.g., credit card scams). (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Arson. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Damage to property (e.g., personal vehicle). (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Online Fraud  
(e.g., online  
bank Fraud,  
phishing).  
(14)



**End of Block: Block 8**

---

**Start of Block: Fear of crime**

**Q18 Frequency of Fear of Crime Scale** The following section asks you questions about your fear of crime, to determine how frequently you experience it and how fearful you feel.

---

Q19 Question 1. In the past year, have you felt fearful about the possibility of becoming a victim of crime?

- Yes (1)
  - No (2)
  - Do not remember (3)
-

Q20 If you answered 'yes' to the previous question (Question 1), how frequently have you felt this way in the past year?

- 1 occasion (1)
  - 2 occasions (2)
  - 3 occasions (3)
  - 4 occasions (4)
  - 5 occasions (5)
  - 6 occasions (6)
  - 7 occasions (7)
  - 8 occasions (8)
  - 9 occasions (9)
  - 10 occasions (10)
  - More than 10 occasions (11)
- 

Q21 If you answered 'yes' to Question 1, on the last occasion, how fearful did you feel?

- Not very fearful (1)
- A little bit fearful (2)
- Quite fearful (3)
- Very fearful (4)
- Cannot remember (5)

**End of Block: Fear of crime**

---

**Start of Block: Block 6**

Q22 The ethics committee requires that you are given the opportunity to withdraw from this study up to four weeks after taking part. Please create a unique code below

(and make a note of this). If you would like to withdraw, contact the lead researcher with this unique code at [Benjamin.l.hall2@stu.mmu.ac.uk](mailto:Benjamin.l.hall2@stu.mmu.ac.uk)  
Create your unique code in the box below (optional):

---

---

Page Break

---

Q23 You have just taken part in a survey exploring perceptions of fear of crime among the general population. Thank you for taking part in this study. The information you have provided will be treated anonymously. If you would like to withdraw your data, please email the lead researcher (at [Benjami.l.hall2@stu.mmu.ac.uk](mailto:Benjami.l.hall2@stu.mmu.ac.uk)) with your unique code that you created previously. The final button on this page will submit your answers. If for any reason you have experienced any difficulties as a result of taking part, contact details of appropriate support are provided below: [jo@samaritans.co.uk](mailto:jo@samaritans.co.uk)

**End of Block: Block 6**

---

## 10.2 Phase two questionnaire booklet

---

### Start of Block: Consent

**Q1 Perceptions of Fear of Crime: A General Population Study** Thank you for considering taking part in this study. The purpose of this questionnaire is to explore perceptions of fear of crime among the general population. If you have been the victim of a traumatic crime and/or are under the age of 18, please do not take part in this study. You will be asked to complete an anonymous questionnaire, which should take approximately 10-15 minutes. The questionnaire contains several sections; each contains a number of statements. Additionally, you will be asked to provide a small amount of demographic information (e.g., age, preferred gender). In order to complete the survey, you must complete all sections fully. There are no right or wrong answers and there is no time limit. All information provided will be treated anonymously. If you would like to withdraw from the study, you can do so at any point up to four weeks after taking part. To withdraw, please email the lead researcher quoting the unique ID that you will have the opportunity to create towards the end of the study. The email address of the lead researcher is: [Benjamin.l.hall2@stu.mmu.ac.uk](mailto:Benjamin.l.hall2@stu.mmu.ac.uk) Thank you for taking the time to read this information. Pressing continue below is equivalent to giving your consent to take part:

Continue (1)

### End of Block: Consent

---

### Start of Block: Block 9

Q14 Please type your age in the box below:

\_\_\_\_\_

---

Q16 Please select your preferred gender from the options below:

Male (1)

Female (2)

Prefer not to say (3)

---

Q18 Select your self-defined ethnicity from the options below:

- White (1)
  - Black (2)
  - Asian (3)
  - Mixed ethnic background (4)
  - Prefer not to say (5)
  - Other (6)
- 

Q20 I Live in the UK

- Yes (1)
  - No (2)
- 

Q22 What is your usual place of residence?

- Major city (1)
  - Minor city (2)
  - Major town (3)
  - Small town (4)
  - Isolated property or village (5)
- 

Q24 Are you currently a student?

- Yes (1)
  - No (2)
-

Q38 If you answered "Yes" to the previous question, at what academic level do you study?

Undergraduate (1)

Postgraduate (2)

---

Q39 What course are you currently enrolled on?

\_\_\_\_\_

---

Q40 Do you work at a job whilst studying?

Yes (4)

No (5)

---

Q41 If you are not a student, what is your occupation?

\_\_\_\_\_

**End of Block: Block 9**

---

**Start of Block: Block 10**

Q43 Different types of crime are listed in the following. Please state if such a crime in the UK, in your opinion, has decreased, stayed the same or increased over the last ten years, that is, between 2008 and 2018.

---

Q42 Crimes in total

- Has become much rarer (1)
  - Has become rarer (2)
  - Has become slightly rarer (3)
  - Has remained the same (4)
  - Has become somewhat more frequent (5)
  - Has become more frequent (6)
  - Has become much more frequent (7)
- 

Q44 Burglary

- Has become much rarer (1)
  - Has become rarer (2)
  - Has become slightly rarer (3)
  - Has remained the same (4)
  - Has become somewhat more frequent (5)
  - Has become more frequent (6)
  - Has become much more frequent (7)
-

Q45 Theft in total

- Has become much rarer (1)
  - Has become rarer (2)
  - Has become slightly rarer (3)
  - Has remained the same (4)
  - Has become somewhat more frequent (5)
  - Has become more frequent (6)
  - Has become much more frequent (7)
- 

Q46 Assault

- Has become much rarer (1)
  - Has become rarer (2)
  - Has become slightly rarer (3)
  - Has remained the same (4)
  - Has become somewhat more frequent (5)
  - Has become more frequent (6)
  - Has become much more frequent (7)
-

Q36 To protect themselves from crime in everyday life, people often take certain precautions. Please state how often you take the precautions named.

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
I leave the house only if necessary (1)	<input type="radio"/>				
I avoid certain streets, parks or places (2)	<input type="radio"/>				
I avoid strangers I encounter during darkness if possible (3)	<input type="radio"/>				
I avoid using public transport at night (4)	<input type="radio"/>				
I avoid carrying a lot of money with me (5)	<input type="radio"/>				
I take care that my home does not look unoccupied during my absence (6)	<input type="radio"/>				
I carry irritant gas, a knife or another weapon with me for self defence (7)	<input type="radio"/>				
I additionally secure my home when absent, for example by applying an extra bolt or turning on an alarm system (8)	<input type="radio"/>				

---

Q37 If you think about yourself; how often do you have the following worries? I'm afraid that...

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
My home may be broken into (1)	<input type="radio"/>				
I will have something stolen from me in some way (2)	<input type="radio"/>				
I will be hit or hurt (3)	<input type="radio"/>				
I will be robbed (4)	<input type="radio"/>				
I will be sexually abused, molested or raped (5)	<input type="radio"/>				
I may be killed in an act of violence (6)	<input type="radio"/>				

---

Q39 How likely is it, in your opinion, that these things might happen to you personally in the next twelve months?

