UNDERSTANDING THE AFFECTIVE AND COGNITIVE COMPONENTS OF PSYCHOPATHY: DEVELOPING A NEW ASSESSMENT

by

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STUDENT DECLARATION

Concurrent registration for two or more academic awards

I declare that while registered as a candidate for the research degree, I have been a registered candidate or enrolled student for another award of the University or other academic or professional institution. Specifically, I was enrolled at the School of Psychology, University of Central Lancashire, on the University Certificate in Enhancing Skills in Clinical Case Formulation (October 2011 – February 2012).

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Doctor of Philosophy (PhD)

School

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ABSTRACT

This PhD aimed to understand the construct of psychopathy from an expert perspective and gain consensus on the fundamental components of the disorder. To assist with this, the research aimed to develop, refine and evaluate a new self-report measure of psychopathy that was in agreement with experts and captured the core aspects of the disorder relating to cognitive and affective functioning. The research also aimed to explore the role of implicit and explicit cognitive and affective processing in psychopathy, investigating how these processes present in the consensus definition and psychopathy defined through clinical measures. In doing so, the research aimed to further the understanding of implicit processing in psychopathy and current, more explicit, approaches to measurement.

Study one comprised a review of the relevant literature and an expert Delphi survey. Thirty-two experts participated in the Delphi survey and this was completed over three rounds. Experts agreed that psychopathy could be understood through interpersonal factors, behavioural characteristics, deficits in cognition and affect, and developmental factors. As predicted, experts gravitated towards the Psychopathy Checklist-Revised (PCL-R) definition of psychopathy and rated items relating to this as most important. It was also predicted that experts would capture the affective components of psychopathy in their understanding of the construct, but not cognition. Partial support was found for this. Nine items examining cognition and affect were included in a new self-report measure, the Psychopathic Processing and Personality Assessment (PAPA). This allowed for a theoretical understanding of the construct that extended to assessment.

Study two recruited 431 participants [310 university students (154 men and 156 women) and 121 male prisoners] to evaluate the new self-report measure of psychopathy and to determine its value when assessing psychopathic cognition and affect. It was predicted that the PAPA would be positively associated with an existing self-report measure of psychopathy (i.e. the Levenson Self-Report Psychopathy Scale; LSRP), negative cognitive schema, positive cognitive schema, and negative affect. This was supported. The LSRP also positively correlated with positive and negative cognitive schema, and negative affect, thus providing further support for predictions stating that psychopathy would correlate with these variables. Exploratory factor

analysis extracted a two-component solution from the PAPA, which was underpinned by ‘dissocial tendencies’ and ‘negative views towards others’.

Study three involved an in-depth interview with 50 students and 41 psychiatric patients to allow for further exploration of cognitive and affective processing in psychopathy. All participants were men. As expected, analyses indicated that psychopathy defined by experts and clinical measures were predicted by explicit and implicit cognition and affect assessed via the Affect, Cognitive and Lifestyle Assessment (ACL). Implicit processing was also found to be influenced by levels of psychopathy, with those scoring high on the disorder demonstrating more deficits. Contrary to expectation, implicit and explicit affect appeared to perform differently across samples. Nevertheless, results suggest that psychopathy assessment would benefit from the inclusion of implicit measures to assess for psychopathic processing. Self-report, observation, collateral review and items that explore lifestyle were also deemed important when assessing for the disorder. An evaluation of the PAPA found it to have acceptable levels of reliability and validity.

The current research indicates that explicit and implicit cognitive and affective processing are integral aspects of psychopathy and need to be considered when assessing for the disorder. The research also points towards a change in the assessment of psychopathy, with the inclusion of different methods, such as implicit testing, interview, collateral review, self-report and observation to capture cognition and affect, and reduce the possibility of response bias.

CONTENTS

CHAPTER 1. SETTING THE SCENE.....1

CHAPTER 2. PSYCHOPATHY: DEFINING THE CONSTRUCT.....4

2.1 Structure of the Chapter.....4

2.2 Historical conceptualisations of the construct.....5

2.3 Conceptualisations formed in the 19th century.....5

2.4 Early and mid 20th century conceptualisations.....8

2.5 Cleckley's conceptualisation of psychopathy.....12

2.6 DSM definitions of psychopathy: Distinguishing psychopathy from ASPD.....16

2.7 Hare's conceptualisation of psychopathy.....22

2.8 Concluding comments.....23

CHAPTER 3. PSYCHOPATHY: ASSESSING AND MEASURING THE CONSTRUCT.....25

3.1 Structure of the Chapter.....25

3.2 Measuring the construct of psychopathy.....25

3.3 The Psychopathy Checklist (PCL) and its development.....26

3.4 Self-report measures of psychopathy.....35

3.5 Other developments in the assessment of psychopathy.....53

3.6 Concluding comments.....60

CHAPTER 4. PSYCHOPATHY: COGNITIVE PROCESSING.....61

4.1 Structure of the Chapter.....61

4.2 Cognitive processing in psychopathy.....61

4.3 Explicit vs. implicit processing.....62

4.4 Early development of cognitive schemas.....65

4.5 Information processing in psychopathy.....72

4.6 Response modulation in psychopathy.....75

4.7 Moral reasoning in psychopathy.....81

4.8 Concluding comments 89

CHAPTER 5. PSYCHOPATHY: AFFECTIVE PROCESSING 91

5.1 Structure of the Chapter 91

5.2 Affective processing in psychopathy 91

5.3 Emotion recognition in psychopathy 94

5.4 Evaluating emotion in psychopathy 104

5.5 Concluding comments 111

CHAPTER 6. ADDRESSING THE RESEARCH PROBLEM 113

6.1 Structure of the Chapter 113

6.2 Rationale for the research 113

6.3 Aims and predictions of the research 120

6.4 Addressing the research aims and predictions 125

CHAPTER 7. STUDY 1: USING AN EXPERT DELPHI STUDY TO EXAMINE AREAS OF IMPORTANCE IN PSYCHOPATHY 127

7.1 Structure of the Chapter 127

7.2 Rationale for using a Delphi survey 129

7.3 Participants 130

7.4 Round one of the Delphi survey 130

7.5 Round one: Development of the Delphi survey 130

7.6 Round one: Procedure 138

7.7 Round one: Results 140

7.8 Round two of the Delphi survey 147

7.9 Round two: Participants 147

7.10 Round two: Materials 147

7.11 Round two: Procedure 148

7.12 Round two: Results 148

7.13 Round three of the Delphi survey 156

7.14 Round three: Participants 156

7.15 Round three: Materials....156

7.16 Round three: Procedure....157

7.17 Round three: Results....157

7.18 Developing the new self-report measure of psychopathy....164

7.19 Discussion....168

7.20 Limitations of the study....171

7.21 Concluding statement....172

CHAPTER 8. STUDY 2: EXPLICIT COGNITIVE AND AFFECTIVE PROCESSING IN PSYCHOPATHY: EXAMINING STUDENT AND FORENSIC SAMPLES....173

8.1 Structure of the Chapter....173

8.2 Participants....174

8.3 Materials....175

8.4 Procedure....177

8.5 Results....178

8.6 Data screening....178

8.7 Preliminary analyses....180

8.8 Evaluating PAPA-1 and the LSRP....183

8.9 Exploring the link between psychopathy and positive and negative cognitive schema....190

8.10 Exploring the link between psychopathy and negative affect....204

8.11 Summary of results....208

8.12 Discussion....209

8.12 Limitations of the study....214

8.13 Concluding statement....215

CHAPTER 9. STUDY 3: IMPLICIT COGNITIVE AND AFFECTIVE PROCESSING IN PSYCHOPATHY: EXAMINING STUDENT AND CLINICAL SAMPLES....216

9.1 Structure of the Chapter....216

9.2 Participants....217

9.3 Materials 217

9.4 Procedure 222

9.5 Results 223

9.6 Data screening 223

9.7 Preliminary analyses 226

9.8 Evaluating PAPA-2 231

9.9 Examining the role of explicit and implicit cognition in psychopathy 236

9.10 Examining the role of explicit and implicit affect in psychopathy defined by PAPA-2 and PCL:SV 247

9.11 Determining the components required to provide a comprehensive assessment of psychopathy 259

9.12 Summary of results 261

9.13 Discussion 262

9.14 Limitations of the study 272

9.15 Concluding comments 273

CHAPTER 10. GENERAL DISCUSSION 275

10.1 Structure of the Chapter 275

10.2 Discussion of the overall findings 275

10.3 Implications for clinical practice 289

10.4 Limitations of the research 291

10.5 Directions for future research 294

10.6 Final conclusion 296

REFERENCES 298

APPENDIX 1. PSYCHOMETRIC QUALITIES OF THE PSYCHOPATHY CHECKLIST AND ITS REVISION 327

APPENDIX 2. PSYCHOMETRIC QUALITIES OF THE SELF-REPORT MEASURES OF PSYCHOPATHY 332

APPENDIX 3. MATERIALS USED IN STUDY ONE 355

APPENDIX 4. MATERIALS USED IN STUDY TWO 397

APPENDIX 5. MATERIALS USED IN STUDY THREE 423

LIST OF TABLES

1: EMS and schema domains. 67
2: Articles used to generate the items for round one (n = 48). 131
3: Items included in round one. 135
4: The average percentage agreement and disagreement for all items in round one (n = 32). Values in bold type reached the required consensus level of 80%. 141
5: The themes identified during the thematic analysis along with examples of experts' suggestions and comments to illustrate (nb. Percentages in parenthesis relate to the percentage of experts who made suggestions that fell into a particular theme). 145
6: Inter-rater reliability for the comments and suggestions made in round one. 146
7: The average percentage agreement and disagreement for all items in sections one and three, and average percentage inclusion and exclusion for items in section two. Values in bold type reached the required consensus level of 80% in round two of the Delphi survey (n = 30). 149
8: The themes identified during the thematic analysis along with examples of experts' suggestions and comments to illustrate (nb. Percentages in parenthesis relate to the percentage of experts who made suggestions that fell into that particular theme). 156
9: The average percentage agreement and disagreement for all items included in round three (n = 27). Values in bold type reached an expert agreement of 80% or more. 159
10: Items used in the new self-report measure of psychopathy. 165
11: Descriptive statistics for the participants sampled. 175
12: Internal consistency of the PAPA-1, LSRP and SPANA-2 across samples. 181
13: Descriptive statistics for overall, forensic and student samples (nb. Standard deviation in parenthesis). 182
14: Item and factor loadings for each PAPA-1 component (nb. Cronbach's alpha for each component is in parenthesis). 185
15: Mean scores for the two components underpinning PAPA-1 (nb. Standard deviation in parenthesis). 186
16: Item and factor loadings for each LSRP component (nb. Cronbach's alpha for each component is in parenthesis). 188
17: Mean scores for the primary and secondary psychopathy scales underpinning the LSRP (nb. Standard deviation in parenthesis). 189
18: Bivariate correlations between PAPA-1 and the LSRP subscales. 190
19: Bivariate correlations between psychopathy assessed by PAPA-1 and positive and negative cognitive schema across samples. 191
20: Bivariate correlations between psychopathy assessed by the LSRP and positive and negative cognitive schema across samples. 193
21: Predicting psychopathy assessed by PAPA-1 across samples from positive and negative cognitive schema. 195
22: Predicting the PAPA-1 subscales from positive and negative cognitive schema. 197

23: Predicting psychopathy assessed by the LSRP across samples from positive and negative cognitive schema. 199
24: Predicting the LSRP factors from positive and negative cognitive schema. 201
25: Descriptive statistics for positive and negative cognitive schema dependent on level of psychopathy assessed by PAPA-1 and the LSRP (nb. Standard deviation in parenthesis). 203
26: Bivariate correlations between psychopathy defined by PAPA-1 and the LSRP, and negative affect across sample. 205
27: Descriptive statistics for negative affect dependent on level of psychopathy assessed by PAPA-1 and the LSRP (nb. Standard deviation in parenthesis). 207
28: Internal consistency of the PAPA-2, PCL:SV and ACL. 227
29: Descriptive statistics for the overall sample, and student and clinical samples. 229
30: Items and factor loadings for each component of PAPA-2 (nb. Cronbach's alpha for each component is in parenthesis). 233
31: Mean scores for the three components underpinning PAPA-2 (nb. Standard deviation in parenthesis). 234
32: Bivariate correlations between PAPA-2 and the PCL:SV, and ACL for the overall sample. 235
33: Bivariate correlations between psychopathy measured by PAPA-2 and the PCL:SV and explicit and implicit cognition assessed via the ACL across samples. 238
34: Predicting psychopathy measured by PAPA-2 across samples from explicit and implicit cognition. 241
35: Predicting the three PAPA-2 subscales from explicit and implicit cognition. 241
36: Predicting psychopathy measured by the PCL:SV across samples from explicit and implicit cognition. 243
37: Predicting the two PCL:SV factors from explicit and implicit cognition. 243
38: Descriptive statistics for each aspect of the moral reasoning test for psychopathy assessed by PAPA-2 and the PCL:SV (nb. Standard deviation in parenthesis) 246
39: Descriptive statistics for implicit hostile and pro-social responding for psychopathy assessed by the PCL:SV and PAPA-2 (nb. Standard deviation in parenthesis) 247
40: Bivariate correlations between psychopathy measured by PAPA-2 and the PCL:SV and explicit and implicit affect assessed via the ACL across samples. 249
41: Predicting psychopathy defined by PAPA-2 across samples from explicit and implicit affect. 252
42: Predicting the three factors of PAPA-2 from explicit and implicit affect. 252
43: Predicting psychopathy measured by the PCL:SV across samples from explicit and implicit affect. 255
44: Predicting the two factors of the PCL:SV from explicit and implicit affect. 255
45: Descriptive statistics for each aspect of the identifying emotions task for psychopathy assessed by PAPA-2 and the PCL:SV (nb. Standard deviation in parenthesis). 258
46: Descriptive statistics for each aspect of the evaluating/feeling emotion task for psychopathy assessed by PAPA-2 and the PCL:SV (nb. Standard deviation in parenthesis). 259
47: Predicting psychopathy measured by the PCL:SV from implicit and explicit assessment, as well as collateral review and observation. 260

48: Predicting psychopathy assessed by the PCL:SV from factors underpinning the PAPA-2. 260
49: Psychometric qualities of the Psychopathy Checklist-Revised (PCL-R). 328
50: Psychometric qualities of the self-report measures of psychopathy. 333
51: Content of the ACL. © Ireland & Ireland (2012). 451

LIST OF FIGURES

1: A causal model of the development of psychopathy (Blair et al. 2005, p. 111). 93
2: A flowchart of the processes underpinning study one. 128
3: A screenshot of the item layout used in round one. 138
4: A flowchart illustrating the contents of the results section for study two. 179
5: A flowchart illustrating the contents of the results section for study three. 225
6: Round one. 358
7: Round two. 369
8: Round three. 382

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Chapter 1.
SETTING THE SCENE

Understanding the construct of psychopathy has been one of the issues at the forefront of psychiatric research since the early 19th century. Over the years, both researchers and clinicians (e.g. Pinel, Rush & Prichard) have attempted to delineate the core features of psychopathy. Many early conceptualisations of psychopathy were based solely on clinical observation and proposed that the disorder manifested from maladaptive personality traits (e.g. Cleckley, 1976). However, the development of the Psychopathy Checklist (PCL; Hare, 1991) and its revision (PCL-R; Hare, 2003) moved understandings of the construct away from abnormal personality, placing more emphasis on psychopathy as criminal behaviour (Cooke & Michie, 2001) and thus 'criminal' as opposed to 'abnormal' personality.

The focus on psychopathy as criminal behaviour raised questions over the measurement of psychopathy, in that the PCL-R was criticised for not being a true assessment of personality. This has extended to queries concerning the components underpinning the disorder (e.g. Cooke & Michie, 2001). Indeed, the emphasis on psychopathy as 'criminal behaviour' explains in part the over-focus on forensic populations [primarily men] in the literature (Blackburn, 2007a).

Regarding other samples, there is growing interest in psychopathy within community samples (Neumann & Hare, 2008) and in women (Logan & Weizmann-Henelius, 2012). The rationale behind the former is that some psychopaths are able to function within 'normal' society without entering the Criminal Justice System (Williams, Paulhus & Hare, 2007). The notion that psychopaths are well-represented in everyday society places an increased emphasis on personality, which has influenced some researchers (e.g. Cooke & Michie, 2001; Skeem & Cooke, 2010a,b; Blackburn, 2007a) to revert back to the original conceptualisation of psychopathy as 'abnormal personality' as opposed to 'criminal personality'. Thus, from what has been identified so far, it becomes clear that there is little consensus on the underlying features of the disorder and this uncertainty extends to the assessment of psychopathy.