	Very unlikely (2)	Unlikely (3)	Less likely (4)	Likely (5)	Very likely (6)
My home may be broken into (1)	<input type="radio"/>				
I will have something stolen from me in some way (2)	<input type="radio"/>				
I will be hit or hurt (3)	<input type="radio"/>				
I will be robbed (4)	<input type="radio"/>				
I will be sexually assaulted, molested or raped (5)	<input type="radio"/>				
I may be killed in an act of violence (6)	<input type="radio"/>				

**End of Block: Block 10**

**Start of Block: Block 13**

Q40 Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others.

Please rate how strongly you personally agree with the following. I am someone who...

	Disagree strongly (1)	Disagree a little (2)	Neutral; no opinion (3)	Agree a little (4)	Agree strongly (5)
Tends to be quiet (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is compassionate (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tends to be disorganised (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worries a lot (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is fascinated by art, music or literature (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is dominant, acts as a leader (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is sometimes rude to others (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has difficulty starting on tasks (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tends to feel depressed or blue (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has little interest in abstract ideas (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is full of energy (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assumes the best about people (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is reliable and can always be counted on (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Is emotionally  
stable and not  
easily upset  
(14)

Is original and  
comes up with  
new ideas (15)

**End of Block: Block 13**

---

**Start of Block: Block 7**

**Q16 Social/Community Perceptions Scale** Please indicate your agreement with the following statements using the response scale from 'strongly disagree' to 'strongly agree'.

	Strongly disagree (1)	Disagree (2)	Neither agree or disagree (3)	Agree (4)	Strongly agree (5)
I think that people who are up to no good are likely to target me and my possessions. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think that people are jealous of me. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think I'm capable of chasing off a potential assailant. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I generally stay clear of rows/arguments. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I generally trust strangers. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I distrust particular people in my surroundings. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I'm on my way home, I sometimes imagine that someone will obstruct my path. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I have to go out somewhere, I make sure that I take a safe route. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No one could take my possessions if they tried. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Due to a lack of power I am apprehensive around strangers. (10)	<input type="radio"/>				
I am able to handle any threatening situation that may arise. (11)	<input type="radio"/>				
I feel able to protect myself from threats posed by strangers. (12)	<input type="radio"/>				
Due to a lack of self-assurance the presence of others makes me feel vulnerable. (13)	<input type="radio"/>				
I am confident my personal possessions are safe. (14)	<input type="radio"/>				
I check my pockets when I am out because I lack control. (15)	<input type="radio"/>				
I would leave my wallet in the open at work (16)	<input type="radio"/>				
I generally feel safe and in control. (17)	<input type="radio"/>				
I am confident that my property is secure. (18)	<input type="radio"/>				
I am able to deal with strangers effectively. (19)	<input type="radio"/>				

I am not worried by the thought of visiting new areas because I know I am able to handle novel situations. (20)

I believe I am capable of protecting myself from external threat. (21)

I feel vulnerable to crime. (22)

**End of Block: Block 7**

---

**Start of Block: Block 6**

Q34

Please indicate your agreement with the following statements using the response scale from 'strongly disagree' to 'strongly agree'.

	Strongly disagree (1)	Disagree (2)	Neither agree or disagree (3)	Agree (4)	Strongly agree (5)
Most people have criminal intentions. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel people have bad intentions towards me. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People will do anything to get what they want. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People will generally do things they feel they can get away with. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People are bad natured. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People today are less trustworthy. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are many criminals within society. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Due to the criminal intent of others I do not feel my property is secure. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Criminals place my personal safety at risk. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I am  
suspicious of  
people's  
intentions.  
(10)

People are  
generally  
manipulative.  
(11)

The world is a  
threatening  
place, full of  
criminal  
wrongdoing.  
(12)

Unfamiliar  
people pose a  
risk to my  
personal  
safety. (13)

**End of Block: Block 6**

---

**Start of Block: Block 7**

Q36 Please indicate your agreement with the following statements using the response scale from 'strongly disagree' to 'strongly agree'.

	Strongly disagree (1)	Disagree (2)	Neither agree or disagree (3)	Agree (4)	Strongly agree (5)
People often desire others' new possessions. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My treasured personal possessions are highly attractive to criminals. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My costly belongings are targeted by others. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Socially desirable items are more likely to be targeted by criminals (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am often the victim of jealousy from strangers (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As an items value increases so does risk of theft. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My personal effects (i.e., mobile telephone, wallet) are desirable to criminals generally. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Socially desirable belongings are more at risk. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

People with obvious wealth are targeted by criminals. (9)

The better I dress the more at risk from crime I am. (10)

Expensive jewellery is highly desirable to criminals . (11)

The more I value an item the greater the threat of theft. (12)

Popular items are more likely to be targeted by criminals (13)

My valuable property attracts the inappropriate attention of others. (14)

Rare possessions are highly attractive to strangers (15)

**End of Block: Block 7**

---

**Start of Block: Block 8**

Q38 Please indicate your agreement with the following statements using the response scale from 'strongly disagree' to 'strongly agree'.

	Strongly disagree (1)	Disagree (2)	Neither agree or disagree (3)	Agree (4)	Strongly agree (5)
I feel vulnerable to crime when visiting unfamiliar inner city locations. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When travelling alone at night I worry for my personal safety. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am mindful of security at work. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am cautious of wrongdoing when walking down the high street. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
On public transport I am concerned about the threat of strangers. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I worry about the safety of my possessions when not at home. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
New places are a constant source of criminal threat. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am at home alone I am fearful of unexpected callers. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In public places I fear for the safety of my possessions. (9)

Late at night I feel vulnerable to criminals. (10)

Novel situations, such as visiting new cities make me feel at risk from crime. (11)

Youths on street corners are often up to no good. (12)

Certain locations should be avoided because they are associated with high levels of crime. (13)

When I go to sleep at night I am fearful of someone breaking in. (14)

**End of Block: Block 8**

**Start of Block: Block 8**

**Q17 Fear of Crime Scale** Rate how fearful you are of each of the following crimes happening to you from 'strongly non fearful' to 'fearful'.

	Strongly non fearful (1)	Not fearful (2)	Neither fearful/non fearful (3)	Fearful (4)	Strongly fearful (5)
My house being broken into. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When parked in an area I am unfamiliar with, my car/vehicle being broken into. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When in an area I am unfamiliar with, someone mugging me. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When in an area I am familiar with, someone mugging me. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sexual assault. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interpersonal assault (ABH or GBH). (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Murder. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Terrorism. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conventional Fraud (e.g., credit card scams). (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Arson. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Damage to property (e.g., personal vehicle). (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Online Fraud  
(e.g., online  
bank Fraud,  
phishing).  
(14)



---

**End of Block: Block 8**

**Start of Block: Fear of crime**

**Q18 Frequency of Fear of Crime Scale** The following section asks you questions about your fear of crime, to determine how frequently you experience it and how fearful you feel.

---

Q19 Question 1. In the past year, have you felt fearful about the possibility of becoming a victim of crime?

- Yes (1)
  - No (2)
  - Do not remember (3)
-

Q20 If you answered 'yes' to the previous question (Question 1), how frequently have you felt this way in the past year?

- 1 occasion (1)
  - 2 occasions (2)
  - 3 occasions (3)
  - 4 occasions (4)
  - 5 occasions (5)
  - 6 occasions (6)
  - 7 occasions (7)
  - 8 occasions (8)
  - 9 occasions (9)
  - 10 occasions (10)
  - More than 10 occasions (11)
- 

Q21 If you answered 'yes' to Question 1, on the last occasion, how fearful did you feel?

- Not very fearful (1)
- A little bit fearful (2)
- Quite fearful (3)
- Very fearful (4)
- Cannot remember (5)

**End of Block: Fear of crime**

---

**Start of Block: Block 6**

Q22 The ethics committee requires that you are given the opportunity to withdraw from this study up to four weeks after taking part. Please create a unique code below

(and make a note of this). If you would like to withdraw, contact the lead researcher with this unique code at [Benjamin.l.hall2@stu.mmu.ac.uk](mailto:Benjamin.l.hall2@stu.mmu.ac.uk)  
Create your unique code in the box below (optional):

---

---

Page Break

---

Q23 You have just taken part in a survey exploring perceptions of fear of crime among the general population. Thank you for taking part in this study. The information you have provided will be treated anonymously. If you would like to withdraw your data, please email the lead researcher (at [Benjami.l.hall2@stu.mmu.ac.uk](mailto:Benjami.l.hall2@stu.mmu.ac.uk)) with your unique code that you created previously. The final button on this page will submit your answers. If for any reason you have experienced any difficulties as a result of taking part, contact details of appropriate support are provided below: [jo@samaritans.co.uk](mailto:jo@samaritans.co.uk)

**End of Block: Block 6**

---

## 10.3 Phase three questionnaire booklet

---

### Start of Block: Consent

**Q1 Perceptions of Fear of Crime: A General Population Study** Thank you for considering taking part in this study. The purpose of this questionnaire is to explore perceptions of fear of crime among the general population. If you have been the victim of a traumatic crime and/or are under the age of 18, please do not take part in this study. You will be asked to complete an anonymous questionnaire, which should take approximately 10-15 minutes. The questionnaire contains several sections; each contains a number of statements. Additionally, you will be asked to provide a small amount of demographic information (e.g., age, preferred gender). In order to complete the survey, you must complete all sections fully. There are no right or wrong answers and there is no time limit. All information provided will be treated anonymously. If you would like to withdraw from the study, you can do so at any point up to four weeks after taking part. To withdraw, please email the lead researcher quoting the unique ID that you will have the opportunity to create towards the end of the study. The email address of the lead researcher is: [Benjamin.l.hall2@stu.mmu.ac.uk](mailto:Benjamin.l.hall2@stu.mmu.ac.uk) Thank you for taking the time to read this information. Pressing continue below is equivalent to giving your consent to take part:

Continue (1)

### End of Block: Consent

---

### Start of Block: Block 9

Q14 Please type your age in the box below:

\_\_\_\_\_

---

Q16 Please select your preferred gender from the options below:

Male (1)

Female (2)

Prefer not to say (3)

---

Q18 Select your self-defined ethnicity from the options below:

- White (1)
  - Black (2)
  - Asian (3)
  - Mixed ethnic background (4)
  - Prefer not to say (5)
  - Other (6)
- 

Q20 I Live in the UK

- Yes (1)
  - No (2)
- 

Q22 What is your usual place of residence?

- Major city (1)
  - Minor city (2)
  - Major town (3)
  - Small town (4)
  - Isolated property or village (5)
- 

Q24 Are you currently a student?

- Yes (1)
  - No (6)
-

Q38 If you answered "Yes" to the previous question, at what academic level do you study?

Undergraduate (1)

Postgraduate (2)

---

Q39 What course are you currently enrolled on?

\_\_\_\_\_

---

Q40 Do you work at a job whilst studying?

Yes (4)

No (5)

---

Q41 If you are not a student, what is your occupation?

\_\_\_\_\_

**End of Block: Block 9**

---

**Start of Block: Block 10**

Q43 Different types of crime are listed in the following. Please state if such a crime in the UK, in your opinion, has decreased, stayed the same or increased over the last ten years, that is, between 2008 and 2018.

---

Q42 Crimes in total

- Has become much rarer (1)
  - Has become rarer (2)
  - Has become slightly rarer (3)
  - Has remained the same (4)
  - Has become somewhat more frequent (5)
  - Has become more frequent (6)
  - Has become much more frequent (7)
- 

Q44 Burglary

- Has become much rarer (1)
  - Has become rarer (2)
  - Has become slightly rarer (3)
  - Has remained the same (4)
  - Has become somewhat more frequent (5)
  - Has become more frequent (6)
  - Has become much more frequent (7)
-

Q45 Theft in total

- Has become much rarer (1)
  - Has become rarer (2)
  - Has become slightly rarer (3)
  - Has remained the same (4)
  - Has become somewhat more frequent (5)
  - Has become more frequent (6)
  - Has become much more frequent (7)
- 

Q46 Assault

- Has become much rarer (1)
  - Has become rarer (2)
  - Has become slightly rarer (3)
  - Has remained the same (4)
  - Has become somewhat more frequent (5)
  - Has become more frequent (6)
  - Has become much more frequent (7)
-

Q36 To protect themselves from crime in everyday life, people often take certain precautions. Please state how often you take the precautions named.

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
I leave the house only if necessary (1)	<input type="radio"/>				
I avoid certain streets, parks or places (2)	<input type="radio"/>				
I avoid strangers I encounter during darkness if possible (3)	<input type="radio"/>				
I avoid using public transport at night (4)	<input type="radio"/>				
I avoid carrying a lot of money with me (5)	<input type="radio"/>				
I take care that my home does not look unoccupied during my absence (6)	<input type="radio"/>				
I carry irritant gas, a knife or another weapon with me for self defence (7)	<input type="radio"/>				
I additionally secure my home when absent, for example by applying an extra bolt or turning on an alarm system (8)	<input type="radio"/>				

Q37 If you think about yourself; how often do you have the following worries? I'm afraid that...

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
My home may be broken into (1)	<input type="radio"/>				
I will have something stolen from me in some way (2)	<input type="radio"/>				
I will be hit or hurt (3)	<input type="radio"/>				
I will be robbed (4)	<input type="radio"/>				
I will be sexually abused, molested or raped (5)	<input type="radio"/>				
I may be killed in an act of violence (6)	<input type="radio"/>				

Q39 How likely is it, in your opinion, that these things might happen to you personally in the next twelve months?

	Very unlikely (2)	Unlikely (3)	Less likely (4)	Likely (5)	Very likely (6)
My home may be broken into (1)	<input type="radio"/>				
I will have something stolen from me in some way (2)	<input type="radio"/>				
I will be hit or hurt (3)	<input type="radio"/>				
I will be robbed (4)	<input type="radio"/>				
I will be sexually assaulted, molested or raped (5)	<input type="radio"/>				
I may be killed in an act of violence (6)	<input type="radio"/>				

**End of Block: Block 10**

**Start of Block: Block 7**

**Q16 Social/Community Perceptions Scale** Please indicate your agreement with the following statements using the response scale from 'strongly disagree' to 'strongly agree'.