Furthermore, Cleckley (1976) argued that criminality is not a central feature of psychopathy. Instead, he proposed that those with the disorder have deficits in cognition and affect that predispose them to engage in behaviour that is harmful to themselves and others. Cognition and affect are therefore integral aspects of psychopathy and form the main focus of this thesis.

The concept of processing (both cognitive and affective) is crucial when understanding psychopathy. For example, Newman (1998) suggested that certain psychopathic traits, such as impulsivity, may be explained through a cognitive deficit in the psychopath's ability to fully understand the environment when engaging in goal directed activity. The *Response Modulation Hypothesis* (Newman, 1998) accounts for this deficit and states that individuals with psychopathy are unable to attend to secondary information when a dominant response set has been established. Other researchers have argued that biases in cognitive schemas, which act as a guide for behaviour, influence the psychopath's ability to process information effectively (e.g. Serin, 1991; Vitale, Newman, Serin & Bolt, 2005) and to form moral judgments (e.g. Young, Koenigs, Kruepke & Newman, 2012).

In addition to their cognitive impairments, psychopaths also have deficits in affective processing, which influences their ability to identify (e.g. Blair et al. 2004) and evaluate (e.g. Williamson, Harpur & Hare, 1991) emotional stimuli. This ultimately impacts on their ability to effectively understand and react appropriately to other's feelings and circumstances. A number of theories have been proposed to explain this. This includes the *Dysfunctional Fear Hypothesis* (Lykken, 1957), the *Violence Inhibition Mechanism Model* (VIM; Blair, 1995) and *Beck's* (1987) *Theory of Emotional Disorders*.

The Dysfunctional Fear Hypothesis assumes that individuals with psychopathy are unable to recognise fear due to deficient emotional reactivity. VIM expands on this and states that psychopaths experience difficulty when identifying and reacting appropriately to unpleasant emotional content, i.e. another person's upset. Beck's Theory offers an alternative explanation of emotional processing in psychopathy and places emphasis on the role of cognitive schemas. More recent explanations of affective processing in psychopathy have started to consider the interactive effects of cognition, specifically the role of attention (e.g. Glass & Newman, 2009). This will be expanded upon in the main body of the thesis (specifically Chapter five).

It is important to note that cognitive and affective processing is not wholly explicit (conscious) and can occur at an implicit (unconscious) level (Back, Schmukle & Egloff, 2009). Examining psychopathy at an implicit level is important when attempting to understand the automatic, unconscious mechanisms that underpin the disorder. Psychopathy measures, including the PCL-R, have failed to account for cognition and affect, and have also ignored the importance of implicit processing. It is beneficial to incorporate implicit measures into the assessment of psychopathy, not only due to such processing occurring at an implicit level but also since psychopathy can be highly correlated with increased levels of deception and lying (Snowden, Gray, Smith, Morris & MacCulloch, 2004). Thus, in order to fully understand the construct and to provide an accurate assessment, psychopathic processing needs to be examined at both an explicit and implicit level. A new measure of psychopathy that incorporates these elements is therefore required.

The remainder of this introduction will expand on the issues outlined here. The next four Chapters will provide a detailed literature review on the defining features of psychopathy; the assessment and measurement of psychopathy; cognitive processing; and affective processing. Throughout this review, a number of theories will be introduced to allow for a theoretical understanding of the construct. The sixth Chapter presents the research aims and predictions.

Chapter 2.
PSYCHOPATHY: DEFINING THE CONSTRUCT

2.1 Structure of the Chapter

This Chapter provides an overview on how psychopathy has been defined over the years. It first looks at the conceptions offered in the 19th century by physicians, such as Pinel, Rush and Prichard. It then proceeds to discuss the definitions that arose from German psychiatry and how these influenced later conceptions made in the early 20th century. A review of the work of Cleckley is provided, along with an overview on how the construct has been defined in the various editions of the Diagnostic and Statistical Manual of Mental Disorders (DSM). As part of this, the difference between psychopathy and DSM-defined antisocial personality disorder (ASPD) will be made explicit. The Chapter concludes by examining the conceptualisation of psychopathy proposed by Hare (1991).

Psychopathy has various legal definitions that should not be confused with the clinical definition. Whilst the clinical definition relates to psychopathy as outlined by the Psychopathy Checklist – Revised (PCL-R; Hare, 1991; *See* p. 26), the legal definition, published in the first edition of the Mental Health Act (MHA; 1983) refers to psychopathy as '*psychopathic disorder'*. That is, it views psychopathy as;

> *"a persistent disorder or disability of the mind (whether or not including significant impairment or intelligence) which results in abnormally aggressive or seriously irresponsible conduct on part of the person concerned"* (p. 3).

The more recent version of the MHA (i.e. MHA, 2007) does not view psychopathy as a distinct disorder and instead categorised it under the all-inclusive term, '*mental disorder*'. 'Mental disorder' refers to "any disorder or disability of the mind" (p. 1). It is important to note that this Chapter and the ensuing Chapters are interested in the *clinical* rather than the legal definition of psychopathy.

According to Millon, Simonsen and Birket-Smith (2003), descriptions of the construct of psychopathy can be traced as far back as Ancient Greece. However, for the purpose of this Chapter the main focus will remain on the descriptions provided in the early 19th century, until the present day.

2.2 Historical conceptualisations of the construct

Over the past two centuries the construct of psychopathy has been defined in a number of different ways. As Millon et al. (2003) note, clinical psychopathy has been characterised by an array of different behaviours that appear to have had little in common. There remains considerable debate around the definition of psychopathy, even today, with many professionals still failing to "get the picture" (Millon et al. 2003, p. 3) regarding what components underpin the disorder.

2.3 Conceptualisations formed in the 19th century

In 1801, Philippe Pinel, a French physician, recognised that several patients were engaging in behaviours characterised as impulsive, risky and self-damaging (Millon et al. 2003). Despite the nature of these acts, Pinel noted that the reasoning ability of his patients remained largely intact. Given that his patients' had no noticeable deficits in their intellect, Pinel labelled these cases as '*manie sans délire'*. This translates to 'insanity without delirium' (Millon et al. 2003). According to Millon et al. (2003), Pinel was one of the first to state that insanity could exist without any significant deficits in intellectual functioning or reasoning ability.

Benjamin Rush, an American psychiatrist, also attempted to conceptualise psychopathy. Unlike Pinel, Rush suggested that disturbances in the moral faculty were caused by physical phenomena (Werlinder, 1978). Rush believed that psychopathy originated from some form of birth defect or biological disease (Andrade, 2008). In his work, *'Diseases of the mind'*, Rush suggested that psychopathic individuals were not responsible for their behaviour as their moral faculty could be influenced by physical conditions that injured their "judgement, ability to remember, and to imagine, etc" (Werlinder, 1978, p. 25). Given the nature and direction of Rush's work, it is unsurprising that he felt individuals with psychopathy should be managed within medical facilities rather than in prisons (Toch, 1998).

Towards the mid 19th century there was increasing acknowledgement of a role for emotion in psychopathy. Werlinder (1978) states that researchers and physicians began to agree that 'diseases' resulted from emotions being disordered rather than from deficits in understanding and reasoning.

Despite agreeing with Pinel's notion of 'manie sans délire', James Prichard, a British physician, expanded the concept to include a number of different mental and emotional conditions (Millon et al. 2003). According to Millon et al. (2003), Prichard included these conditions under the heading of '*moral insanity*'. He placed increased emphasis on affect in his conceptualisation. Prichard suggested that those individuals described as 'morally insane' ('or born criminal'; Werlinder, 1978), had a decreased sense of autonomy. They were unable to let their natural feelings and tendencies direct their behaviour (Millon et al. 2003). Prichard stated that such individuals were:

> *"swayed, despite their intellectual ability to understand the choices before them, by over-powering 'affections' that compelled them to engage in socially repugnant behaviours"* (located in Millon et al. 2003, p. 5).

He was suggesting that psychopathic individuals were driven by disturbances in their 'natural emotions' rather than deficits in their ability to reason and learn, and that their poor self-governance prevented them from behaving appropriately. However, Prichard argued these affective disturbances were so discrete they often went unnoticed (Werlinder, 1978).

Prichard's 'moral insanity' was criticised for being too diverse and for having very little in common with the more recent definitions of clinical psychopathy (Millon et al. 2003). Prichard became over focussed on the antisocial tendencies of some individuals, and began to include all disorders that were characterised by an inability to govern one's own behaviour in line with social norms (Hervé, 2007). More specifically, Hervé (2007) stated that the term 'moral insanity' became a collection of clinical disorders, such as schizophrenia, personality disorder and organic brain dysfunction.

Towards the late 19th and early 20th century, Prichard's label of 'moral insanity' was replaced by the term '*psychopathic inferiority*' (Andrade, 2008). Andrade (2008)

recognised that this term was first introduced by Koch, a German psychiatrist, to describe individuals who displayed pervasive patterns of abnormal behaviour, rather than symptoms of mental illness. Under the heading of 'psychopathic inferiority', the German construct of psychopathy became an all-encompassing term to describe the different forms of abnormal personality, more commonly known today as personality disorder (Sass & Felthous, 2007). Furthermore, Sass and Felthous (2007) state that the label of 'psychopathic inferiority', as described by Koch, included few conditions that matched the present day description of psychopathy. However, like Prichard, Koch's label of 'psychopathic inferiority' became over inclusive and the majority of conditions included did not resemble current descriptions of psychopathy (Millon et al. 2003). Nonetheless, despite such criticism, Koch was one of the first physicians to provide a brief description of psychopathy that, to an extent, is still used in clinical practice today.

Koch constrained his view of psychopathy to that of personality pathology, stating that this was largely determined by biological factors (Hervé, 2007). He argued that 'psychopathic inferiority' resulted from a "weakness in the brain", whereby the brain was unable to effectively deal and cope with normal levels of strain (Werlinder, 1978). Koch went on to divide 'psychopathic inferiority' into two distinct states: *congenital* and *acquired* (Sass & Felthous, 2007).

Sass and Felthous (2007) also suggested that these two states were further divided into three subgroups: psychopathic predisposition; psychopathic defect; and psychopathic degeneration. Although Koch never empirically tested these three subgroups (Millon et al. 2003), he proposed that the fragility of the brain was at its weakest in those placed in the psychopathic degeneration group (Werlinder, 1978). Koch believed that psychopathy was at its most severe in this group and was therefore one of the first to recognise that the disorder could occur along a continuum. That is, the severity of psychopathic traits could differ depending on the individual.

According to Werlinder (1978), 'psychopathic inferiority' was criticised for not having any clear distinct boundaries, with psychiatrists often finding it difficult to differentiate between 'normal' and psychopathic tendencies. It was only when an individual's whole life history was examined that these differences became apparent (Werlinder, 1978). The shift in focus away from 'moral insanity' to abnormal personality also meant many

of the traits associated with the recent descriptions of clinical psychopathy were engulfed by the overly broad label of personality disorder (Andrade, 2008).

Nonetheless, this transition set the scene for other researchers to examine psychopathy as a personality disorder rather than an unknown clinical disorder (Hervé, 2007). However this did not begin to take form until the early 20th century, as the work of Koch only became known worldwide when many German psychiatrists travelled to other countries (Sass & Felthouse, 2007).

Summary

Thus, at the beginning of the 19th century psychopathy was viewed as a disorder of the mind, i.e. as a mental health problem. However, towards the end of this century descriptions of psychopathy moved away from this and focussed more on abnormal personality. There was also a view that antisocial behaviour, along with psychopathy, originated from a birth defect or biological disease. It was proposed that this disease or defect resulted in impairments in judgement and moral reasoning. Others held the viewpoint that psychopathy was associated with deficits in affect only, suggesting that the disorder was driven by disturbances in emotion rather than problems in cognition. It therefore becomes evident that whilst experts recognised the importance of including cognition and affect in their descriptions of the disorder, they were unable to understand that deficits could occur concurrently in both of these systems.

Clinical descriptions of the construct continued to develop in the early 20th century, with a particular emphasis placed on the role of affect in psychopathy.

2.4 Early and mid 20th century conceptualisations

At the beginning of the 20th century, American psychiatry was arguably under-developed in comparison to European psychiatry (Werlinder, 1978). It is argued by some that it was not until Meyer, a German psychiatrist, travelled to America that American psychiatry became familiar with the German concept of psychopathy (Werlinder, 1978). According to Stover (2007), Meyer was greatly influenced by the work of Koch, but unlike Koch and other physicians at that time, he made a distinction

between psychopathic and neurotic cases. In contrast to neurotic cases, psychopathic individuals were argued to present with a lack of deep emotional reaction.

The German concept of psychopathy also continued to develop in the early 20th century. Kraepelin (1905, cited in Castillo, 2003) replaced Koch's term 'psychopathic inferiority' with '*psychopathic personality'*. This referred to an abnormal form of personality development considered degenerative in nature and resulting from a morbid reaction to life stressors. Kraepelin further proposed that the construct of psychopathy could be inherited (Taylor, 1997). Cleckley (1982) noted that it was not uncommon for psychiatrists to believe that individuals with psychopathy originated from families, "*loaded with [the] stigmata of degeneration [and] signs of neuropathic taint*" (p. 252). Psychiatrists, such as Kraepelin, were of the opinion that psychopathic individuals came exclusively from families that had some form of hereditary physiological weakness or defect.

Kraepelin (1904, cited in Millon et al. 2003) incorporated this weakness into four categories that somewhat resemble today's description of antisocial personality: *professional criminals*; *criminals by impulse*; the *morbid liars and swindlers*; and the *morbid vagabonds*[1]. According to Werlinder (1978), Kraepelin argued that the majority of habitual offenders belonged to the 'unstable' psychopathic category, which was also referred to as 'criminals by impulse'. Thus, it appears that experts were beginning to suggest that a psychopathic individual's propensity to engage in criminality was governed by a deficit in their ability to regulate their behaviour.

Kraepelin (1904, cited in Millon et al. 2003) was also of the opinion that all psychopathic individuals had deficits in affect. This was arguably becoming a defining feature of the disorder consistent among experts. By the eighth edition of his work, Kraepelin (1915, cited in Millon et al. 2003) had expanded his description of the construct and separated psychopathic individuals into two categories: those of 'morbid disposition' and those displaying abnormal personality styles. Kraepelin divided those individuals displaying abnormal personality styles into seven subgroups: *excitable*; *unstable*; *eccentric*; *liars*; *swindlers*; *antisocial*; and *quarrelsome* (Castillo, 2003). These overlapped with the four antisocial personality categories that he outlined in his

[1] i.e. an individual who wanders through life without establishing a purpose, has low self-confidence, and lacks the ability to undertake adult responsibility

earlier work. Whilst the last three subgroups were arguably representative of antisocial traits, Millon et al. (2003) recognised that the subgroups as a whole were similar to the diagnostic criteria for conduct disorder as outlined by the current Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR, American Psychiatric Association, 2000). Such descriptions therefore implied that psychopathic individuals were irresponsible, deceitful, aggressive, and regularly violated social norms and the rights of others.

Schneider, another German psychiatrist, discarded Kraepelin's more socially orientated labels and instead suggested that psychopathy was best understood through more scientific terms, "from the psychology of 'normal' personality" (Werlinder, 1978, p. 105). He argued that personalities that deviated away from what he coined as 'normal' could be classified as abnormal. Schneider (1923, cited in Werlinder, 1978) divided abnormal personality into two groups: a group that consisted of more general abnormal personalities and a distinct group that contained 'psychopathic personalities'. More specifically, Schneider defined 'psychopathic personality' as that containing a set of abnormal personality traits, which inflicted either suffering to the individual or to society in general. It is important to note that Schneider was one of the first to suggest that not all psychopathic individuals were involved in criminality and could indeed be found residing in the community (Stover, 2007).

In addition, Schneider also argued that there were ten different subtypes of psychopath: *hyperthymic* [excessive positive disposition]; *depressive*; *lacking self-confidence*; *fanatic* [obsessive enthusiasm]; *self-assertive*; *emotionally unstable*; *explosive*; *emotionally cold*; *weak-willed*; and *asthenic* [chronic weakness and a lack of strength] (Hurwitz & Christiansen, 1983). It was his description of the emotionally cold psychopath that best represents the more recent descriptions of clinical psychopathy (Lynam et al. 2011a). That is, the psychopath as affectionless, displaying little emotion, remorse or empathy.