	Strongly disagree (1)	Disagree (2)	Neither agree or disagree (3)	Agree (4)	Strongly agree (5)
When I am at home alone I am fearful of unexpected callers. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I go to sleep at night I am fearful of someone breaking in. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In public places I fear for the safety of my possessions. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I generally feel safe and in control. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel vulnerable to crime. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Novel situations, such as visiting new cities make me feel at risk from crime (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Due to the criminal intent of others I do not feel my property is secure. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I worry about the safety of my possessions when not at home. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On public transport I am concerned about the threat of strangers. (9)

New places are a constant source of criminal threat. (10)

I am cautious of wrongdoing when walking down the high street. (11)

I check my pockets when I am out because I lack control. (12)

Late at night I feel vulnerable to criminals. (13)

I am not worried by the thought of visiting new areas because I know I am able to handle novel situations. (14)

I am confident that my property is secure. (15)

Due to a lack of self-assurance the presence of others makes me feel vulnerable. (16)

**End of Block: Block 7**

---

**Start of Block: Block 6**

Q34

Please indicate your agreement with the following statements using the response scale from 'strongly disagree' to 'strongly agree'.

	Strongly disagree (1)	Disagree (2)	Neither agree or disagree (3)	Agree (4)	Strongly agree (5)
People will generally do things they feel they can get away with. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People are generally manipulative. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People will do anything to get what they want. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People are bad natured. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People today are less trustworthy. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am suspicious of people's intentions. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The world is a threatening place, full of criminal wrongdoing. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are many criminals within society. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**End of Block: Block 6**

---

**Start of Block: Block 7**

Q36 Please indicate your agreement with the following statements using the response scale from 'strongly disagree' to 'strongly agree'.

	Strongly disagree (1)	Disagree (2)	Neither agree or disagree (3)	Agree (4)	Strongly agree (5)
Expensive jewellery is highly desirable to criminals (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As an items value increases so does risk of theft. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People with obvious wealth are targeted by criminals. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Popular items are more likely to be targeted by criminals (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Socially desirable belongings are more at risk. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rare possessions are highly attractive to strangers (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My personal effects (i.e., mobile telephone, wallet) are desirable to criminals generally. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not wear branded items because they attract criminals. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<p>I would not leave valuable items in a shared space. (9)</p>	<input type="radio"/>				
<p>My precious possessions are at risk of theft. (10)</p>	<input type="radio"/>				
<p>New items are targeted by thieves. (11)</p>	<input type="radio"/>				
<p>Affluent areas and people are targeted by criminals. (12)</p>	<input type="radio"/>				
<p>My personally valuable possessions are especially attractive to wrongdoers. (13)</p>	<input type="radio"/>				
<p>I do not buy expensive items because they are likely to be stolen. (14)</p>	<input type="radio"/>				
<p>Purchasing costly items increases the likelihood I will become a victim of crime. (15)</p>	<input type="radio"/>				

**End of Block: Block 7**

**Start of Block: Block 11**

Q42 Please indicate your agreement with the following statements using the response scale from 'strongly disagree' to 'strongly agree'.

	Strongly disagree (1)	Disagree (2)	Neither agree or disagree (3)	Agree (4)	Strongly agree (5)
I am not fearful of criminals as they pose no threat to my property. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am not fearful of criminals as they pose no threat to me physically. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to protect my personal possessions from criminals. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to protect my personal effects from criminals. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to physically protect myself from criminals. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not feel that I would be able to defend myself from wrongdoers. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to resist the intentions of criminals. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident in my ability to defend myself from criminal attack. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I am not able to protect myself from criminals. (9)	<input type="radio"/>				
If my home is occupied it is protected from criminals (10)	<input type="radio"/>				
Criminals could easily take my property. (11)	<input type="radio"/>				
I am confident in my ability to protect my property. (12)	<input type="radio"/>				
I am prepared to deal with criminal intent. (13)	<input type="radio"/>				
I do not feel threatened by the prospect of being attacked. (14)	<input type="radio"/>				
I do not feel threatened by the prospect of being robbed. (15)	<input type="radio"/>				
No one could take my possessions if they tried. (16)	<input type="radio"/>				
I am able to handle any threatening situation that may arise. (17)	<input type="radio"/>				
I am often the victim of jealousy from strangers (18)	<input type="radio"/>				

**End of Block: Block 11**

---

**Start of Block: Block 11**

**Q43 Original SOCOM Scale** Please indicate your agreement with the following statements using the response scale from 'strongly disagree' to 'strongly agree'.

	Strongly disagree (1)	Disagree (2)	Neither agree or disagree (3)	Agree (4)	Strongly agree (5)
I think that people who are up to no good are likely to target me and my possessions. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think that people are jealous of me. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think I'm capable of chasing off a potential assailant. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I generally stay clear of rows/arguments. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I generally trust strangers. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I distrust particular people in my surroundings. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I'm on my way home, I sometimes imagine that someone will obstruct my path. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I have to go out somewhere, I make sure that I take a safe route. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**End of Block: Block 11**

---

**Start of Block: Block 8**

**Q17 Fear of Crime Scale** Rate how fearful you are of each of the following crimes happening to you from 'strongly non fearful' to 'fearful'.

	Strongly non fearful (1)	Not fearful (2)	Neither fearful/non fearful (3)	Fearful (4)	Strongly fearful (5)
My house being broken into. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When parked in an area I am unfamiliar with, my car/vehicle being broken into. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When in an area I am unfamiliar with, someone mugging me. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When in an area I am familiar with, someone mugging me. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sexual assault. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interpersonal assault (ABH or GBH). (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Murder. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Terrorism. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conventional Fraud (e.g., credit card scams). (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Arson. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Damage to property (e.g., personal vehicle). (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Online Fraud  
(e.g., online  
bank Fraud,  
phishing).  
(14)



---

**End of Block: Block 8**

**Start of Block: Fear of crime**

**Q18 Frequency of Fear of Crime Scale** The following section asks you questions about your fear of crime, to determine how frequently you experience it and how fearful you feel.

---

Q19 Question 1. In the past year, have you felt fearful about the possibility of becoming a victim of crime?

- Yes (1)
  - No (2)
  - Do not remember (3)
-

Q20 If you answered 'yes' to the previous question (Question 1), how frequently have you felt this way in the past year?

- 1 occasion (1)
  - 2 occasions (2)
  - 3 occasions (3)
  - 4 occasions (4)
  - 5 occasions (5)
  - 6 occasions (6)
  - 7 occasions (7)
  - 8 occasions (8)
  - 9 occasions (9)
  - 10 occasions (10)
  - More than 10 occasions (11)
- 

Q21 If you answered 'yes' to Question 1, on the last occasion, how fearful did you feel?

- Not very fearful (1)
- A little bit fearful (2)
- Quite fearful (3)
- Very fearful (4)
- Cannot remember (5)

**End of Block: Fear of crime**

---

**Start of Block: Block 6**

Q22 The ethics committee requires that you are given the opportunity to withdraw from this study up to four weeks after taking part. Please create a unique code below

(and make a note of this). If you would like to withdraw, contact the lead researcher with this unique code at [Benjamin.l.hall2@stu.mmu.ac.uk](mailto:Benjamin.l.hall2@stu.mmu.ac.uk)  
Create your unique code in the box below (optional):

---

---

Page Break

---

Q23 You have just taken part in a survey exploring perceptions of fear of crime among the general population. Thank you for taking part in this study. The information you have provided will be treated anonymously. If you would like to withdraw your data, please email the lead researcher (at [Benjamin.l.hall2@stu.mmu.ac.uk](mailto:Benjamin.l.hall2@stu.mmu.ac.uk)) with your unique code that you created previously. The final button on this page will submit your answers. If for any reason you have experienced any difficulties as a result of taking part, contact details of appropriate support are provided below: [jo@samaritans.co.uk](mailto:jo@samaritans.co.uk)

**End of Block: Block 6**

---

## 10.4 National Crime Survey of England and Wales - Violent offences

### England and Wales

---

Offence group<sup>1</sup>

---

#### **VIOLENCE<sup>2</sup>**

Violence with injury

    Wounding

    Assault with minor injury

Violence without injury

    Domestic violence

    Acquaintance

    Stranger

#### **ROBBERY**

#### **THEFT OFFENCES<sup>3</sup>**

**Theft from the person**

**Other theft of personal property**

## 10.5 National Crime Survey of England and Wales - Sexual assault

**Any domestic abuse (partner or family non-physical abuse, threats, force, sexual assault or stalking)**

**Any partner abuse (non-physical abuse, threats, force, sexual assault or stalking)**

**Any family abuse (non-physical abuse, threats, force, sexual assault or stalking)**

### **Partner abuse - non-sexual**

Non-physical abuse (emotional, financial)

Threats or force

Threats

Force

### **Family abuse - non-sexual**

Non-physical abuse (emotional, financial)

Threats or force

Threats

Force

### **Any sexual assault (including attempts)**

Serious sexual assault including attempts

Serious sexual assault excluding attempts

- Rape including attempts

- Rape excluding attempts

- Assault by penetration including attempts

- Assault by penetration excluding attempts

Less serious sexual assault

Any sexual assault (including attempts) by a partner

Serious sexual assault (including attempts) by a partner

Less serious sexual assault by a partner

## **10.6 National Crime Survey of England and Wales - Damage to personal property**

### **Domestic burglary**

Domestic burglary in a dwelling

Domestic burglary in a non-connected building to a dwelling

### **Other household theft**

### **Vehicle-related theft**

### **Bicycle theft**

### **CRIMINAL DAMAGE AND ARSON**

Criminal damage to a vehicle

Arson and other criminal damage

## 10.7 National Crime Survey of England and Wales - Fraud

### FRAUD AND COMPUTER MISUSE<sup>4</sup>

#### Fraud<sup>4,5</sup>

Bank and credit account fraud  
Consumer and retail fraud  
All other fraud<sup>6</sup>

Cyber<sup>7</sup>  
Non-cyber<sup>8</sup>

#### Computer misuse<sup>4</sup>

Computer virus  
Unauthorised access to personal information (including hacking)

## 10.8 Peripheral analyses – Phase One

### *Frequency and intensity of fearfulness scale*

A series of Pearson's correlations were run on these data to investigate the relationships between the Fear of Crime Scale scores and the Intensity and Frequency of fear of crime questions from Farrall and Gadd (2004).

First was the frequency and intensity questions  $r(186) = .33, p < .001$ . This finding suggests that those who were fearful more frequently were also likely to report a higher level of fearfulness on the last occasion they were fearful.

For the frequency of fear of crime question  $r(186) = .24, p < .001$ , suggesting that those who scored higher on the Fear of Crime Scale were more likely to be fearful of crime more frequently.

For the intensity of fear of crime question  $r(186) = .37, p < .001$ , suggesting that individuals who scored highly for fear of crime on the Fear of Crime Scale felt a more intense fear of crime than those who indicated they were less fearful.

### ***Perceptions of police scale***

In order to assess the relationships of police perception with fear of personal victimisation, the (2) subscales suggested by Nadal et al. (2015) (Police confidence, 9 items; Police bias, 3 items) were placed into a set of Pearson's correlations with the subscales of the Fear of Crime Scale.

**Table 7.** *Pearson's correlations to examine the relationships between the POPS and fear of personal victimisation*

	Police confidence	Police bias
Fear of crime total	-.11*	-.16*
Violence	-.16*	-.21**
Damage to Personal Property	-.05	-.10
Fraud	-.02	-.06

Note: \*\*Correlation is significant at  $p < .001$  level (2-tailed)

\*Correlation is significant at  $p < .05$  level (2-tailed)

## 10.9 Items generated for phase two

---

### **“Power” (Self assurance and control in the face of potential threat - self vs. other)**

No one could take my possessions if they tried.  
Due to a lack of power I am apprehensive around strangers.  
I am able to handle any threatening situation that may arise.  
I feel able to protect myself from threats posed by strangers.  
Due to a lack of self-assurance the presence of others makes me feel vulnerable.  
I am confident my personal possessions are safe.  
I check my pockets when I am out because I lack control.  
I would leave my wallet in the open at work  
I generally feel safe and in control.  
I am confident that my property is secure.  
I am able to deal with strangers effectively.  
I am not worried by the thought of visiting new areas because I know I am able to handle novel situations.  
I believe I am capable of protecting myself from external threat.  
I feel vulnerable to crime.  
I think I'm capable of chasing off a potential assailant.  
I generally stay clear of rows/arguments.

### **“Evil Intent” (Wrong doers roles - attribution of criminal intentions)**

Most people have criminal intentions.  
I feel people have bad intentions towards me.  
People will do anything to get what they want.  
People will generally do things they feel they can get away with.  
People are bad natured.  
People today are less trustworthy.  
There are many criminals within society.  
Due to the criminal intent of others I do not feel my property is secure.  
Criminals place my personal safety at risk.  
I am suspicious of people's intentions.  
People are generally manipulative.  
The world is a threatening place, full of criminal wrongdoing.  
Unfamiliar people pose a risk to my personal safety.  
I generally trust strangers.  
I distrust particular people in my surroundings.

### **“Attractivity” (Attractive to criminals -self or possessions)**

People often desire others new possessions.  
My treasured personal possessions are highly attractive to criminals.  
My costly belongings are targeted by others.  
Socially desirable items are more likely to be targeted by criminals  
I am often the victim of jealousy from strangers  
As an item's value increases so does risk of theft.  
My personal effects (i.e., mobile telephone, wallet) are desirable to criminals generally.  
Socially desirable belongings are more at risk.

---

---

People with obvious wealth are targeted by criminals.  
The better I dress the more at risk from crime I am.  
Expensive jewellery is highly desirable to criminals .  
The more I value an item the greater the threat of theft.  
Popular items are more likely to be targeted by criminals  
My valuable property attracts the inappropriate attention of others.  
Rare possessions are highly attractive to strangers  
I think that people who are up to no good are likely to target me and my possessions  
I think that people are jealous of me.