Karpman, like Schneider, proposed that psychopathy could be divided into two clinical subtypes (Poythress & Skeem, 2006). However, unlike Schneider, Karpman suggested that psychopathic individuals could be categorised as either *primary* or *secondary* (Poythress & Skeem, 2006). Karpman (1955, cited in Skeem, Poythress, Edens, Lilienfeld & Cale, 2003) suggested that primary psychopaths were characterised by an

affective deficit and often behaved in a direct yet deliberate manner to increase their gain. Secondary psychopaths however, displayed symptoms that reflected an affective disturbance and were often impulsive, driven by emotional hatred or revenge (Karpman, 1955, cited in Skeem et al. 2003). Secondary psychopaths were also described as neurotic, displaying high levels of anxiety and/or depression. According to Poythress and Skeem (2006), the affective disturbance found within secondary psychopaths was an adaptation to maladaptive parenting styles. Despite the differences between primary and secondary psychopaths, Karpman (1948, cited in Poythress & Skeem, 2006) stated that both subtypes were characterised by criminality and a lack of regard or empathy for others.

Arieti (1963, cited in Hare, 1970) also separated the construct of psychopathy into different categories. He suggested that *simple* psychopaths were unable to delay their gratification regardless of the consequences, whilst *complex* psychopaths were unable to delay their gratification, *but* were also able to plan and avoid getting into trouble (Hare, 1970). Arguably, these plans rarely considered the rights and feelings of others. Hare (1970) suggested that many untrustworthy politicians and businessmen could be categorised as complex psychopaths.

McCord and McCord (1964, cited in Forrest, 1996) offered a description of psychopathy that, to an extent, summarised many of the definitions outlined here. They suggested that in general, psychopathic individuals are asocial, driven by uncontrolled desires for excitement, are aggressive and impulsive, have poor coping strategies, experience very little guilt, display little remorse, are detached from others, and have a distorted understanding of love and affection. Furthermore, McCord and McCord argued that the two most important features of psychopathy were 'guiltlessness' and 'lovelessness', and without these two characteristics an individual could not be classified as a psychopath. It becomes increasingly apparent that during the 20th century experts viewed deficits in affect to be an integral aspect of the disorder.

There are many different definitions and terms used to describe psychopathy, with 31 identified in this Chapter alone. This illustrates the difficulties when defining a heterogeneous disorder, such as psychopathy. It may also reflect cultural differences within the construct, as German definitions were being used to define American psychopaths and vice versa. In support of this, Husain (1995) noted that psychopathy

cases in America appeared more clinically severe than those cases studied in Europe. Thus, clinical descriptions of psychopathy may not apply across cultures. Nonetheless, a consensus on the defining core features of psychopathy would arguably prove beneficial, specifically when assessing for the construct.

Summary

From what the literature has indicated so far, psychopathy was viewed as abnormal personality in the 20th century, which was either inherited or developed due to life stressors. Psychopathic individuals were described as having deficits in affect and presenting with numerous traits that were conducive to an antisocial personality type, e.g. impulsivity, irresponsibility, egocentricity, and a lack of empathy and remorse. Individuals diagnosed with psychopathy were also described as displaying low or high levels of anxiety depending on whether their personality traits were congenital or acquired.

Whilst a significant emphasis was placed on the role of affect in psychopathy, cognition appeared to be missing from clinical descriptions of the disorder outlined during the 20th century. However, it was not until Harvey Cleckley, an American Psychiatrist, that the *specific* individual personality traits and mechanisms underpinning the disorder were acknowledged (Andrade, 2008).

2.5 Cleckley's conceptualisation of psychopathy

Whilst writing the first edition of his book, '*The Mask of Sanity*' (1941), Cleckley (1982) recognised that the construct of psychopathy was undefined in the psychiatric literature in comparison to other psychiatric disorders. He felt that material being published did not bear any resemblance to what he had experienced in his clinical work. In an attempt to understand the nature of psychopathy, Cleckley (1982) proposed that it would be valuable to review some of the historical concepts of the construct.

Cleckley (1982) believed that individuals suffering from psychopathy should be distinguished from 'normal' offenders. Unlike Pinel, Rush, and Prichard, he did not agree that 'intellect' and 'moral faculty' could be studied as two separate entities. In the revised edition of his book, Cleckley (1982) stated the following:

> *"We reject the demand to deal separately with an 'intellect', a 'moral faculty', a 'will', as if they were, apart from the words, things that could be isolated for study or treatment"* (p. 122).

Alternatively, he suggested that the construct could be better understood by observing specifically how psychopathic individuals presented in various aspects of their functioning (Cleckley, 1982), thus recognising the importance of cognitive and affective processing in psychopathy.

Cleckley (1982) also criticised psychiatrists, such as Koch, Kraepelin and Schneider, for including the construct under the same heading as other mental defects. He argued that psychopathy was distinct from other disorders and should be seen as separate. To illustrate this point, Cleckley (1982) stated how psychopathy was over-used as a means of classifying a range of difficulties, noting:

> *"As the psychoses were recognized and the psychoneuroses were distinguished from them, it became increasingly popular to put virtually anything that failed to fit into these categories with the psychopath in a veritable diagnostic salad of incompatibles. The term 'psychopathic personality', of course, invites such practice with its literal applicability to all psychiatric disorders"* (p. 124).

To overcome these issues, Cleckley (1982) provided a detailed account of the psychopath in his book. He titled the book 'The Mask of Sanity' as he felt psychopathic individuals were able to conceal their true identity and appear outwardly 'normal'; imitating the feelings and behaviours of others. Cleckley (1982) recognised that despite having the intellectual ability to interact on a superficial level, those with psychopathy did not have access to the corresponding emotions to understand the experience in any depth. It was this affective deficit that Cleckley (1982) felt was central to the psychopath's presentation. Interestingly, Cleckley (1982) noted that it was only when an individual with psychopathy spoke or was involved in goal directed behaviour that their true self became apparent. This suggests that deficits in psychopathy occur at a subtle level, but become more pronounced when individuals engage in behaviour to achieve a specific goal. Nevertheless, these deficits arguably allowed Cleckley to distinguish

psychopathic individuals from those without the disorder and therefore appear to have some utility when assessing for the construct.

Cleckley (1982) also felt psychopathy could manifest itself in varying degrees of severity. For example, he proposed the following:

> *"The characteristic disorder of the psychopath is usually not difficult to distinguish from other disorders, but like all of them, it, too, is seen in the widest variations of degree, in manifestations ranging from isolated character traits in a successful person, or brief episodes of delinquency in adolescence, to disability far greater than that shown by many of the psychotic patients committed to institutions"* (p. 145).

In essence, psychopathy can occur on a continuum, with severe levels of the disorder being associated with more difficulties, including problematic behaviours such as offending. However, Cleckley (1982) did not believe that the typical psychopath committed any serious offences. He did nonetheless suggest that there were exceptions to this. Cleckley (1982) described those psychopathic individuals who were involved in crimes, such as murder, as being callous and as having no remorse. More specifically, he stated that it was a psychopath's deficits in affect that prevented them from understanding their actions, which in turn left them uninhibited from participating in serious offending behaviour. He also suggested that psychopathic individuals were not afraid of punishment and that they fully understood the consequences of their actions (Cleckley, 1982). It therefore appears that Cleckley was suggesting that deficits in functioning predisposed individuals with psychopathy to engage in antisocial behaviour, with the severity of these deficits influencing the nature and extent of this behaviour.

From his detailed clinical accounts, Cleckley (1982) speculated that psychopathy resulted from some form of inborn defect that was not genetically related. Thus disagreeing with several previous descriptions of the disorder (e.g. Koch and Kraepelin). Cleckley firmly believed that the maladaptive features of the disorder were caused by abnormal personality development, rejecting the idea that psychopathy originated from organic brain dysfunction or from some type of genetic defect. For example, he stated that individuals with psychopathy have "lesions in their personality" (Cleckley, 1982, p. 143). He was reluctant to accept previous clinical descriptions and

instead outlined 16 personality traits that he felt best described the construct (Cleckley, 1982). These were described as:

> *"Superficial charm and good 'intelligence'; absence of delusions or other signs of irrational thinking; absence of 'nervousness' or psychoneurotic manifestations; unreliability; untruthfulness and insincerity; lack of remorse and shame; inadequately motivated antisocial behaviour; poor judgement and failure to learn by experience; pathologic egocentricity and incapacity for love; general poverty in major affective reactions; specific loss of insight; unresponsiveness in general interpersonal relations; fantastic and uninviting behaviour with drink and sometimes without; suicide rarely carried out; sex life impersonal, trivial, and poorly integrated; and a failure to follow any life plan"* (p. 204).

Cleckley's clinical profile of the prototypical psychopath contains items that account for deficits in both cognitive (e.g. poor judgment) and affective processing (e.g. general poverty in major affective reactions). Whilst Cleckley's explanations of these deficits were based solely on observation, his clinical profile encouraged further empirical investigation into the area and was also said to provide the foundations for the current assessment of psychopathy, the Psychopathy Checklist-Revised (PCL-R; Hare, 1991, 2003).

Summary

Cleckley's (1982) outline of the psychopath was viewed as the most accurate description of the construct for some time. His profile depicted psychopathy as a disorder of abnormal personality underpinned specifically by 16 personality traits. Cleckley's description explicitly made reference to cognition and affect and proposed that deficits in these two areas predisposed those with the disorder to engage in antisocial behaviour. Thus, antisocial behaviour was not seen as a defining feature of psychopathy and instead focus was placed on personality pathology. More specifically, he suggested that it was the severity of the deficits in cognition and affect which determined the extent and nature of the behaviours enacted by psychopathic individuals. Whilst Cleckley recognised that both cognition and affect were core features of the disorder, he placed more emphasis on the role of affect. It is important to note that

Cleckley's description of the psychopath was based on observation. Empirical investigation into the disorder, specifically the associated deficits in functioning, was yet to be conducted.

Before reviewing the current descriptions of psychopathy, it is important to conclude the history of the construct by examining how the DSM defined the disorder over the years. Within this section particular emphasis will be placed on the distinction between psychopathy and DSM-defined ASPD.

2.6 DSM definitions of psychopathy: Distinguishing psychopathy from ASPD

In the early 20th century, the American Psychiatric Association (APA; 1952) recognised that soldiers returning from the war were displaying unusual symptoms not commonly seen in community psychiatric hospitals. Only about 10% of these cases could be successfully diagnosed (APA, 1952). Given that the classification system at that time was limited to disorders normally found within the general public, all personality disturbances identified within military personnel, regardless of severity, were classified under the term of 'psychopathic personality' (APA, 1952). As a result, the Armed Forces began to alter the classification system to meet their needs, which added further confusion. It soon became apparent that the standard psychiatric description was no longer suitable for everyday clinical practice (APA, 1952).

According to the APA (1952), many psychiatrists at that time felt the description of psychopathy needed updating and a new proposal was developed to resolve this. With the aim of gaining a consensus on the content of the proposal, the committee distributed copies to approximately 10% of APA members (APA, 1952). The proposal was published in 1952 and became known as the first edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-I; APA, 1952).

The new manual referred to psychopathy as a personality disturbance. However, to avoid confusion with similar sounding terms, such as 'psychotic', the committee changed the name of the construct to *'sociopathic personality disturbance: antisocial reaction'* (Gurley, 2009). DSM-I defined psychopathy similar to the clinical description outlined by Cleckley. To be classified as presenting with *sociopathic personality*

disturbance – antisocial reaction, the manual stated that an individual had to meet the following:

> *"This term refers to chronically antisocial individuals who are always in trouble, profiting neither from experience nor punishment, and maintaining no real loyalties to any person, group, or code. They are frequently callous and hedonistic, showing marked emotional immaturity, with a lack of sense of responsibility, lack of judgement, and an ability to rationalize their behavior so that it appears warranted, reasonable, and justified. The term includes cases previously classified as 'constitutional psychopathic states' and 'psychopathic personality'. As defined here the term is more limited, as well as more specific in its application"* (APA, 1952, p. 38).

The second edition of the DSM (DSM-II; APA, 1968) was published 16 years later. Bodholdt, Richards and Gacono (2000) identified that this edition aimed to reduce ambiguity by providing clearer diagnoses for each of the different types of personality disorder. DSM-II placed a greater emphasis on the personality traits associated with each disturbance (Bodholdt et al. 2000).

The committee expanded the diagnostic criteria of psychopathy to include the following personality traits: callousness; impulsivity; selfishness; and guiltlessness (Gurley, 2009). Gurley (2009) also recognised that to further distinguish psychopathy from other personality disturbances, DSM-II highlighted that an individual had to present with the personality traits noted here and not just have an extensive criminal record.

In the second edition of the DSM, psychopathy encountered another name change. It was changed from 'sociopathic personality disturbance - antisocial reaction' to '*antisocial personality*' (Gurley, 2009). This was made to "facilitate maximum communication within the profession" (APA, 1968, p. viii).

In 1980 the American Psychiatric Association published the third edition of the DSM (DSM-III; APA, 1980). This edition was created using a very different approach to that adopted when developing DSM-I and DSM-II. Gurley (2009) noted that the APA aimed to increase the accessibility, reliability and applicability of DSM-III.

Psychopathy experienced another name change. It was now referred to as *'antisocial personality disorder'* (ASPD) (Gurley, 2009). The diagnostic criteria also underwent significant alterations, focusing more on criminal behaviour than personality (Gurley, 2009). To be diagnosed with ASPD (which is in fact a different disorder to psychopathy[2]), the APA (1980) stated that an individual had to have a history of at least three antisocial behaviours prior to the age of 15, display a pervasive pattern of criminality, and present with at least four manifestations of the disorder since the age of 18, i.e. an inability to maintain work; an inability to respect and follow social norms; and an inability to honour financial obligations, etc. (APA, 1980).

This change was made as the committee felt that behaviour was easier to define and assess, which in turn would hopefully increase the reliability of ratings (Bodholdt et al. 2000). The only two personality traits that remained in the diagnostic criteria were impulsivity and irresponsibility (Gurley, 2009). According to Blackburn (2007a), DSM-III saw the return of 'moral insanity', in that the diagnostic criteria of psychopathy focussed more on a list of socially undesirable acts with virtually no reference to any personality traits. Thus, the conceptualisation of psychopathy moved away from abnormal personality to criminal behaviour and further omitting the core affective and interpersonal features, as well as placing less emphasis on the role of cognition.

Many researchers felt that the diagnostic criteria of ASPD had deviated away from the original conceptualisation of psychopathy made by Cleckley (Gurley, 2009). They also stated that the new diagnostic criteria was too broad as research had found that approximately 80% of prisoners now met the criteria for ASPD, with only one-third of these being classified as psychopathic under the original criteria adopted by DSM-I and II (Gurley, 2009). Despite efforts made by the APA to make psychopathy more measurable, it appears that they may have instead introduced a new disorder. Hare and Neumann (2006) also agree with this suggestion stating that:

> *"the DSM strategy for operationalizing the construct of psychopathy may in fact have introduced a related, but not identical construct to the field, one that continues in DSM-IV"* (p. 61).

[2] The diagnostic criteria for ASPD includes rule breaking, impulsivity and lying. Psychopathy is similar to ASPD but places less emphasis on criminal behaviour. Unlike ASPD, psychopathy is also associated with interpersonal and affective difficulties.

During the development of DSM-IV, a number of field trials were conducted to pilot the proposed changes (Gurley, 2009). Twelve field trials were completed, one of which examined the recommended changes to the diagnosis of ASPD. Hare, Hart and Hempur (1991) noted that the trials aimed to consider whether the diagnosis of ASPD should: 1). Include some of the traditional personality traits often associated with psychopathy; and 2). Whether the diagnostic criteria of ASPD could be shortened and simplified. The field trials sampled populations from four different sites, involving prisoners, psychiatric patients (not psychotic), individuals with substance use disorders, and homeless people (Widiger et al. 1996). The results indicated that various items belonging to the diagnostic criteria of ASPD could either be collapsed or deleted, and that the rank order of the criteria needed changing (Widiger et al. 1996). The trials also highlighted that it was particularly important to incorporate several items associated with the PCL-R into the diagnostic criteria of ASPD (Widiger et al. 1996).

Following the trials, a number of relatively minor changes were made to the diagnostic criteria of ASPD (Gurley, 2009). The criteria now included several personality traits that also appear in the current assessment of psychopathy, the Psychopathy Checklist-Revised (PCL-R; Hare, 2003):

> *"Individuals with antisocial personality disorder frequently lack empathy and tend to be callous, cynical, and contemptuous of the feelings, rights, and sufferings of others. They may have an inflated and arrogant self-appraisal (e.g., feel that ordinary work is beneath them or lack a realistic concern about their current problems or their future) and may be excessively opinionated, self-assured, or cocky. They may display a glib, superficial charm and be quite voluble and verbally facile (e.g. using technical terms or jargon that might impress someone who is unfamiliar with the topic)"* (APA, 2000, p. 703).