**“Criminalisable space” (Situation in which a crime may take place - criminal)**

I feel vulnerable to crime when visiting unfamiliar inner city locations.  
When travelling alone at night I worry my personal safety.  
I am mindful of security at work.  
I am cautious of wrong doing when walking down the high street.  
On public transport I am concerned about the threat of strangers.  
I worry about the safety of my possessions when not at home.  
New places are a constant source of criminal threat.  
When I am at home alone I am fearful of unexpected callers.  
In public places I fear for the safety of my possessions.  
Late at night I feel vulnerable to criminals.  
Novel situations, such as visiting new cities make me feel at risk from crime.  
Youths on street corners are often up to no good.  
Certain locations should be avoided because they are associated with high levels of crime.  
When I go to sleep at night I am fearful of someone breaking in.  
When I'm on my way home, I sometimes imagine that someone will obstruct my path.  
When I have to go out somewhere, I make sure that I take a safe route.

---

## 10.10 Exploratory PCA for the phase two items

**Table.** *The breakdown of the remaining items using PCA for the four-factor system following an iterative process to remove cross loading items.*

Item label	PCA scores for each subscale of a four-factor system		
	Criminalisable Space	Evil Intent	Attractivity Power
Due to a lack of self-assurance the presence of others makes me feel vulnerable.	0.870		
When I am at home alone I am fearful of unexpected callers.	0.791		
When I go to sleep at night I am fearful of someone breaking in.	0.763		
In public places I fear for the safety of my possessions.	0.732		
I generally feel safe and in control.	0.729		
I feel vulnerable to crime.	0.672		
Novel situations, such as visiting new cities make me feel at risk from crime	0.669		
Due to the criminal intent of others I do not feel my property is secure.	0.622		
I worry about the safety of my possessions when not at home.	0.608		
On public transport I am concerned about the threat of strangers.	0.606		
New places are a constant source of criminal threat.	0.598		
I am cautious of wrongdoing when walking down the high street.	0.597		

I check my pockets when I am out because I lack control.	0.596	
Late at night I feel vulnerable to criminals.	0.542	
When I'm on my way home, I sometimes imagine that someone will obstruct my path.	0.52	
I am not worried by the thought of visiting new areas because I know I am able to handle novel situations.	0.502	
I am confident that my property is secure.	0.501	
People will generally do things they feel they can get away with.		0.822
People are generally manipulative.		0.780
People will do anything to get what they want.		0.764
People are bad natured.		0.754
People today are less trustworthy.		0.748
I distrust particular people in my surroundings.		0.685
I am suspicious of people's intentions.		0.604
The world is a threatening place, full of criminal wrongdoing.		0.491
I generally trust strangers.		0.482
There are many criminals within society.		0.417
Expensive jewellery is highly desirable to criminals		0.821
As an items value increases so does risk of theft.		0.758

People with obvious wealth are targeted by criminals.	0.747
Popular items are more likely to be targeted by criminals	0.723
Socially desirable belongings are more at risk.	0.716
Rare possessions are highly attractive to strangers	0.513
My personal effects (i.e., mobile telephone, wallet) are desirable to criminals generally.	0.457
I think I'm capable of chasing off a potential assailant.	0.816
No one could take my possessions if they tried.	0.797
I am able to handle any threatening situation that may arise.	0.777
I am often the victim of jealousy from strangers	0.447

---

## 10.11 Items generated for phase three

---

### Criminalisable Space

Due to a lack of self-assurance the presence of others makes me feel vulnerable.

When I am at home alone I am fearful of unexpected callers.

When I go to sleep at night I am fearful of someone breaking in.

In public places I fear for the safety of my possessions.

I generally feel safe and in control.

I feel vulnerable to crime.

Novel situations, such as visiting new cities make me feel at risk from crime

Due to the criminal intent of others I do not feel my property is secure.

I worry about the safety of my possessions when not at home.

On public transport I am concerned about the threat of strangers.

New places are a constant source of criminal threat.

I am cautious of wrongdoing when walking down the high street.

I check my pockets when I am out because I lack control.

Late at night I feel vulnerable to criminals.

When I'm on my way home, I sometimes imagine that someone will obstruct my path.

I am not worried by the thought of visiting new areas because I know I am able to handle novel situations.

I am confident that my property is secure.

---

### Evil Intent

People will generally do things they feel they can get away with.

People are generally manipulative.

People will do anything to get what they want.

People are bad natured.

People today are less trustworthy.

I distrust particular people in my surroundings.

I am suspicious of people's intentions.

The world is a threatening place, full of criminal wrongdoing.

I generally trust strangers.

There are many criminals within society.

---

### Power

I think I'm capable of chasing off a potential assailant.

No one could take my possessions if they tried.

I am able to handle any threatening situation that may arise.

I am often the victim of jealousy from strangers

I am not fearful of criminals as they pose no threat to my property.

I am not fearful of criminals as they pose no threat to me physically.

I am able to protect my personal possessions from criminals.

I am able to physically protect myself from criminals.

I do not feel that I would be able to defend myself from wrongdoers.

I am able to resist the intentions of criminals.

---

---

I am confident in my ability to defend myself from criminal attack.  
I am not able to protect myself from criminals.  
If my home is occupied it is protected from criminals  
Criminals could easily take my property.  
I am confident in my ability to protect my property.  
I am prepared to deal with criminal intent.  
I do not feel threatened by the prospect of being attacked.  
I do not feel threatened by the prospect of being robbed.

---

#### Attractivity

---

I do not wear branded items because they attract criminals.  
I would not leave valuable items in a shared space.  
My precious possessions are at risk of theft.  
New items are targeted by thieves.  
Affluent areas and people are targeted by criminals.  
My personally valuable possessions are especially attractive to wrongdoers.  
I do not buy expensive items because they are likely to be stolen.  
Purchasing costly items increases the likelihood I will become a victim of crime.  
Expensive jewellery is highly desirable to criminals  
As an items value increases so does risk of theft.  
People with obvious wealth are targeted by criminals.  
Popular items are more likely to be targeted by criminals  
Socially desirable belongings are more at risk.  
Rare possessions are highly attractive to strangers  
My personal effects (i.e., mobile telephone, wallet) are desirable to criminals generally.

---

## 10.12 Original items from phase three placed into CFA

---

When I go to sleep at night I am fearful of someone breaking in.  
In public places I fear for the safety of my possessions.  
I generally feel safe and in control.  
I feel vulnerable to crime.  
Novel situations, such as visiting new cities make me feel at risk from crime  
I worry about the safety of my possessions when not at home.  
On public transport I am concerned about the threat of strangers.  
New places are a constant source of criminal threat.  
I am cautious of wrongdoing when walking down the high street.  
I check my pockets when I am out because I lack control.  
Late at night I feel vulnerable to criminals.  
I am confident that my property is secure.  
Due to a lack of self-assurance the presence of others makes me feel vulnerable.  
People will generally do things they feel they can get away with.  
People are generally manipulative.  
People will do anything to get what they want.  
People are bad natured  
People today are less trustworthy  
I am suspicious of people's intentions.  
The world is a threatening place, full of criminal wrongdoing  
There are many criminals within society  
Expensive jewellery is highly desirable to criminals  
As an item's value increases so does risk of theft  
People with obvious wealth are targeted by criminals  
My precious possessions are at risk of theft  
New items are targeted by thieves  
Affluent areas and people are targeted by criminals  
Purchasing costly items increases the likelihood I will become a victim of crime.  
I am able to protect my personal possessions from criminals.  
I am able to physically protect myself from criminals  
I am able to resist the intentions of criminals  
I am confident in my ability to defend myself from criminal attack  
I am not able to protect myself from criminals  
Criminals could easily take my property  
I am confident in my ability to protect my property  
I am prepared to deal with criminal intent  
No one could take my possession if they tried  
I am able to handle any threatening situations that may arise  
When I am at home alone I am fearful of unexpected callers  
Due to the criminal intent of others I do not feel my property is secure.  
Popular items are more likely to be targeted by criminals  
Socially desirable belongings are more at risk  
I am able to protect my personal effects from criminals

---

### 10.13 Items removed based on modification indices

---

I generally feel safe and in control. Crim4  
I am confident that my property is secure. Crim 15  
People will generally do things they feel they can get away with. Ev 1  
Expensive jewellery is highly desirable to criminals Att1  
New items are targeted by thieves Att 11  
Affluent areas and people are targeted by criminals Att12  
I am not able to protect myself from criminals Pow 9  
Criminals could easily take my property Pow 11  
Popular items are more likely to be targeted by criminals att 4  
Socially desirable belongings are more at risk att 5

---

## 10.14 PCA to confirm factor structure before CFA

**Table.** *showing the PCA of the Fear of Personal Victimization Scale*

	Power	Criminalisable Space	Evil Intent	Attractivity
When I go to sleep at night I am fearful of someone breaking in.		.620		
In public places I fear for the safety of my possessions.		.839		
I generally feel safe and in control.		.507		
I feel vulnerable to crime.		.663		
Novel situations, such as visiting new cities make me feel at risk from crime		.873		
I worry about the safety of my possessions when not at home.		.666		
On public transport I am concerned about the threat of strangers.		.968		
New places are a constant source of criminal threat.		.689		
I am cautious of wrongdoing when walking down the high street.		.819		
I check my pockets when I am out because I lack control.		.611		
Late at night I feel vulnerable to criminals.		.798		
I am confident that my property is secure.		.558		
Due to a lack of self-assurance the presence of others makes me feel vulnerable.		.610		
People will generally do things they feel they can get away with.			.534	
People are generally manipulative.			.844	
People will do anything to get what they want.			.816	
People are bad natured			.891	
People today are less trustworthy			.905	
I am suspicious of people's intentions.			.652	
The world is a threatening place, full of criminal wrongdoing			.789	
There are many criminals within society			.601	
Expensive jewellery is highly desirable to criminals				.620
As an item's value increases so does risk of theft				.685
People with obvious wealth are targeted by criminals				.926
My precious possessions are at risk of theft				.695
New items are targeted by thieves				.712
Affluent areas and people are targeted by criminals				.684
Purchasing costly items increases the likelihood I will become a victim of crime.				.533

I am able to protect my personal possessions from criminals.	.965	
I am able to physically protect myself from criminals	.833	
I am able to resist the intentions of criminals	.871	
I am confident in my ability to defend myself from criminal attack	.830	
I am not able to protect myself from criminals	.564	
Criminals could easily take my property	.585	
I am confident in my ability to protect my property	.798	
I am prepared to deal with criminal intent	.765	
No one could take my possession if they tried	.652	
I am able to handle any threatening situations that may arise	.784	
When I am at home alone I am fearful of unexpected callers		.495
Due to the criminal intent of others I do not feel my property is secure.		.540
Popular items are more likely to be targeted by criminals		.784
Socially desirable belongings are more at risk		.709
I am able to protect my personal effects from criminals	.913	

---

Extraction Method: PCA.

Rotation Method: Promax with Kaiser

Normalization.

Rotation converged in 5 iterations.

10.15 Diagram of CFA model for Fear of Personal Victimisation Scale

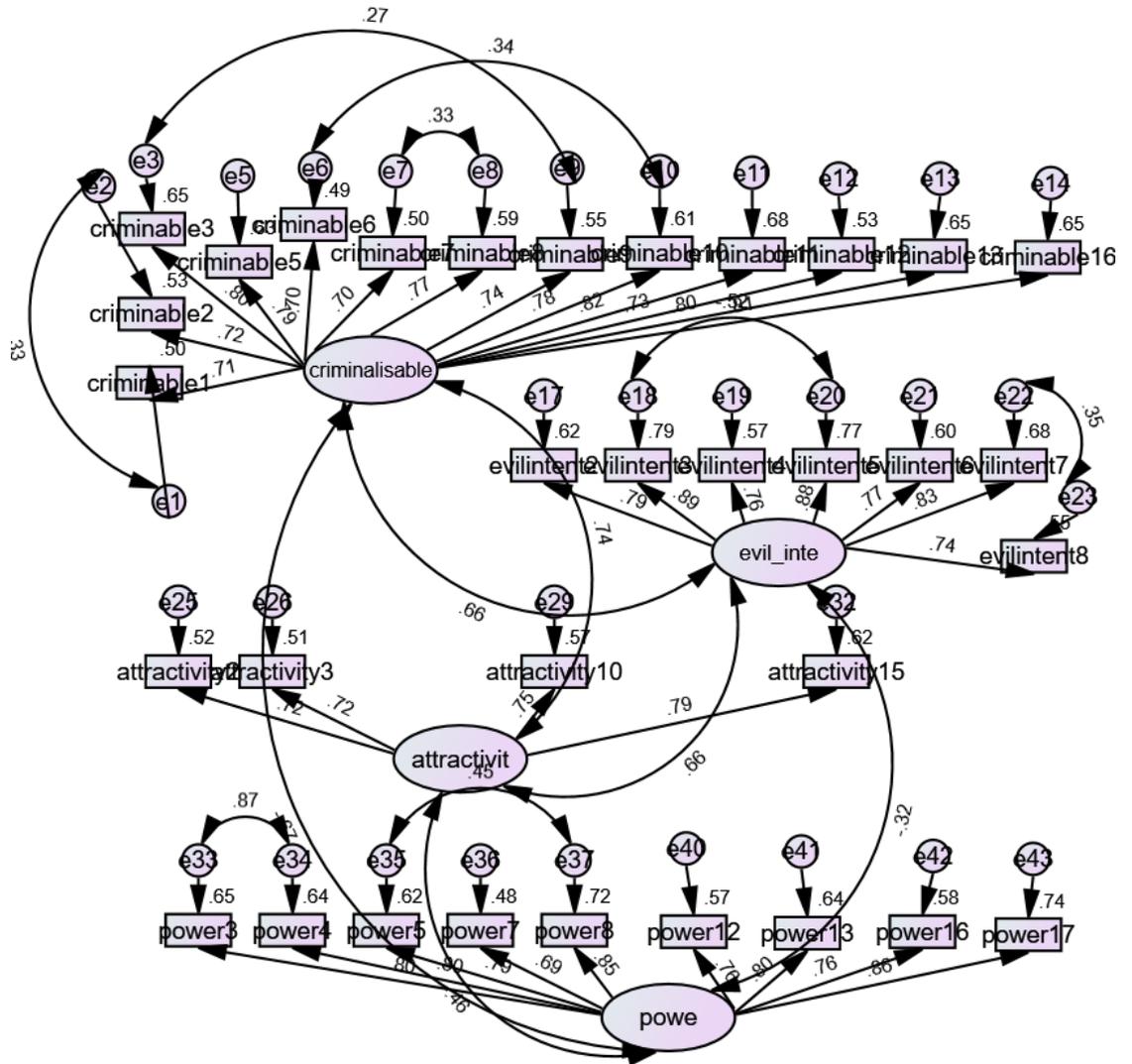


Figure 3. Summary for the remaining items of the Social and Community Perceptions Scale when placed into the four factor CFA model