The personality traits outlined here were also very similar to the ones first proposed by Cleckley in his clinical profile of the psychopath (Gurley, 2009). It could be suggested that the APA viewed ASPD to be almost identical to the construct of psychopathy. This view was not positively considered by a number of researchers (e.g. Ogloff, 2006; Hildebrand & de Ruiter, 2004) as they felt ASPD should be seen as separate to psychopathy. Equating ASPD with psychopathy also led to confusion amongst clinicians as they began to extend research findings from studies on psychopathy to

those individuals with ASPD (Ogloff, 2006). Moreover, the DSM-IV diagnostic criteria of ASPD was criticised for being over inclusive, for having low diagnostic validity and low predictive power (Gurley, 2009).

Indeed, when examining the link between ASPD and psychopathy, Hildebrand and de Ruiter (2004) identified that the two disorders were asymmetrically related. They found that almost all of the patients diagnosed with psychopathy also met the criteria for ASPD. However, only a very small number of the patients diagnosed primarily with ASPD met the diagnosis for psychopathy (Hildebrand & de Ruiter, 2004). This finding supported the conclusions made by Huchzermeier and his colleagues. Huchzermeier et al. (2007) suggested that psychopathy did not belong to the broader construct of ASPD. Instead they proposed that psychopathy, as defined by the PCL-R, *partially* overlaps with ASPD sharing some of the same characteristics.

In an attempt to further distinguish psychopathy from ASPD, Cunningham and Reidy published an article in 1998 that compared the two constructs. They identified that in general, research has found psychopathy to be a better predictor of institutional violence, parole outcome, treatment failure, and violent recidivism than ASPD. Research has also identified that individuals with psychopathy have different neuropsychological and processing deficits to other offenders (e.g. Pham, Vanderstukken, Philippot & Vanderlinden, 2003; Howard & McCullagh, 2007), including those with ASPD (e.g. Kosson, Lorenz & Newman, 2004; Rogstad & Rogers, 2008). The differences between ASPD and psychopathy, identified here, emphasise the need for DSM-V to make the diagnostic criteria of ASPD more distinguished from clinical psychopathy.

DSM-V (APA, 2013) does not recognise psychopathy as a distinct entity and instead, like DSM-IV, continues to include many behavioural features of the disorder under the heading of ASPD. Whilst the categorical diagnostic framework for ASPD remained the same, an alternative dimensional approach was introduced to allow for a trait-based model. The committee was of the viewpoint that personality disorders are characterised by maladaptive variants of personality traits that merge into 'normality' and into one another (APA, 2013). This explanation may account for the inclusion of some psychopathy features within the ASPD diagnostic criteria. Nonetheless, when

considering the dimensional trait-based model of ASPD, the broad personality domains of antagonism, disinhibition and negative affect were proposed.

The criteria for reckless disregard and irresponsibility were represented by traits of impulsivity, risk taking and irresponsibility (disinhibition domain). A lack of remorse, irritability and aggressiveness, and deceitfulness were captured by traits of deceitfulness, manipulativeness, hostility and callousness (APA, 2013). The APA committee related these personality traits to the domain of antagonism, with the exception of 'hostility', which they associated with negative affect.

According to Strickland, Drislane, Lucy, Krueger and Patrick (2013), the dimensional approach to ASPD does not include many of the core features considered to underpin psychopathy. That is, the trait-based model of ASPD does not capture interpersonal efficacy, emotional resiliency and fearless temperament; all of which have been argued to form the prototypical elements of 'boldness' found within psychopathy (Strickland et al. 2013). An important question therefore remains as to whether psychopathy can be fully represented by the personality traits included in the ASPD trait model.

Strickland et al. (2013) investigated this and found that psychopathy, as defined by the Triarchic Psychopathy Measure (TriPM; Patrick, 2010)[3], can be effectively indexed using the personality inventory for DSM-V (PID-5; Krueger, Derringer, Markon, Watson & Skodel, 2012). The trait-based model for ASPD adequately captured the disinhibition and meanness facets of psychopathy (Strickland et al. 2013). However, additional traits are required to provide improved coverage of the boldness facet to the same level as disinhibition and meanness. Strickland et al. (2013) identified two traits to predict the boldness facet of psychopathy: Risk taking (disinhibition domain) and manipulativeness (antagonism domain). Whilst this finding suggests that the dimensional approach adopted in DSM-V for diagnosing ASPD may better capture psychopathy, additional traits are still required to capture the boldness facet (Strickland et al. 2013). More specifically, Strickland et al. (2013) suggested that inclusion of anxiousness (reversed), submissiveness (reversed), and attention seeking to the ASPD trait-based model in DSM-V would provide better coverage of the boldness facet of psychopathy, and thus the construct of psychopathy as a whole.

[3] The TriPM is a 58 item self-report measure developed to assess three components of psychopathy delineated in the Triarchic model (Patrick, Fowles & Krueger, 2009; Patrick, 2010): Boldness; Meanness; and Disinhibition.

One limitation of the Strickland et al. (2013) study is that psychopathy was assessed solely via self-report. Questions therefore arise as to whether the findings can be generalised to psychopathy measured using different approaches, specifically via the Psychopathy Checklist-Revised (PCL-R; Hare, 1991, 2003), which utilises interview and collateral assessment. Notwithstanding this limitation however, the findings of Strickland et al (2013) highlight that the dimensional approach used in DSM-V offers a basis for distinguishing a "classically psychopathic variant of ASPD"; a variant that is similar to the 'primary' psychopath described by both Cleckley and Karpman (Strickland et al. 2013, p. 336). Though this is a progressive step, the DSM would arguably benefit from providing diagnostic criteria for psychopathy separate to ASPD; one that makes explicit reference to the core personality features of the disorder, as well as taking into account the role of cognition and affect.

Summary

Despite its significance, psychopathy has had an unclear history in DSM. The construct appears to have been merged with ASPD, as they share similar behavioural symptomology. Equating psychopathy with ASPD has resulted in many core features of the disorder being ignored, specifically those relating to interpersonal, cognitive and affective functioning. Although the introduction of DSM-V and its dimensional approach offers a more promising framework for defining psychopathy, the disorder is yet to be viewed as a distinct syndrome in line with more favourable conceptualisations, such as that of Hare (1980, 1991).

2.7 Hare's conceptualisation of psychopathy

Based on the work of Cleckley, Robert Hare, a researcher in the area of Forensic Psychology, developed an instrument to assess psychopathy (Harpur, Hakstian & Hare, 1988). This became known as the Psychopathy Checklist (PCL; Hare, 1980). Eleven years later, Hare released a revised version of the instrument, the PCL-R. Although the PCL was originally developed to assess a unitary construct, i.e. psychopathy as a whole, a number of factorial analyses identified that two highly correlated factors could be extracted (Harpur et al. 1988). Factor I (F1) was found to relate to a number of interpersonal and affective personality traits, whilst factor II (F2) was associated with a

chronically unstable and antisocial lifestyle (Harpur, Hare & Hakstian, 1989)[4]. These two factors arguably underpin, or have influenced, current descriptions of the disorder.

The two-factor model of psychopathy was also found to extend to the revised version of the PCL-R (e.g. Hare, 1991; Moltó, Poy & Torrubia, 2000). Hare (1970) was of the opinion that psychopathy was a "distinct clinical and behavioural entity" (p. 11). However, he did state that some of the characteristics associated with the construct could be found in other psychiatric disorders, such as ASPD and narcissistic personality disorder (Hare, 1970).

In terms of ASPD, Hare and Neumann (2009) recognised that it was similar to psychopathy, but not identical. Hare and Neumann (2009) suggested that psychopathy places more emphasis on interpersonal and affective features, whilst ASPD focuses more on antisocial behaviour. In support of this suggestion, Harpur et al. (1988) found ASPD to correlate more strongly with F2 than with F1 of the PCL[5].

Summary

Thus, it becomes apparent that Hare's conception of psychopathy is based on his assessment tool, the PCL-R. He viewed psychopathy as a distinct disorder, separate to ASPD, underpinned by two factors representing personality and behavioural features. Although the PCL-R has been held as the 'gold standard' for assessing psychopathy, several researchers (e.g. Cooke & Michie, 2001; Skeem & Cooke, 2010a,b) have expressed their concerns surrounding the PCL-R and its current conceptualisation of the construct[6]. Their concerns extend to the PCL-R's assessment of cognition and affect and the components underpinning the disorder.

2.8 Concluding comments

Psychopathy was arguably the first disorder to be classified as a disorder of personality. It has a rich clinical history that not only outlines the construct itself, but also takes into

[4] See Chapter three for the items underpinning each PCL-R factor.
[5] A number of researchers (e.g. Cooke & Michie, 2001; Skeem & Cooke, 2010a,b) have expressed their concerns stating that Hare's two factor model is not a true representation of psychopathy, and instead have proposed a three factor model that places more emphasis on personality features and affect.
[6] This will be addressed in Chapter three along with a more detailed discussion on the different measures used to assess for psychopathy.

consideration the impact psychopathy has upon society in general. As Hervé (2007) recognises, the clinical experiences and observations made by past physicians, such as Cleckley, provide an insight into the inner world and functioning of the psychopath that could not be achieved by research alone. Furthermore, these qualitative accounts led to the development of the PCL-R, thus providing a structured clinical tool to assess and further study the construct. Hare's (1991) criteria used to assess for psychopathy has provided clinicians with a current, common understanding of the disorder; an understanding that distinguishes psychopathy from ASPD. Whilst the APA are still yet to make this distinction, it appears that they are moving in the right direction; proposing use of a dimensional approach to assess for personality pathology which captures further facets of personality.

Nevertheless, despite its contribution to the academic literature and popularity among clinicians, the PCL-R is not without its limitations. This has resulted in a number of questions surrounding the measurement and consequently the clinical definition of psychopathy. Moreover, Hare's (1991) conceptualisation of psychopathy may not be applicable to all populations and warrants further investigation. This moves the thesis onto the specific area of assessment and measurement of psychopathy.

Chapter 3.
PSYCHOPATHY: ASSESSING AND MEASURING THE CONSTRUCT

3.1 Structure of the Chapter

This Chapter provides an overview on the measurement of psychopathy. This includes a discussion on the different measures used and the limitations associated with each. It is important to initially focus on the measurement of psychopathy via the Psychopathy Checklist - Revised (PCL-R; Hare, 1991, 2003), as this has played a key role in defining the construct as well as guiding theory and research in the area (Skeem & Cooke, 2010b).

Throughout this Chapter, the nature and extent of psychopathy across different populations, including *forensic*, *clinical* and *community*, is explored in accordance with the measure applied. A discussion on sex differences in psychopathy is also provided.

3.2 Measuring the construct of psychopathy

Whilst researchers have been concerned with the predictive utility of the construct (e.g. Walters, 2012), clinicians use the concept to determine treatment suitability and to guide treatment and management plans (Harris & Rice, 2006). Offenders arguably also have an invested interest in the concept of psychopathy, since those diagnosed with the disorder are generally given longer sentences (Lee, 2007), are perceived to be less treatable (Harris & Rice, 2006), and are viewed as a higher risk of recidivism following release (Tengström, Grann, Längström & Kullgren, 2000). Psychopathy is therefore an important concept in forensic and clinical settings and as a consequence it is crucial that the measurement of the construct is as accurate as possible (Wright, 2009).

The last decade has seen a number of significant advances in the assessment of psychopathy, specifically due to the development of the Psychopathy Checklist (PCL; Hare, 1980) and its subsequent revision (Hare, 1991, 2003).

3.3 The Psychopathy Checklist (PCL) and its development[7]

The development of the PCL began in 1978. The aim was for a measure that empirically assessed the criteria proposed by Cleckley (1982, i.e. 16 personality characteristics including superficial charm and good intelligence, a lack of remorse or shame, poor judgment and failure to learn from experience) and a number of traits and behaviours previously associated with the clinical construct (Hare & Neumann, 2006). An item pool of approximately 100 was subjected to a series of statistical analyses to establish those items with the best psychometric properties (Hare & Neumann, 2006). Twenty-two items were retained and included in the original PCL. According to Hare and Neumann (2006), initial analyses identified the measure as having good levels of internal reliability and construct validity in a forensic sample.

The PCL was subjected to a number of modifications following feedback from professionals (Hare & Neumann, 2006). The changes involved the alteration of item titles and item descriptions. For example, "Irresponsible behaviour as a parent" was found to be too specific and was changed to "Irresponsibility" (Hare & Neumann, 2006). Two items were deleted (i.e. "Drug or alcohol abuse not direct cause of antisocial behaviour" and "Previous diagnosis as psychopath or similar") as they provided little useful information and relied too much on past diagnosis (Hare & Neumann, 2006). Scoring instructions were changed to allow users to omit items and to score items against a prototypical description (Hare & Neumann, 2006). These changes formed the basis of the revised version of the PCL, the PCL-R.

As discussed in the previous Chapter, the PCL-R has been viewed as "the measure of choice" for assessing psychopathy (Cooke & Michie, 1997, p. 3). It contains 20 items and uses a semi-structured interview and collateral (e.g. file) information, along with specific scoring criteria to assess the personality and behavioural traits related to the construct (Hare & Neumann, 2006). Each item is rated on a three-point scale, with 'zero' suggesting that the individual does not meet the item criteria; 'one' indicating that the individual may meet the criteria; and 'two' suggesting the individual fully meets the item criteria. Total scores can range from 0 to 40, with scores indicating the degree

[7] Appendix one provides an overview of the psychometric qualities of the Psychopathy Checklist and its revision.

to which the individual meets the prototypical description of clinical psychopathy. Cut-off scores for psychopathy range from 25 (United Kingdom) to 30 (United States).

The difference in cut-off scores between the United Kingdom and United States has been argued to reflect the prevalence of the disorder in the two countries. Using the cut-off of 25, Cooke (1998), and Cooke and Michie (1997), found the prevalence of psychopathy to be 8% in a sample of Scottish prisoners, and 29% in North American prisoners. Furthermore, the difference in the diagnostic cut-off has also been attributed to environmental and cultural differences, as these have been found to influence the behavioural expression of psychopathy (e.g. Cooke, 1998; Cooke & Michie, 1997). Thus, assessing the construct across different cultures using only a categorical (i.e. 'cut-off') approach may present as problematic. The inclusion of a dimensional approach maybe more appropriate, particularly as researchers have found the PCL-R and its derivatives to be largely dimensional in nature (e.g. Walters et al. 2007). The combination of categorical and dimensional approaches in the assessment of psychopathy would allow for clinicians to state which psychopathic personality traits are central to the individual's presentation, as well as commenting on the severity of each.

Moving onto the structure of the PCL-R, the measure assesses psychopathy via two highly correlated factors: Factor 1 (F1) and Factor 2 (F2). Factor one is characterised by interpersonal and affective features, whilst factor two resembles an impulsive and antisocial lifestyle (Hare, 1991). According to Hare (1991), F1 psychopathy consists of the following traits: glibness/superficial charm; grandiose sense of self-worth; pathological lying; conning/manipulative; lack of remorse or guilt; shallow affect; callous/lack of empathy; and a failure to accept responsibility for own actions. F2 on the other hand was characterised by a need for stimulation/proneness to boredom; parasitic lifestyle; poor behavioural controls; early behavioural problems; lack of realistic, long-term goals; impulsivity; irresponsibility; juvenile delinquency; and revocation of conditional release (Hare, 1991).

The PCL-R has been found to have good reliability and validity, with a wealth of articles and book chapters devoted solely to evaluating its psychometric properties (Vitacco, Lishner & Neumann, 2012). Despite this support, a number of researchers (e.g. Cooke & Michie, 1997, 2001; Skeem & Cooke 2010a,b) have expressed their

concerns with the measure, specifically in relation to its structure. Cooke and Michie (1997) suggested that the two factors underpinning the PCL-R were not of equal importance. They identified that F1 was statistically better at defining psychopathy than F2. In light of this, Cooke and Michie (1997) concluded that the personality traits associated with F1 were the core features of the construct and should therefore be weighted accordingly on the PCL-R.

In a later study, Cooke and Michie (2001) evaluated the construct validity of the two-factor model. They were of the view that the two factors delineated by Hare (1991) may not be a true reflection of psychopathy as they were "founded on ad hoc statistics, in particular, the misinterpretation of congruence coefficients" (p. 183). Cooke and Michie (2001) sampled data from a large forensic sample, which constituted of North American men. The same data had previously been used to develop the PCL-R (Cooke & Michie, 2001). Their results suggested that the two-factor model does not accurately describe psychopathy and instead proposed a three-factor model that comprised the following equally-weighted components: Arrogant and deceitful interpersonal style; Deficient affective experience; and Impulsive and irresponsible behavioural style (Cooke & Michie, 2001). According to Cooke and Michie (2001), all components have to be present for an individual to be diagnosed with clinical psychopathy.

Cooke and Michie's (2001) three-factor model placed reduced emphasis on criminality and more on personality pathology, as four of the items associated with F2 psychopathy were excluded[8]. It also placed more emphasis on *affect* when compared to Hare's (1991) two-factor model. The new model suggested that criminality was a correlate, rather than a component of psychopathy (Cooke & Michie, 2001), which is in agreement with the early conceptions proposed by Schneider and Cleckley (i.e. the notion that some psychopaths are 'successful' and are able to function within society without offending, or engage in less serious antisocial behaviour). The over emphasis on criminality in the original PCL may have resulted from the characteristics of the sample used to develop it, i.e. North American prisoners; of which all were men (Cooke & Michie, 2001). It may also reflect DSM's conceptualisation of the disorder, in that it does not explicitly distinguish psychopathy from ASPD (Forth, Bo & Kongerslev, 2013).

[8] i.e. poor behavioural control, early behavioural problems, revocation of conditional release and criminal versatility.

Blackburn (2007a) also recognised that the over focus on forensic samples in the psychopathy research has resulted in the construct being viewed as a type of criminal personality. He states that the literal meaning of psychopathy is "*psychologically damaging*", but it has come to mean "*socially damaging*" (Blackburn, 2007a, p. 8). Furthermore, Blackburn (2007a) argued that psychopathy may not involve criminal behaviour and instead should be conceptualised as a disorder of personality, characterised by *abnormal* (as opposed to criminal) variants of 'normal' personality dimensions. Thus, it can be seen that researchers have argued that the PCL-R has overlapped with a behavioural measure and has deviated away from psychopathy as personality, moving towards a more behavioural approach.

Moving back to the structure of psychopathy, as defined by the PCL-R, Neumann, Kosson, Forth and Hare (2006) disagreed with the decision made by Cooke and Michie (2001) to exclude four of the items originally belonging to F2. They felt that the elimination of these items was not appropriate, as the items have been found to play a vital role in the development of psychopathy (Frick & Marsee, 2006). Additionally, Williams et al. (2007) state that the three-factor model of psychopathy only provides an adequate fit when the four items are not included. They suggest that the inclusion of these items produces a more statistically valid model, a model comprising four factors (Williams et al. 2007).

Following minor revisions to the PCL-R in 2003, Hare (2003) moved away from his traditional two-factor model of psychopathy and proposed that a four-factor model could better represent the measure. This model consisted of the following factors: *Interpersonal; Affective; Lifestyle;* and *Antisocial* (Hare, 2003). The interpersonal, affective, and lifestyle factors were identical to the three factors proposed by Cooke and Michie (2001). However the fourth factor (i.e. the antisocial component) included the four items excluded by Cooke and Michie (2001) and one additional item, 'Serious criminal behaviour' (Hare & Neumann, 2006). Hare and Neumann (2010) argue that Cooke and Michie (2001) contradict themselves in their three-factor model in that they include an antisocial lifestyle component, yet still suggest that psychopathy should be conceptualised through personality traits rather than criminal behaviour.

Therefore, it becomes apparent that there is disagreement surrounding the factor structure of PCL-R conceptualisation of psychopathy and as to whether the construct is personality or behaviour-based. The boundaries of the construct may require further clarification (Lilienfeld & Andrews, 1996), particularly since researchers have also failed to resolve this dispute. Research has found support for *both* the three-factor and four-factor model in community (e.g. Williams et al. 2007; Sevecke, Pukrop, Kosson & Krischer, 2009), psychiatric (e.g. Hill, Neumann & Rogers, 2004; Vitacco, Neumann & Jackson, 2005), and forensic samples (e.g. Johansson, Andershed, Kerr & Lavander, 2002; Neumann, Hare & Johansson, 2013a).

Application between sex

Interestingly, there appears to be more agreement surrounding the factor structure of psychopathy in women, with Cooke and Michie's (2001) three-factor model being more successful (e.g. Jackson, Rogers, Neumann & Lambert, 2002). According to Logan and Weizmann-Henelius (2012), the four-factor model of psychopathy (specifically the *antisocial* factor) and its applicability to women has been questioned given the sex differences in the expression of antisocial behaviour, attitudes and beliefs.

Furthermore, in line with evolutionary theory, it has been postulated that psychopathic women are more likely to use subtle interpersonal dominance and exploitative strategies rather than antisocial behaviour or physical aggression as a method of meeting their needs (Kreis & Cooke, 2011). Research (e.g. Salekin, Rogers & Sewell, 1997) has also highlighted sex differences in the original two-factor model of psychopathy. Salekin et al. (1997) identified that F1 in women was characterised by a lack of empathy or guilt, interpersonal deception, proneness to boredom, and sensation seeking. F2 was underpinned by early behavioural problems, promiscuity, and adult antisocial behaviour. Interestingly, impulsivity, poor behavioural controls, and a lack of realistic long-term goals loaded onto both factors (Salekin et al. 1997). A 'failure to accept responsibility for own actions' did not load onto either component in women, which is surprising given that Hare (1991) identified this as a fundamental characteristic of the disorder (Salekin et al. 1997). Other researchers (e.g. Jackson et al. 2002) exploring the construct in women have failed to replicate the two-factor model. Thus, it appears that the PCL-R items function differently, with the two and four-factor models having little empirical application to women.

Further sex differences have been found in the prevalence of PCL-R defined psychopathy (Logan & Weizmann-Henelius, 2012). In the general population, the prevalence of psychopathy in men has been identified to occur at a rate of 1%, with this figure being even lower in women (Forth, Brown, Hart & Hare, 1996). When exploring the extent of the construct in mental health settings, research has highlighted a notable sex difference. In a study of 42 matched men and women, de Vogel and de Ruiter (2005) identified 24% of the men sampled to be psychopathic, whilst only 10% of the women reached the diagnostic cut-off. Levels of psychopathy in psychiatric institutions have generally been found to be lower than that identified in correctional settings (Strand & Belfrage, 2005). In correctional settings, women generally exhibit similar levels of psychopathy to their male counterparts, i.e. 15 to 30% (Huss, 2009). However findings are varied and women tend to fall towards the lower end of this range (Verona & Vitale, 2006). For example, Salekin et al. (1997) found only 16% of women residing at a North American prison met the higher diagnostic cut-off for psychopathy (i.e. a cut-off of 30). According to Logan & Weizmann-Henelius (2012), in higher secure settings, sex differences in psychopathy are less apparent, with levels of the disorder becoming almost identical across sexes (e.g. Strachan, 1993).

Findings such as these bring into question the applicability of the PCL-R to women, as the measure has only been found to perform the same as in men when psychopathy presents at a severe degree and/or when a history of antisocial behaviour is present. It is possible that the prevalence rates for women may therefore be inaccurate. Thus, the PCL-R may not be adequately capturing the manifestation of psychopathy in women, or among those whose psychopathic traits (specifically the traits relating to antisocial conduct) are less evidenced (Logan & Weizmann-Henelius, 2012). Research investigating psychopathy in women has therefore been limited to both a male conceptualisation of the disorder and a measure that has been developed and validated with men (Kreis & Cooke, 2011).

Many researchers have administered the PCL-R to both men and women with the belief that it assesses psychopathy equally in both populations (Logan & Weizmann-Henelius, 2012). This is unsurprising, as Skeem and Cooke (2010a) note how the theoretical construct and the assessment of psychopathy have somewhat become synonymous. That is, researchers are in danger of equating the two, when in fact they should treat the

assessment and manifestation of the disorder as separate entities. With this in mind, it is important to examine the applicability of the PCL-R to women, once again identifying any sex differences.

Symptoms in psychopathic women have been argued to be less severe when compared to men (Forouzan & Cooke, 2005). Furthermore, in a qualitative study examining experts' observations and evaluations, Forouzan (2003, cited in Forouzan & Cooke, 2005) identified that manipulation in women was related to provocativeness, whilst in men it was associated with 'conning' behaviour. Impulsivity and conduct disorder in women manifested through running away, self-harming, manipulation, and participating in criminal offending, whereas in men the two traits were characterised primarily by physical aggression. In terms of interpersonal symptoms, glibness, superficial charm, and a grandiose sense of self-worth only became evident in the more severe cases of psychopathy in women.

A number of experts also suggested that certain traits may have a different meaning across sexes. For example, 'promiscuous sexual behaviour' may be understood as a desire to exploit others, whilst in men it may reflect sensation seeking or mating effort (Forouzan, 2003, cited in Forouzan & Cooke, 2005). Societal norms were also argued to have an influence in the assessment of psychopathy, in that experts stated that 'material dependency' may be viewed as 'parasitic' in men, but may be culturally accepted in women (Forouzan, 2003, cited in Forouzan & Cooke, 2005). From this, it can be assumed that there are sex differences in the expression of psychopathy as measured by the PCL-R, with psychopathy in women presenting as more discrete and harder to detect (Logan & Weizmann-Henelius, 2012) using the PCL-R.

Findings such as these highlight the importance of developing a new assessment of psychopathy; an assessment that can be applied to both men and women. In the meantime the PCL-R manual requires revising, as it lacks the guidance needed to interpret the items when working with women (Logan & Weizmann-Henelius, 2012). A lack of guidance could result in the misinterpretation or underestimation of psychopathy in women.

Despite the sex differences identified, the PCL-R has been found a reliable measure in women (Logan & Weizmann-Henelius, 2012), with its predictive ability being almost

identical to that found in men (e.g. Nicholls, Ogloff, Brink & Spidel, 2005). Given the overall success of the PCL-R (Zolendek, Lilienfeld, Patrick & Fowler, 2006), Hare and colleagues have developed derivative measures to assess psychopathy in a wide variety of contexts (Hare & Neumann, 2006). These include the Psychopathy Checklist: Screening Version (PCL:SV; Hart, Cox & Hare, 1995) and the Psychopathy Checklist: Youth Version (PCL:YV; Forth, Kosson & Hare, 2003). Both measures have been found to have similar psychometric properties to the PCL-R (Hare & Neumann, 2006).

The Psychopathy Checklist: Screening Version (PCL:SV)

The PCL:SV was primarily developed for use in the MacArthur Risk Assessment study[9] (Hare & Neumann, 2006). It is used as a screen for psychopathy (Hare & Neumann, 2006). The measure contains 12 items, with the rater assessing the items in the same manner adopted for the PCL-R (Forth et al. 2013). However, scoring of the PCL:SV requires less detailed information and can therefore be applied more readily to community samples where collateral information is not always available, thus requiring a need to rely on self-report (Hemphill & Hart, 2003).

When developing the PCL:SV the items used in the PCL-R were shortened and a number combined to form several collapsed items (Forth et al. 2013). For example, PCL:SV item three, 'Deceitful', was produced from simplifying and combining the PCL-R item 'Pathological lying' and 'Conning and Manipulative' (Forth et al. 2013). The PCL:SV has also been described as a "relatively quick and inexpensive way of assessing psychopathic traits" (Hart et al. 1995, p. 1), thus making it particularly useful for research purposes.

In terms of the factor structure, findings for the PCL:SV mirror those obtained when using the PCL-R (Forth et al. 2013). Research has found support for the two-, three-, and four-factor structures (e.g. Cooke, Michie, Hart & Hare, 1999; Guy & Douglas, 2006), therefore suggesting that the debate surrounding the structure of psychopathy also extends to this measure. However, more recent research has highlighted that Hare's (2003) four-factor model provides a more adequate fit (e.g. Vitacco et al. 2005). Currently, the PCL:SV has been split into two parts resembling the two-factor structure

[9] The MacArthur violence risk assessment study was designed to improve the validity and effectiveness of clinical risk assessment, as well as provide information on the association between mental disorder and violence to enhance policy and mental health law (American Psychological Association, 1996).

of the PCL-R, with each component then potentially being split into a further two facets (Forth et al. 2013).

The Psychopathy Checklist: Youth Version (PCL:YV)

The youth version of the Psychopathy Checklist, the PCL:YV, is intended for use with adolescents. However, it is not used to diagnose psychopathy in young people per se, but rather as an indicator for detecting problematic behaviour in the future and to develop specialised interventions (Hare & Neumann, 2006).

Assessing psychopathy in children and adolescents has given rise to much controversy amongst researchers, as certain individuals argue that traits central to understanding the disorder (e.g. empathy) may not reach full maturation until adulthood (Lilienfeld, 1998). Assigning the label of 'psychopathy' to an individual who has not yet reached maturity may be viewed as unethical, particularly as the label may have a negative impact on the child or adolescent (Dolan, 2004)[10].

Summary

The PCL-R and its derivatives thus represent significant advances in the exploration and assessment of psychopathy (Forth et al. 2013). The PCL-R has been identified as being psychometrically sound. However, there remains debate surrounding which traits and behaviours underpin the construct, with research now pointing towards a more personality-based approach. The PCL-R's applicability to women has also been questioned. Researchers are unsure as to whether the measure is adequately capturing the construct in this population. These issues raise concerns due to the serious consequences involved when diagnosing an individual as 'psychopathic' (Forth et al. 2013). Further exploration into the applicability of the PCL-R and its factor structure is therefore warranted.

The concerns surrounding the PCL-R have also led researchers to develop alternative methods of assessing the construct (Fowler & Lilienfeld, 2013). Many of these alternatives rely heavily on self-report and observations, with more recent developments

[10]As the current research focuses solely on adults, further discussion of the PCL:YV is beyond the scope of this thesis.

incorporating measures to assess *implicit cognitive and affective psychopathic processing*[11]. The next two sections discuss these assessments in more detail.

3.4 Self-report measures of psychopathy[12]

As discussed, the PCL-R assessment process involves an extensive review of an individual's collateral information. Administration of the measure is also time consuming and requires formal training. Thus, for many purposes (i.e. for research and assessing psychopathy in non-institutionalised samples) the PCL-R may not always be appropriate (Copestake, Gray & Snowden, 2011). Given this, there have been several attempts to develop a new self-report measure of psychopathy to act as an alternative to the PCL-R and its derivatives.

According to Lilienfeld and Fowler (2006), self-report measures are economical, easily administered, allow for the detection of different response styles, and yield useful information relating to the absence of affective traits. However, there are also a number of disadvantages, which have led to the belief that self-report measures are not suitable when assessing psychopathy. Psychopathic individuals, for example, have been associated with lying, a lack of insight, and an inability to report accurately on affect, therefore raising questions regarding the validity of self-report when measuring the construct (Lilienfeld & Fowler, 2006).

Lilienfeld and Fowler (2006) acknowledge these disadvantages, but also state that there are a "number of misconceptions that have led to misunderstandings regarding the potential uses and misuses of questionnaires for detecting the disorder" (p. 111). This has resulted in clinicians prematurely discounting the value of self-report when in fact the responses provided by psychopathic individuals generate diagnostically helpful information about the way they view themselves and the world (Lilienfeld & Fowler, 2006). Additionally, in a meta-analytic review examining self-reported psychopathic traits and response styles, Ray et al. (2013) concluded that individuals with psychopathy are often willing to admit to many undesirable traits and behaviours. Self-report measures may therefore have some utility in the assessment of the construct.

[11] See Chapter four and five for a more detailed discussion on psychopathic processing.
[12] Appendix two provides an overview of the psychometric qualities of each self-report measure of psychopathy discussed.

Early self-report psychopathy measures (e.g. the Minnesota Multiphasic Personality Inventory: Psychopathic Deviate [MMPI PD; McKinley & Hathaway, 1944] and the Millon Clinical Multi-Axial Clinical Inventory-II [MCMI-II; Millon, 1987]) have been criticised as they were not specifically designed to assess psychopathy per se, but instead were primarily developed to monitor criminal deviance or antisocial behaviour (Lilienfeld & Fowler, 2006). It is therefore unsurprising that early measures lack concurrent validity and only relate to F2 of the PCL-R, ignoring the core interpersonal and affective features of the disorder (Lilienfeld & Fowler, 2006).

In an attempt to resolve this problem, researchers developed several new self-report measures to directly assess the construct. These include the Levenson Self-Report Psychopathy Scale (LSRP; Levenson, Kiehl & Fitzpatrick, 1995), the Self-Report Psychopathy Scale (SRP; Hare, 1985), the Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996), the Elemental Psychopathy Assessment (EPA; Lynam et al. 2011a), and the Triarchic Psychopathy Measure (TriPM; Patrick, 2010). These will be examined in the ensuing paragraphs.

The Levenson Self-Report Psychopathy Scale (LSRP)

Given the strong empirical evidence surrounding the PCL-R and its utility in assessing psychopathy in forensic samples, Levenson et al. (1995) wished to create a similar means of measuring the construct in non-institutionalised samples. Levenson et al. (1995) aimed to develop a new measure of psychopathy that paralleled the two-factor model outlined by the PCL-R. Levenson et al. (1995) hypothesised that F1 and F2 mapped onto the distinctions made by Karpman (i.e. primary and secondary psychopathy; *See* p. 10), viewing F1 as representative of 'primary psychopathy' and F2 as a marker of 'secondary psychopathy'. Karpman (1955, cited in Skeem et al. 2003) held the belief that primary psychopaths were callous, manipulative, selfish and untruthful, whilst secondary psychopaths were neurotic and engaged in antisocial behaviour that was driven by strong emotional impulses.