## 10.16 Subscale definitions from (Mesko, Areh, & Kury, 2004)

"The **Attractivity** [component<sup>2</sup>] is intended to refer to the extent to which people see themselves or their possessions as an attractive target or victim for criminal activities. It involves the attribution of a characteristic to oneself and one's possessions. One thinks, for example, of the peculiar sensation one may have when walking on the street with a great deal of money. Another example would be the fear of burglary, which may be experienced if one keeps valuable articles in the house.

The **Evil Intent** [component] relates to the wrongdoer's role in the phenomenon. It is represented by the extent to which a person attributes criminal intentions to another individual or particular group. Thus, one may be afraid of having one's pocket picked the moment one sees a gypsy. Or one can experience fear as a result of a feeling that society is in moral decay and a conviction that present-day youth are prepared to commit murder for a paltry sum of money.

The **Power** [component] refers to the degree of self-assurance and feeling of control that a person has with respect to possible threat or assault by another. In principle it is a question of two related sub-factors: one's own power and the power of the other. The first of these relates to a person's confidence in his<sup>3</sup> own efficacy. This need not be directly related to the dangers of crime, of course. Feelings of self-assurance, control, and confidence in meeting the challenges of life will by generalisation tend to lower a person's sensitivity to feelings of threat. Almost anything can contribute to the feeling of one's own power, from a good family relationship to an optimistic temperament.

The power of the other is the wrongdoer's side of the coin. It concerns characteristics attributed to potential criminals, such as their strength, agility, resources, and general ability to carry out their criminal intentions. A comparison of one's own power with power of other determines whether a person faces confrontations with that other with confidence or not. Thus, the idea that even the smallest thief goes about carrying weapons can lead to feelings of uneasiness or fear, if one has no compensating power of one's own.

**Criminalisable Space** is the fourth and final [component]. Whereas the first [component] refers to the potential victim, the second to the potential wrongdoer, and the third to both of these parties, the last [component] has to do with the situation in which a crime may take place. The emphasis is on characteristics of place and time and on the presence of others, It is a question of the extent to which a situation lends itself to criminal activities in the eyes of a possible victim - of how much the situation facilitates crime or the criminal. A criminalisable situation might, for example, include walking at night through a poorly lit pedestrian subway or through a dark wood, although estimates of criminalisability for any one situation can naturally vary between individuals. The interest here lies in the extent to which people have a general tendency to heed the criminalisability of the situations into which they venture."

## **10.17 Original van der Wurff et al. (1989) Social and Community Perceptions Scale**

Could you tell me whether you agree or disagree with the following statements..." [response codes = 1 = agree strongly, 2 = agree, 3 = don't know, 4 = disagree, 5 = disagree strongly].

### **Attractivity**

Target: I think that people who are up to no good are likely to target especially on me and my possessions.

Jealousy: I think that people are jealous of me.

### **Power**

Attacker: I think I'm capable of chasing of a potential assailant. Rows: I generally stay clear of rows.

### **Evil Intent**

Trust: I generally trust strangers.

Distrust: I distrust particular people in my surroundings.

### **Criminalisable Space**

Obstruction: When I'm on my way home, I sometimes imagine that someone would obstruct my path.

Safe Route: When I have to go out somewhere, I make sure that I take a safe route.

### **10.18 Frequency and intensity of fear of crime question from (Farrall & Gadd, 2004)**

Q1: 'In the past year, have you ever felt fearful about the possibility of becoming a victim of crime?' [yes, no, can't remember].

Q2: [if YES at Q1] 'How frequently have you felt like this in the last year?' [N of times recorded].

Q3: [if YES at Q1] 'On the last occasion, how fearful did you feel?' [not very fearful, a little bit fearful, quite fearful, very fearful, cannot remember].

**10.19 Perceptions of Police Scale from (Nadal & Davidoff, 2015)**

Police officers are friendly

Police officers protect me

Police officers treat all people fairly

I like the police

The police are good people

The police do not discriminate

The police provide safety

The police are helpful

The police are trustworthy

The police are reliable

Police officers are unbiased

Police officers care about my community

## 10.20 BFI-2-xs from (Soto & John, 2017)

### The Big Five Inventory–2 Extra-Short Form (BFI-2-XS)

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who *likes to spend time with others*? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

1	2	3	4	5
Disagree strongly	Disagree a little	Neutral; no opinion	Agree a little	Agree strongly

#### *I am someone who...*

- |  |  |
|--|--|
| 1. ___ Tends to be quiet.                          | 9. ___ Tends to feel depressed, blue.            |
| 2. ___ Is compassionate, has a soft heart.         | 10. ___ Has little interest in abstract ideas.   |
| 3. ___ Tends to be disorganized.                   | 11. ___ Is full of energy.                       |
| 4. ___ Worries a lot.                              | 12. ___ Assumes the best about people.           |
| 5. ___ Is fascinated by art, music, or literature. | 13. ___ Is reliable, can always be counted on.   |
| 6. ___ Is dominant, acts as a leader.              | 14. ___ Is emotionally stable, not easily upset. |
| 7. ___ Is sometimes rude to others.                | 15. ___ Is original, comes up with new ideas.    |
| 8. ___ Has difficulty getting started on tasks.    |  |

Please check: Did you write a number in front of each statement?  
BFI-2 items copyright 2015 by Oliver P. John and Christopher J. Soto.

#### Scoring Key

Item numbers for the BFI-2-XS domain scales are listed below. Reverse-keyed items are denoted by "R." For more information about the BFI-2, visit the Colby Personality Lab website (<http://www.colby.edu/psych/personality-lab/>).

Extraversion: 1R, 6, 11  
Agreeableness: 2, 7R, 12  
Conscientiousness: 3R, 8R, 13  
Negative Emotionality: 4, 9, 14R  
Open-Mindedness: 5, 10R, 15

## 10.21 Phase three - PCA of Fear of Crime Scale items

**Table** showing the PCA for the scores generated for the Fear of crime scale and its subscales for phase three

	Component		
	Personal Property	Violence	Fraud
House being broken into	0.880		
When parked in an area I am unfamiliar with, my car/vehicle being broken into.	0.836		
When in an area I am unfamiliar with, someone mugging me.	0.807		
When in an area I am familiar with, someone mugging me.	0.830		
Sexual assault.		0.774	
Interpersonal assault (ABH or GBH).		0.746	
Murder.		0.915	
Terrorism.		0.883	
Conventional Fraud			0.900
Arson		0.816	
Damage to property	0.810		
Online Fraud			0.925

Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser Normalization.

a Rotation converged in 5 iterations.