Levenson et al. (1995) proposed that primary and secondary psychopathy would be evidenced in a non-institutionalised sample. However in terms of secondary psychopathy, they speculated that non-institutionalised samples would not commit

serious antisocial behaviour, but may still engage in behaviour that deviates from social norms, e.g. gambling and promiscuous sexual behaviour.

Levenson et al. (1995) developed the LSRP, which consisted of 26 items rated via a four-point likert type scale. The LSRP was constructed to provide indices of PCL-R F1 and F2, which in conjunction with Karpman's description, were named 'primary psychopathy' and 'secondary psychopathy' (Lilienfeld & Fowler, 2006). Levenson and colleagues stated that the primary and secondary psychopathy scales could be differentiated on the basis of trait anxiety[13] (Lilienfeld & Fowler, 2006). Individuals with high scores on the primary scale are likely to have low trait anxiety, whilst high scorers on the secondary scale are likely to be represented by high levels of trait anxiety. In terms of the items used to assess the construct, the primary psychopathy scale is denoted by items such as, "Looking out for myself is my top priority" and "I tell other people what they want to hear so that they will do what I want", whereas the secondary psychopathy scale is represented by items such as "Love is overrated" and "I am often bored".

Although the two-factor structure of the LSRP has been strongly replicated in a number of confirmatory factor analyses (e.g. Lynam, Whiteside & Jones, 1999), it is worth noting that other researchers have suggested a three-factor solution provides a more accurate fit (e.g. Brinkley, Diamond, Magaletta & Heigel, 2008; Sellbom, 2011). This three-factor model is identical to that proposed by Cooke and Michie (2001). It therefore appears that the debate surrounding the factor structure of psychopathy also extends to include self-report measures.

Regarding reliability, Levenson et al. (1995) found the measure to have good internal consistency in a sample of 487 undergraduate psychology students. The primary psychopathy scale was identified as being more reliable, agreeing with the conceptualisations made by Cleckley (1982), namely that primary psychopathy (i.e. the interpersonal and affective features) when compared to secondary psychopathy may be more prominent in non-institutionalised populations. Lynam et al. (1999) also found the LSRP to have excellent internal consistency and test-retest reliability in a larger sample of students.

[13] Trait anxiety reflects the long-term tendency to respond to unpleasant situations or threatening stimuli in an anxious manner. It can occur at both a conscious and unconscious level (Bados, Gómez-Benito & Balaguer, 2010).

When examining the validity of the LSRP, the measure has been found to significantly correlate with the factor and total scores of the PCL-R in a sample of Caucasian and African-American participants (e.g. Brinkley, Schmitt, Smith & Newman, 2001), thus demonstrating concurrent validity with an existing measure of psychopathy. In addition to this, Brinkley et al. (2001) found good construct validity for the LSRP, with the measuring displaying similar behavioural correlates to the PCL-R.

However, in contrast to the PCL-R, the LSRP did not correlate with non-violent offending. This may reflect the different populations used to develop each measure. Further support was provided by Lynam et al. (1999), who examined the construct validity of the LSRP and found that those scoring high on the measure also used a greater variety of drugs, were more likely to report heavy drinking and commit a greater variety of antisocial acts, and were more likely to be arrested.

In terms of personality traits, Lynam et al. (1999) also found that total scores on the LSRP were significantly associated with agreeableness and conscientiousness, with primary psychopathy mainly relating to the former personality domain. This is consistent with previous research findings (e.g. Widiger & Lynam, 1998; Miller, Lynam, Widiger & Leukefeld, 2001).

Sex differences in psychopathy, as measured by the LSRP, followed a similar pattern to those identified using the PCL-R. Men were identified as scoring higher than women on primary psychopathy and were considerably higher on antisocial action, boredom susceptibility, and thrill and adventure seeking (Levenson et al. 1995). This finding is consistent with other researchers (e.g. Salekin, Rogers, Ustad & Sewell, 1998; Jackson et al. 2002) who found the construct higher in men regardless of the population under study.

Despite empirical support for the LSRP, the measure is not without its limitations. Levenson et al. (1995) found the primary and secondary psychopathy scales moderately correlated with each other. This correlation questions the discriminant validity of the two scales, as Karpman (1955, cited in Skeem et al. 2003) stated that primary psychopathy and secondary psychopathy are distinct, i.e. they are etiologically different (Lilienfeld & Fowler, 2006).

Levenson et al. (1995) also found primary psychopathy to positively correlate with a measure of trait anxiety. Although this correlation was weak, the absence of a significant negative correlation between the two creates uncertainty around the measure's construct validity (Lilienfeld & Fowler, 2006) as primary psychopathy has been associated with low levels of anxiety (e.g. Skeem et al. 2003). Lynam et al. (1999) argue that this finding may be due to the absence of items explicitly examining *affect*, specifically anxiety. Interestingly however, Hare's (2003) PCL-R has also been criticised for this (Lilienfeld, 1994) despite Neumann et al's. (2013a) claim that low anxiety and fearlessness are comprehensively accounted for by the existing items.

Furthermore, Lynam et al. (1999) also found the discriminant validity of the LSRP primary psychopathy scale to be problematic, in that they identified it to be more highly associated with antisocial behaviour than with measures of core affective and interpersonal features. Thus, the LSRP, like the PCL-R, may also be criticised for over-focusing on behaviour rather than on the core personality traits associated with the disorder.

The Self-Report Psychopathy Scale (SRP)

Hare (1985) also recognised the need to develop a new self-report measure based on the PCL concept. Hare (1985) developed the Self-Report Psychopathy Scale using item reduction procedures. He identified 75 items that differentiated individuals scoring high on the PCL from those scoring low (Lilienfeld & Fowler, 2006). From this pool of items, Hare selected 29 that correlated strongly with the PCL total score and incorporated them in his new self-report measure of psychopathy, the SRP (Lilienfeld & Fowler, 2006).

Hare (1985) administered the SRP to a sample of 226 prisoners. Although the coefficient alpha of the measure was good, the new measure did not correlate strongly with the PCL. An inspection of the SRP responses revealed that prisoners completed the measure in a manner that was inconsistent with their collateral information (Hare, 1985). The SRP also did not adequately capture the core features of the construct, namely features relating to superficial charm, callousness and deception (Lilienfeld & Fowler, 2006). Given this, Hare decided to make amendments to the SRP to improve its

relationship with the PCL (and later the PCL-R), in turn increasing the validity of the measure (Lilienfeld & Fowler, 2006).

In the second version of the SRP (i.e. SRP-II; Hare, Harpur & Hemphill, 1989), Hare and his colleagues assembled 60 items to provide more comprehensive coverage of psychopathy and its core features (Williams & Paulhus, 2004). Williams and Paulhus (2004) note that Hare placed special emphasis on 31 of these items, as they were theoretically aligned with the two-factor model underpinning the PCL-R. These 31 items are often used as the shortened version of the SRP-II (Williams & Paulhus, 2004).

Like the PCL-R, Hare noted that the SRP-II also assessed psychopathy via two factors, with the first measuring the core personality traits of the disorder and the second the behavioural characteristics (Lilienfeld & Fowler, 2006). However, Williams and Paulhus (2004) and Benning, Patrick, Salekin and Leistico (2005) identified SRP-II factor one (SRP-II F1) to be less replicable and reliable than SRP-II factor two (SRP-II F2). Several researchers (e.g. Williams & Paulhus, 2004; Williams et al. 2007; Lester, Salekin & Sellbom, 2013) have also explored the factor structure of the measure and have suggested a different model to that originally proposed[14].

Williams and Paulhus (2004) examined the factor structure of the SRP-II in a sample of students. The full 60 items were found to be underpinned by two broad factors explaining 21% of the total variance. The first included elements of PCL-R F2, i.e.. impulsivity and antisocial acts (Williams & Paulhus, 2004). However, Williams and Paulhus (2004) note that a number of further personality features also loaded onto this factor, e.g. manipulation. They consequently named this factor 'Manipulative Trouble-Making'. The second factor consisted of items linked to low anxiety and self-confidence, named 'Emotional Stability'. Williams and Paulhus (2004) stated that their factor structure was inconsistent with Hare's two-factor model, and may instead reflect the excess of anxiety-related items and a lack of antisocial behaviour items[15] included in the SRP-II (60 items). When examining the SRP-II as a whole (either as a 31 item, or a 60 item measure), the measure demonstrated good concurrent validity with another self-report measure of psychopathy, the Psychopathic Personality Inventory (PPI), and

[14] There has been less published research on the SRP-II when compared to other self-report psychopathy measures as the items have never been published. Instead, they were distributed internally in the form of a three-page leaflet (Williams & Paulhus, 2004).

[15] These items were deemed not appropriate when assessing for psychopathy in non-forensic samples (Williams et al. 2007).

replicated a similar pattern of correlations with the Big Five personality domains[16] (Williams & Paulhus, 2004). The total score of the SRP-II (31 items) also positively correlated with self-reported delinquency, providing evidence for the use of the SRP-II when measuring psychopathy in non-forensic samples (Williams & Paulhus, 2004).

To improve the validity of the measure, Williams et al. (2007) reduced the number of anxiety items and added more behavioural items to the SRP-II item pool, which in turn increased the number of items to 77. Factor analyses conducted on these items suggested the measure now better resembled a four-factor model; a model similar to that underpinning the current PCL-R and its derivatives (Williams et al. 2007).

The four-factor model consisted of the following components: 'Interpersonal Manipulation' (IM); 'Criminal Tendencies' (CT); 'Erratic Lifestyle' (EL); and 'Callous Affect' (CA). As Williams et al. (2007) note, the addition of the new behavioural items revealed a new distinct factor relating to criminality (CT). However, it is important to note that this factor did not develop solely due to the addition of the items. Instead the items may have been dispersed across the previous three-factors (Williams et al. 2007). Furthermore, these new four factors correlated positively with one another, providing evidence that the SRP-II was tapping into an underlying superordinate factor, that of 'psychopathy' (Williams et al. 2007).

Williams et al. (2007) performed further analyses on their revised edition of the measure and found it to have an acceptable level of internal consistency. The validity of the measure in a student sample was also supported by statistically significant correlations with the PPI, the LSRP, and a wide variety of socially offensive activities, including bullying, drug abuse, driving misconduct, crime, and anti-authority (Williams et al. 2007). Of particular interest is the fact that all four components identified by Williams et al. (2007) were related to misconduct, which indicate that a criminality component is in fact useful when measuring psychopathy in community samples.

Lester et al. (2013) also subjected the SRP-II (60 items) to a number of factor analyses. They indicated a two-factor model did not adequately fit the data in a sample of 1,257 undergraduate students. A four-factor solution, which included 36 of the items from the

[16] The Big Five personality model consists of five broad personality domains representing Extraversion, Openness, Conscientiousness, Agreeableness and Neuroticism (Costa & McCrae, 1992).

pool, was found to provide an accurate fit (Lester et al. 2013). However, this factor structure was different to the four-factor model delineated by Williams et al. (2007) in that the model did not focus on criminality. Lester et al. (2013) noted that their model comprised of the following components: 'Interpersonal'; 'Disinhibition/Impulsivity'; 'Fearlessness'; and 'Cold-heartedness'. An item-level inspection revealed that this model tapped into the conceptualisation of psychopathy first proposed by Cleckley (1982). Correlational analyses also provided further support for the model, with total and subscale scores also significantly correlating with constructs relevant to psychopathy, including maladaptive attachment styles.

Thus, whilst the SRP-II has been shown to have good psychometric properties, specifically in terms of reliability and validity, it appears that researchers have failed to agree on the factor structure underpinning the measure and whether this should include a component focusing on antisocial behaviour. A decision was made to further refine the SRP to provide coverage of the four-factor model outlined by Williams et al. (2007) and Hare (2003). The third edition of the SRP, the SRP-III (Paulhus, Neumann & Hare, in press), like its predecessors, has also performed well in a number of studies testing community populations (e.g. Mahmut, Menictas, Stevenson & Homewood, 2011; Watt & Brooks, 2012; Neal & Sellbom, 2012) and was found to have good validity and reliability for non-incarcerated men and women.

Indeed, according to Neal and Sellbom (2012), the SRP-III may be a useful tool to help understand the three-factor versus four-factor structure debate, as three of the components found to underpin the measure (i.e. IM, EL and CA) tap into the three-factor model of psychopathy proposed by Cooke and Michie (2001). The addition of CT aligns the measure with Hare's (2003) four-factor solution. Further exploration into the factor structure of self-report psychopathy is clearly a likely useful direction for future research.

The Psychopathic Personality Inventory (PPI)

When developing the PPI, Lilienfeld and Andrews (1996) recognised that most self-report measures of psychopathy appear primarily based on the PCL-R and assess antisocial behaviour rather than the personality traits originally described by Cleckley (1982). As a result, Lilienfeld and Andrews (1996) questioned the generalisability of the

research defining psychopathy using behavioural-based measures to the traditional conception of the construct. Consequently, Lilienfeld and Andrews (1996) developed the PPI as a "pure measure of the personality-based approach" (p. 491). That is, when constructing the new measure the authors focused only on *personality traits* and did not include any behaviourally-based items.

According to Lilienfeld and Fowler (2006), Lilienfeld and Andrews adopted an exploratory approach to test construction of the PPI and generated a pool of items from a large number of characteristics that have been used to define psychopathy in the academic literature. The items were then tested across three iterative rounds and subjected to a number of factor analyses involving 1,156 psychology students (Lilienfeld & Fowler, 2006). The PPI consists of 187 items[17], which are rated via a four-point likert type scale (Lilienfeld & Fowler, 2006). Examples of the items include, "I always look out for my own interests before worrying about those of the other guy" and "Even when others are upset with me, I can usually win them over with my charm". The PPI also contains validity scales to detect problematic responding.

In terms of the structure of the measure, exploratory analyses identified that psychopathy, as defined by the PPI, could be understood through eight factors: Machiavellian Egocentricity; Social Potency; Cold-heartedness; Carefree Nonplanfulness; Fearlessness; Blame Externalization; Impulsive Nonconformity; and Stress Immunity[18].

According to Lilienfeld and Andrews (1996), these subscales are useful when clarifying the nature of the personality traits underpinning the construct. They also acknowledge that it would be impossible for their measure to contain all facets relevant to the construct and state that the eight subscales contain the most relevant features of prototypical psychopathy. Lilienfeld and Andrews (1996) propose that the multifactorial nature of the PPI may ultimately help clarify whether psychopathy results from maladaptive interactions among certain personality traits, or whether the construct exists as a set of co varying symptoms. Research into these two possibilities remains ongoing.

[17] A revised version of the PPI (the PPI-R) is available that had its reading level reduced and any culturally specific items removed (Lilienfeld & Fowler, 2006).

[18] Blame externalization and Stress Immunity may not be essential features of psychopathy as they have been found to load poorly onto their respective higher-order factor (e.g. Lilienfeld & Andrews, 1996; Claes et al. 2009).

By developing a measure based solely on personality, Lilienfeld and Andrews (1996) hoped to capture the affective-interpersonal facet of psychopathy, considered the core feature of the disorder. The validation studies conducted by Lilienfeld and Andrews (1996) provided general support for the psychometric properties of the PPI and suggested it was a useful tool to assess psychopathy in noncriminal populations.

When the PPI was correlated with measures of ASPD, it was found to possess substantial variance that was not shared with antisocial behaviours. This finding, once again, highlighted the importance of distinguishing between the personality traits of psychopathy and behaviours often associated with the construct (Lilienfeld & Andrews, 1996). However on closer inspection, the PPI correlated more strongly with ASPD than with a measure of peer-rated Cleckley psychopathy, thus raising concerns surrounding the PPI's discriminant validity with antisocial behaviour (Lilienfeld & Fowler, 2006).

One possible explanation for this is that although the PPI was purposely developed as a personality-based self-report, the authors still included items that somewhat reflected antisocial behaviour, e.g. "I stretch the rules to see how much I get away with" (Neumann, Uzieblo, Crombez & Hare, 2013b). Nonetheless, Lilienfeld and Andrews (1996) found their measure to display discriminant validity with a number of other constructs conceptually unrelated to psychopathy, e.g. depression and schizophrenia spectrum conditions.

Benning, Patrick, Hicks, Blonigen and Krueger (2003) explored the factor structure of the PPI in a community sample of men and examined the personality and behavioural correlates of each factor. Factor analyses indicated that the subscales underpinning the PPI (excluding cold-heartedness, which did not load onto a component) closely resembled two dominant factors; Factor one (PPI-I; also known as Fearless Dominance) was marked by impulsive, non-conformity, blame externalization, Machiavellian egocentricity, and carefree nonplanfulness, which Benning et al. (2003) summarised as reflecting imperturbability, social dominance, and venturesomeness. The second factor (PPI-II; also known as Self-Centered Impulsivity or Impulsive Antisociality) consisted of the stress immunity, social potency, and fearlessness subscales. Benning et al. (2003) described this factor as reflecting unconventional attitudes, poor planning, aggressiveness, and estrangement from others.

Interestingly, the two PPI factors paralleled PCL-R F1 and F2[19], indicating that the PPI may be a useful self-report tool for assessing psychopathy. However, unlike the PCL-R, the PPI factors were found to be unrelated, suggesting that the PPI taps into facets independent of psychopathy (Benning et al. 2003). According to Benning et al. (2003), the uncorrelated nature of these two factors suggests that personality and antisocial features of psychopathy may be underpinned by different neurobiological and etiological processes. It also calls into question that the PPI assesses psychopathy as a unitary construct (Lilienfeld & Fowler, 2006).

Regarding parallels between the PPI and the PCL-R factors, both PPI-I and PCL-R F1 were found to have poor relationships with child and adult antisocial behaviour, including drug and alcohol abuse (e.g. Hare, 1991). Positive associations occurred between PPI-I, F1, and socioeconomic status, education and intelligence (e.g. Harpur et al. 1989). PPI-I was also negatively predicted by stress reaction and harm avoidance, and positively predicted by social potency. These findings again mirror the personality correlates of F1 (Benning et al. 2003), in that PPI-I was distinct from the behavioural correlates of the disorder. Low trait anxiety also appeared to be a prominent feature of PPI-I. Thus, an individual characterised by PPI-I could:

> *"be described as unreactive in anxiety-provoking situations, persuasive and socially dominant, and willing to engage in risky activities while lacking normal anticipatory fear in risky or dangerous circumstances"* (Benning et al. 2003, p. 346).

This description fits well with the conceptusalisation of primary psychopathy (Benning et al. 2003). Like PPI-I, PPI-II also mapped onto its PCL-R counterpart, F2. PPI-II was found to be positively associated with indices of antisocial behaviour, substance abuse, and impulsivity (Benning et al. 2003). The PPI factor was also negatively related with socioeconomic status, education, and verbal intelligence. Benning et al. (2003) concluded that like PCL-R F2, PPI-II was largely associated with externalizing psychopathology, namely, "symptoms of child conduct disorder, adult antisocial behaviour, alcohol dependence, and drug dependence" (Benning et al. 2003, p. 346).

[19] Copestake et al. (2011) did not find similar findings for the PPI-R. PPI-R-I did not significantly correlate with PCL-R F1 in their study. They attributed this finding to the different populations used to develop the two measures.

As discussed, the cold-heartedness subscale did not load onto the PPI two-factor structure outlined by Benning et al. (2003). This finding has also been replicated in a sample of offenders (e.g. Edens, Poythress, Lilienfeld, Patrick & Test, 2008), a psychiatric sample (e.g. Claes et al. 2009) and found as part of a meta-analytic review on the factor structure of the PPI (e.g. Marcus, Fulton & Edens, 2013). Thus, contrary to initial postulation, it appears that cold-heartedness is unrelated to the two PPI factors.

The consistency of this finding is surprising given that both Cleckley (1982) and Hare (1991, 2003) state that 'callousness' and a 'lack of empathy' are key features of the disorder. Benning et al. (2003) provides an explanation for these unusual findings. On closer inspection of the items, many tap into PPI cold-heartedness and appear to better represent sentimentality, imaginativeness, and emotional reactivity. High scores on the items were more indicative of a lesser extreme of these traits (due to the reverse items) rather than of callousness or cruelty (Benning et al. 2003). PPI cold-heartedness therefore appears underpinned by predispositions that are distinct from other PPI subscales. Nonetheless, this finding does suggest that sentimentality, imaginativeness, and emotional reactivity are unrelated to the construct of psychopathy.

The PPI total score, as well as the two-factor model outlined by Benning et al. (2003), has also been identified in male offenders (e.g. Poythress, Edens & Lilienfeld, 1998[20]; Patrick, Edens, Poythress, Lilienfeld & Benning, 2006; Edens et al. 2008) and a sample of psychiatric inpatients (e.g. Claes et al. 2009), which lends support for the robustness of the PPI and the two-factor model. Patrick et al. (2006) identified that the PPI factors demonstrated good convergent and discriminant validity with measures of personality and clinical symptomatology. PPI-II was found to positively correlate with antisocial features, aggression, borderline features, and alcohol and drug problems.

PPI-I, however, did not significantly correlate with these features, with the exception of alcohol problems, for which a weak negative relationship was identified. Significant positive correlations were noted between several internalizing symptoms (e.g. anxiety, anxiety-related disorders, and somatic complaints) and PPI-I. In contrast, PPI-II was found to have a positive relationship with these. Patrick et al (2006) concluded that with

[20] It is important to note that Poythress et al. (1998) did not find the PPI subscales 'Fearlessness' and 'Stress Immunity' to be related to the PCL-R. This brings into question the importance of such factors in psychopathy. As an alternative explanation, the finding may also be due to PCL-R not including items that directly tap into anxiety.

the exception of a number of variables (e.g. self-reported empathy), PPI-I and PPI-II differed significantly from one another.

Considering only the total score of the PPI and failing to examine the two distinct factors would restrict a clinician's ability to predict whether an individual may present with certain symptoms or behaviours (Patrick et al. 2006). Further evidence for the PPI's discriminant validity has been provided by Claes et al. (2009) who did not find any significant relationships between the presence of Axis I disorders (i.e. psychiatric disorders, excluding disorders of personality) and PPI scores.

Regarding women offenders, Berardino, Meloy, Sherman and Jacobs (2005) also found support for the unrelated two-factor model. However in their study the PPI factors did not mirror the two PCL-R factors. Arguably this may be due to a sex bias in that psychopathy may present differently in women. Whilst PPI-II tapped into the deviant antisocial characteristics found within PCL-R F2, it also contained an interpersonal subscale (i.e. Machiavellian Egocentricity). This subscale would normally be found to associate with PCL-R F1. Such findings emphasise the problems when attempting to separate the interpersonal and behavioural facets of psychopathy (Berardino et al. 2005).

Berardino et al. (2005) also report on the PPI presenting with good convergent and discriminant validity in their sample of female offenders. Evidence was also found for the diagnostic utility of the PPI in women, in that 87% of the sample were correctly classified either as a psychopath or not (Berardino et al. 2005). Nevertheless, on closer inspection of the data, Berardino et al. (2005) recognised that the detection rate for psychopathy was smaller than the ability to correctly classify as non-psychopathic. Thus, the PPI appears more successful at ruling out rather than detecting the construct of psychopathy in women (Berardino et al. 2005).

A more recent study conducted by Neumann et al. (2013b) concluded that the PPI two-factor model may not be as robust as previously thought. Exploratory structural equation modeling (ESEM) indicated that five to six factors needed to be extracted before an acceptable model fit was achieved. The results also suggested that the two PPI factors are multidimensional rather than unidimensional. Treating PPI-I and PPI-II as unidimensional, however, may limit their validity (Neumann et al. 2013b). Neumann et

al. (2013b) also found PPI-I to lack the ability to discriminate individuals with psychopathy from those without the disorder.

A study conducted by Neumann, Malterer and Newman (2008) also failed to replicate the two-factor model delineated by Benning et al. (2003). In a larger sample of male offenders, Neumann et al. (2008) found a three-factor model to provide a better fit to the PPI. The three-factor model was said to constitute a fearlessness impulsive antisociality component; a component that reflects high extraversion and low neuroticism; and a final component that was coined 'callous-indifferent'[21]. Although the PPI fulfills its original purpose (i.e. to assess a wide range of psychopathic characteristics denoted by the academic literature), the study by Neumann et al. (2008) raises questions as to whether the PPI subscales can be narrowed into a model consisting of two, three, or a higher number of factors. Thus, findings from both studies (e.g. Neumann et al. 2008; Neumann et al. 2013b) indicate that researchers are still questioning the PPI, specifically in terms of structure.

Again this illustrates how there is little consensus among researchers as to what components underpin the construct of psychopathy. Neumann et al. (2008) argues that this debate may be more easily resolved by examining the *basic elements* of psychopathy, that is, exploring the construct as a broad model of general personality. Other researchers (e.g. Lilienfeld & Fowler, 2006) state that it would be valuable to examine the relationship between the PPI and laboratory indices relevant to psychopathy (e.g. go-no-go tasks) to increase understanding into the psychobiological deficits underpinning the construct. None of the self-report measures described here have been applied in this manner and therefore indicates a need for further research to examine the assessment of psychopathy in more detail.

The Elemental Psychopathy Assessment (EPA)

Lynam and Widiger (2007) and Neumann et al. (2008) both agree that in order to fully understand the construct of psychopathy in terms of its factor structure, it is important to examine the basic elements of the disorder rather than attempt to identify elements

[21] The 'Fearless Impulsive Antisociality' component is underpinned by the following PPI subscales: Fearlessness; Impulsive nonconformity; Blame externalization; and Machiavellian egocentricity. Stress immunity and Social potency constituted the high extraversion and low neuroticism component. Lastly, Coldheartedness and Carefree non-planfulness were associated with the 'Callous-indifferent' factor.

from compound traits. Compound traits could be better described as the items belonging to the PCL-R, with each item being made up of a number of different personality traits. Lynam et al. (2011a) recognised the importance of this and developed a new self-report measure of psychopathy (i.e. the EPA) that utilised the basic elemental models of general personality, namely the personality traits conceptualised by the *Five Factor Model* (FFM; Costa & McCrae, 1992).

The FFM is a widely known trait model, allowing for a common language that can be used to describe psychopathy (Wilson, Miller, Zeichner, Lynam & Widiger, 2011). It is made up of five broad personality domains representing extraversion, conscientiousness, openness, neuroticism, and agreeableness. Consistent with Blackburn (2007a), the EPA was developed to measure psychopathy through maladaptive variants of each of the FFM domains (Wilson et al. 2011). In total, it contains 18 scales, each relating to the different facets of *extraversion* (e.g. coldness, dominance, and thrill-seeking), *neuroticism* (e.g. anger, urgency, unconcern, self-contentment, self-assurance, and invulnerability), *antagonism* (e.g. distrust, manipulation, self-centeredness, opposition, arrogance, and callousness), and *conscientiousness* (e.g. impersistence, disobliged, and rashness) most commonly associated with prototypical psychopathy (Lynam et al. 2011a). In line with previous research (e.g. Miller et al. 2001), openness was not included in the EPA. Initially, scale development included 30 items per scale. However this item pool was reduced to 14-18 items per scale following an iterative process, i.e. through the removal of redundant items and via group discussion (Lynam et al. 2011a).

Although little research has been conducted exploring the EPA, researchers have found the self-report to demonstrate good concurrent validity with other psychopathy measures in community samples (e.g. Lynam et al. 2011a; Wilson et al. 2011; Miller, Hyatt, Rausher, Maples & Zeichner, 2014) and prisoners (e.g. Lynam et al. 2011a). The EPA subscales have also been found to evidence good convergent and discriminant validity with factor scores from the PPI-R, LSRP, and SRP-III (Wilson et al. 2011). More specifically, Wilson et al. (2011) identified that psychopathy F1 scales, such as LSRP primary psychopathy, were strongly associated with the EPA subscale derived from FFM agreeableness. Additionally, F2 psychopathy scales (i.e. LSRP secondary psychopathy) were found to be associated with the EPA subscales representing FFM agreeableness and FFM conscientiousness.

These findings are supported in the meta-analysis completed by Lynam and Derefinko (2006). However, whilst the PPI-R here appeared to contain most of the content found within the EPA, the LSRP and SRP-III lacked items relating to negative emotionality, as represented by EPA scales, such as self-assurance, invulnerability, and self-contentment (Wilson et al. 2011). As previously stated, negative emotionality was central to Cleckley's (1982) description of the construct but not Hare's (2003). Given that the LSRP and SRP-III was developed based on Hare's (1991, 2003) description, it is unsurprising that these two measures contain less content relating to negative emotionality.

Thus, it becomes apparent that the divergent relations between the EPA subscales and factors from the PPI-R, LSRP, and SRP-III emphasise the inconsistencies across self-report measures of psychopathy. The EPA total score was found to correlate significantly with aggression, antisocial behaviour, substance abuse, and alcohol abuse (Wilson et al. 2011). Consistent with previous research (e.g. Miller et al. 2001; Lynam & Derefinko, 2006; Few, Miller & Lynam, 2013), Wilson et al. (2011) identified that the EPA scales derived from FFM agreeableness and conscientiousness were the two scales most strongly associated with externalizing behaviours associated with psychopathy.

In terms of the factor structure of the EPA, the measure was found to be underpinned by a consistent four-factor structure in a large sample of students (n = 907). The four-factor model consisted of antagonism (low levels of FFM agreeableness), emotional stability, disinhibition (low levels of conscientiousness), and narcissism (Few et al. 2013). This factor structure was found to account for a substantial amount of variance across existing self-report measures of psychopathy (Few et al. 2013). More interestingly, Few et al. (2013) recognised that EPA factors explained an additional 16% of the variance in psychopathy beyond the variance accounted for by established self-report psychopathy measures, such as the PPI, LSRP, and SRP-III. Such findings provide further validation of the EPA as a valuable tool when assessing the basic elements of psychopathy.

Furthermore, the EPA four-factor structure associated with known conceptualisations of the construct, in that EPA antagonism was positively related to nine out of ten subscales from existing psychopathy measures, and EPA disinhibition was identified as

consistently correlating with psychopathy subscales that assess impulsive behaviour, such as LSRP secondary psychopathy and SRP-III erratic lifestyle (Few et al. 2013). EPA emotional stability was strongly associated with PPI-FD but found to correlate poorly with the LSRP and SRP-III. Once again, this demonstrates that both the EPA and PPI-FD contain content not included in other measures of psychopathy (Few et al. 2013). Nonetheless, the assessment of psychopathy via an Elemental Personality Approach appears to be promising, as it views psychopathy as a disorder of 'normal' personality, and would benefit from further research.

The Triarchic Psychopathy Measure (TriPM)

The TriPM also adopts an elemental approach when assessing psychopathy. However, unlike the EPA, the TriPM does not focus on normal personality. Instead, the measure is based on the developmental psychopathy literature and assesses the disorder through three core phenotypic constructs: 1). Disinhibition; 2). Boldness; and 3). Meanness. These three constructs are captured via 58 self-report items that are rated using a four-point likert scale.

In terms of the phenotypic domains, 'disinhibition' is used to capture impaired impulse control, deficient behavioural restraint and a propensity towards poor regulation of affect and urges. 'Meanness' however, includes attributes that relate to deficient empathy, poor attachment, excitement seeking and empowerment through cruelty. The third domain 'boldness' entails a capacity to remain calm in difficult situations involving pressure or threat, high self-assurance and social efficacy (Patrick et al. 2009). Thus, from this description it become evident that the TriPM explicitly captures affect in psychopathy, but does not attend well to cognition; a finding that appears to extend across all self-report measures of psychopathy.

Research examining the TriPM remains in its early stages. However, one study conducted by Drislane, Patrick and Arsal (2013) compared the triarchic measure to other self-report measures of psychopathy. Results indicate that existing self-reports, such as the LSRP, PPI and SRP-III, operationalise psychopathy differently. Whilst the LSRP has a strong representation of both 'disinhibition' and 'meanness', the PPI and SRP-III exhibited prominent representations of 'boldness', as well as 'disinhibition' and 'meanness' (Drislane et al. 2013). It therefore becomes clear that the self-report

assessment of psychopathy is not consistent across measures and further research is required to develop a new measure that promotes a unified understanding of the disorder.

Nevertheless the TriPM has been found to have good construct validity. The three phenotypic domains underpinning the measure related to the FFM in line with conceptual expectation (e.g. Poy, Segarra, Esteller, López & Moltó, 2014). Moreover, Poy et al. (2014) identified that convergence among the three triarchic domains was reflected mainly in low levels of agreeableness. Whilst this finding is encouraging, in that researchers are beginning to recognise the importance of considering psychopathy through personality rather than behavioural features, further research is required to examine the role of psychopathic processing in the assessment of psychopathy.

At this point it is also important to recognise that the self-report measures outlined in this Chapter, including the TriPM, were developed using mainly community samples and thus, the extent to which each measure captures psychopathy in other populations, such as psychiatric patients, remains an area in need of further investigation. One question that may arise from this limitation is whether the self-report measures are in fact assessing a specific type of psychopathy; a type that comprises of high functioning and socially successful individuals with certain psychopathic traits (Lilienfeld, 1998). Additional study is required to clarify this. Nevertheless, developments in the self-report assessment of psychopathy in non-criminal samples has allowed for a better understanding of 'successful psychopathy'. This is arguably necessary to identify the protective factors that may prevent individuals with the disorder from engaging in antisocial behaviour (Lilienfeld, 1998).

Summary

Self-report measures have been identified as well-validated alternatives to the PCL-R. Research has highlighted their ability to effectively assess the construct across populations. However, it is important to note that there are differences across these measures and they do not always associate with non self-report psychopathy. This may relate to their development, in that most self-report measures of psychopathy were developed and validated using students or community samples. The PCL-R however,

was developed and tested among forensic populations and thus, discrepancies may have occurred due to differences in sample characteristics.

Furthermore, there also appears little consensus as to what components underpin psychopathy, with a number of measures suggesting that an antisocial component is crucial when assessing the disorder in community samples. It therefore becomes apparent that the debate surrounding the factor structure of psychopathy also extends to self-report. This issue may in part be due to researchers using the PCL-R as a guide when developing and validating new measures.

There are also a number of inconsistencies in content across self-report measures of psychopathy, specifically in relation to the items tapping into the role of *affect* and *cognition*. Whilst certain measures place an emphasis on measuring affect (e.g. anxiety), such as in the PPI, others seem to ignore it (i.e. the LSRP). Cognition in psychopathy has also been neglected, with many measures failing to include items to assess this. The lack of agreement in factor structure along with the inconsistencies in content, question the assessment of psychopathy using existing self-report measures.

As discussed, there are other methods of assessing psychopathy that include observation and more recently, *implicit testing* (i.e. timed tasks and vignettes to capture less explicit cognitive and affective processing that is relevant to assessments of psychopathy). These methods may provide a more accurate assessment of psychopathy, particularly when the individual is concerned with *positive impression management*, *lacks insight*, or is *unaware of their own shortcomings* (Fowler & Lilienfeld, 2013). The next section provides an overview of observation and implicit testing methods. It is important to recognise that these alternatives have been under researched in comparison to the PCL-R and self-report measures of psychopathy.

3.5 Other developments in the assessment of psychopathy

Besides the PCL-R and its derivatives, other assessment tools of psychopathy have been developed. These are different to the PCL-R in that they are more interactive, adopting various techniques such as observations, staff ratings and implicit testing. More recent developments in psychopathy assessment include the Interpersonal Measure of Psychopathy (IM-P; Kosson, Steuerwald, Forth & Kirkhart, 1997), the Psychopathy Q-

Sort Prototype (PQS; Reise & Oliver, 1994), the Comprehensive Assessment of Psychopathic Personality (CAPP; Cooke, Hart, Logan & Michie, 2004), and the Affect, Cognitive, and Lifestyle Assessment (ACL; Ireland & Ireland, 2012). Each measure will be examined in turn.

The Interpersonal Measure of Psychopathy (IM-P)

According to Kosson et al. (1997), the IM-P was developed to improve the assessment of the interpersonal features of psychopathy. Clinical descriptions of psychopathy, such as those outlined by Cleckley (1982), suggest that interpersonal features are the core component of the disorder (Vitacco & Kosson, 2010). In support, Doninger and Kosson (2001) state that there is considerable empirical evidence to suggest that psychopathy should be interpreted through interpersonal behaviour.

Development followed a three-step process, which included the following phases: 1). A review of the academic literature; 2). An informal survey conducted with psychopathy researchers; and 3). 'Clinical intuitions' formed from past experiences with clients. From this, Kosson et al. (1997) developed 21 items and included them in the IM-P[22]. The IM-P is described as an observation-based measure, whereby the clinician quantifies the client's interpersonal behavior during a semi-structured interview; an interview similar to that conducted when completing the PCL-R (Vitacco & Kosson, 2010).

Kosson et al. (1997) found that the IM-P had high internal consistency and inter-rater reliability, and was more strongly correlated with scores on PCL-R F1 than with F2. A similar pattern of results was found for the PCL:SV (Vitacco & Kosson, 2010). However, in a study conducted by Zolondek et al. (2006), the IM-P did not demonstrate incremental validity beyond the interpersonal domain of the PCL-R. Thus, questions have been raised surrounding the unique contribution of the measure. Nonetheless, Zolondek et al. (2006) recognised that the IM-P is less structured than the PCL-R and

[22] The IM-P contains the following items: 1). Interrupts 2). Refuses to tolerate interruption; 3). Ignores professional boundaries; 4). Ignores personal boundaries; 5). Tests interviewer; 6). Makes personal comments; 7). Makes requests of interviewer; 8). Tends to be tangential; 9). Fills in dead space; 10). Unusual calmness or ease; 11). Frustration with argument avoidance; 12). Perseveration; 13). Ethical superiority; 14). Expressed narcissism; 15). Incorporation of interviewer into personal stories; 16). Seeking of alliance; 17). Showmanship; 18). Angry; 19). Impulsive answers; 20). Expressed toughness; and 21). Intense eye contact (Kosson et al. 1997).

may be of particular use when observing individuals in their social interactions with others.

Vitacco and Kosson (2010) examined the internal structure of the IM-P via exploratory and confirmatory factor analyses and found a 17-item three-factor structure to provide a good fit in a sample of European American (n = 592) and African American prisoners (n = 583). The three factors were as follows: 1). Dominance (e.g. attempts to control and express their agenda); 2). Grandiosity (e.g. attempts to express their toughness and superiority to others); and 3). Boundary violations (e.g. fails to respect professional relationships) (Vitacco & Kosson, 2010). Grandiosity had the strongest correlation with several facet scores on the PCL-R when compared to the other two factors, thus indicating that IM-P-defined grandiosity may somewhat overlap with the PCL-R's operationalisation of the construct (Vitacco & Kosson, 2010). From this, Vitacco and Kosson (2010) proposed that their three-factor model, relating to the interpersonal dimensions of psychopathy, may prove useful in encouraging others to investigate interpersonal behaviour that may be of particular relevance to the disorder.

Psychopathy Q-Sort Prototype (PSQ)

Like the IM-P, the PSQ also relies on observer ratings. In spite of the benefits of using observational techniques in assessments[23], Lilienfeld (1998) argues that there has been little development in instruments that directly measure adult psychopathy using this method. This may be due to the subjectivity of observational techniques in that they are open to interpreter bias. Nonetheless, Reise and Oliver (1994) developed a Q-sort prototype to assess psychopathy.

A Q-Sort method is the ranking of variables or statements according to an instruction or condition (Block, 1961). Reise and Oliver (1994) asked seven judges with expertise in psychopathy to sort the 100 items of the California Q-Set[24] into a forced quasi-normal distribution in line with Cleckley's (1982) conceptualisation of the disorder (Lilienfeld, 1998). The seven Q-sorts produced by the judges were merged to form the Psychopathy Q-sort (PQS) (Lilienfeld, 1998).

[23] Observational techniques avoid problems associated with self-report, such as impression management.
[24]A language instrument consisting of a set of personality variables. The instrument contains instructions for ordering these variables to describe a designated individual (Block, 1961).

According to Lilienfeld (1998) the judges rated the following items as most characteristic of psychopathy: 'Is self-indulgent' and 'Is personally charming'. Despite the good intentions of Reise and Oliver (1994), the PSQ has received little attention to date. More recent measures, such as the CAPP and ACL, have abandoned the sole use of observational techniques in the assessment of psychopathy and have included more interactive techniques, such as semi-structured interviews, staff rating and implicit methods.

Comprehensive Assessment of Psychopathic Personality (CAPP)

The CAPP is a relatively new personality-based model and clinical assessment of psychopathy. The assessment was developed using a *lexical* approach to personality. Thus, it uses adjectives belonging to everyday language to describe each personality trait (Hoff, Rypdal, Mykletun & Cooke, 2012). The CAPP comprises a semi-structured interview and staff rating scale. It is dynamic in nature and has the potential to assess change in symptom severity (Kreis, Cooke, Michie, Hoff & Logan, 2012). The model conceptualises the construct through six broad domains (i.e. Attachment, Behavioural, Cognitive, Dominance, Emotional, and Self) covering the full range of psychopathic traits (Kreis et al. 2012).

According to Kreis et al. (2012), each domain is represented by a number of symptoms, with each symptom further defined by several trait-descriptive adjectives. For example, the attachment domain is underpinned by detached; uncommitted; unempathic; and uncaring symptomology (Cooke et al. 2004). The CAPP has several advantages over existing measures of psychopathy (e.g. the Psychopathy Checklist – Revised) in that it is designed to assess change, focusing on personality traits rather than behavioural consequences of personality pathology (Kreis et al. 2012). Thus, it is reverting back to the original conceptualisation of the disorder first proposed by Cleckley (1982). In addition to this, the CAPP model is one of the first tools to explicitly recognise the importance of *cognition* and *affect* in the measurement of psychopathy. This recognition is a significant development in the assessment of the disorder, as it emphasises the importance of considering the integral mechanisms underpinning the construct. Cognition in particular is an element that has been most neglected.

Although the CAPP is in its early stages of testing, a number of studies have been conducted to examine the content validity of the measure (e.g. Kreis & Cooke, 2011; Kreis et al. 2012; Hoff et al. 2012). Kreis et al. (2012) recruited 132 mental health professionals to rate the extent to which CAPP symptoms represent psychopathy. The study identified the measure to have good content validity, with the following symptoms found to be particularly prototypical of psychopathy: lack of remorse, unempathic, self-centered, manipulative, lack emotional depth, deceitful, insincere, self-aggrandizing, sense of entitlement, and self-justifying (Kreis et al. 2012). Kreis et al (2012) recognised that these symptoms were also features of the PCL-R. They proposed that symptom ratings might have been subject to a degree of PCL measurement bias. In other words, the PCL-R may have influenced the experts when rating the symptoms of the CAPP.

Kreis et al. (2012) also found the *cognitive* domain to be rated as least prototypical of psychopathy. This may reflect the fact that cognition is not well represented in measures of psychopathy, with cognitive processing not always easy to access and assess (Kreis et al. 2012). The study found the interpersonal domains to be the most prototypical of psychopathy, closely followed by emotional and behavioural domains.

Hoff et al. (2012) also found good content validity for the CAPP. In their study, they recruited community residents (n = 553), prison staff (n = 32) and mental health professionals (n = 211) to rate the symptoms. Hoff et al. (2012) state that PCL measurement bias was unlikely to have an effect in their study, as people in the community were unlikely to be influenced by the PCL instrument or the psychopathy literature. Additionally, the community residents rated the symptoms in a similar manner to the healthcare professionals, suggesting that the CAPP is "not purely a clinical invention" (Hoff et al. 2012, p. 423). The interpersonal domains (e.g. the self, dominance, and attachment) were rated as central to the concept of psychopathy, supporting Cleckley's (1982) definition of the disorder. Less emphasis was placed on the behavioural domain. The findings of Hoff et al. (2012) therefore support recommendations made by Cooke and Michie (2001), Blackburn (2007a) and Skeem and Cooke (2010a,b), to view psychopathy as a disorder of personality rather than a behavioural entity.

The CAPP's potential application to women as well as men has also been explored. Kreis and Cooke (2011) argue that the CAPP has good content validity across both sexes. In their study, Kreis and Cooke (2011) identified that psychopathic women were rated by healthcare professionals as more manipulative, emotionally unstable, and less grandiose and domineering than their male counterparts. Kreis and Cooke (2011) also found the interpersonal domains to be rated the most important components of psychopathy. Cognition was again viewed as the least important domain. This finding may be due to cognition being assessed at an explicit level. Implicit methods, such as those adopted in the ACL, may reveal different findings.

Affect, Cognitive and Lifestyle Assessment (ACL)

The ACL provides an assessment of general functioning across three broad domains: Affect, Cognition and Lifestyle. It can be administered to determine the presence of psychopathic functioning. Like Cleckley (1982), Ireland and Ireland (2012) view cognitive and affective processing to be integral aspects of the disorder and therefore developed the ACL to assess cognition and affect at an *implicit* and *explicit* level. The ACL assesses psychopathic functioning via collateral information, an interview, timed case scenarios, self-report, and an evaluation of presentation during assessment. The measure therefore includes an observational element like the IM-P. Scores are generated to provide a general functioning profile in line with the DSM-V (proposed)[25] and ICD-10 diagnostic criteria of psychopathic personality. It is important to note that the ACL is currently in the early stages of development and validation but is the only psychopathy measure to date that considers both affect and cognition at an implicit level.

Four empirical studies conducted by Ireland, Ireland, Lewis, Miller and Keeley (submitted) have examined the reliability and validity of the ACL[26]. Study one piloted the ACL and identified acceptable levels of reliability (e.g. α range, .58 to .71; total α .87) in a sample of students (n = 42). Study two expanded on this and found evidence for convergence between the ACL and an existing validated measure of psychopathy, the PCL:SV, in a larger sample of students (n = 50). In addition to this, implicit affect correlated positively with the PCL:SV total, albeit not highly. Implicit cognition also

[25] DSM-V had proposed a definition of psychopathy that captured ASPD but also wider elements. The ACL considered this definition as well as Cleckley (1982) and researchers, such as Cooke & Michie (2001), as the defining features.
[26] Only the first three studies will be discussed as the fourth relates to the findings identified in this thesis.

correlated positively with the PCL:SV total, with the exception of moral reasoning. However, it is important to note that implicit affect and moral reasoning were not expected to demonstrate strong correlations with the PCL:SV, as the PCL:SV lacks items that attend to these variables. Internal consistency of the ACL was found to be higher than in the previous study (e.g. α range, .60 to .76; total α .88).

Study three examined the ACL in a sample of young offenders (n = 84, age range 18 to 25) and again found the measure to have acceptable levels of internal consistency (e.g. α range, .57 to .77; total α .83). The contribution of collateral information for this sample was identified as improving reliability to good levels. Thus, whilst only in its preliminary stages, the ACL is proving to be a reliable and valid measure of cognitive and affective processing in psychopathy across samples.

The ACL and CAPP both offer promising indication that researchers have begun to recognise the importance of including items that tap into cognition and affect in the measurement of psychopathy. As discussed, existing measures have neglected these aspects of psychopathy and are therefore failing to provide a true assessment of the disorder, i.e. psychopathy as 'abnormal personality'. Measures that attend to cognitive and affective processing could provide a more thorough assessment of psychopathy. Such measures would also further research in the area, allowing psychological theory to be applied more readily to the construct.

Summary

It appears that more recent psychopathy assessments are placing an increased emphasis on personality and the role of psychopathic processing. Thus, new measures are beginning to attend to the integral aspects of the disorder first proposed by Cleckley (1982). The use of implicit testing to assess psychopathic processing appears to be promising, as this will help avoid difficulties associated with response bias. Assessing psychopathy via implicit measures is a recent development in the area and the ACL is the only measure exploring this. The inclusion of implicit testing in the assessment of psychopathy may enhance understandings of the disorder, specifically in terms of cognitive and affective processing.

3.6 Concluding comments

The assessment of psychopathy via the PCL-R and self-report is well validated across populations, as well as in men and women. However there are questions regarding the factor structure of psychopathy, with this debate extending to self-report measures. Researchers have suggested that psychopathy is underpinned by a two-, three-, and four-factor model, with the latter being favoured by Hare (2003). There is more agreement surrounding the likely factor structure of psychopathy in women, in that the three-factor model has been found a more accurate fit. Nonetheless, sex differences are evident in the assessment of psychopathy, with researcher's questioning the PCL-R's applicability to women.

The lack of agreement relating to the factor structure of psychopathy has stimulated controversy surrounding the conceptualisation of the disorder. Researchers have argued that the PCL-R overlaps with a behavioural measure, thus ignoring the core personality traits delineated by Cleckley (1982). Further research is therefore required to understand this complex disorder. A challenge for the new generation of researchers will be to refine assessment tools and incorporate specialised methods to measure the fundamental components of psychopathy, such as cognitive and affective processing.

Understanding the construct through cognitive and affective processing may prove vital in reaching consensus on the factor structure of psychopathy, particularly as it may help clarify the role of antisocial behavior. A more detailed discussion of cognition and affect in psychopathy will be presented in the ensuing two Chapters.

Chapter 4.
PSYCHOPATHY: COGNITIVE PROCESSING

4.1 Structure of the Chapter

This Chapter provides an overview on cognitive processing in psychopathy. It commences by making a distinction between explicit and implicit processing before examining the early development of important elements of specific cognition in psychopathy, such as cognitive schemas. The Chapter will then move on to discuss information processing in psychopathy, followed by a role for moral reasoning. Cognition is an integral aspect of psychopathy and in order to fully understand the construct these processes must be reviewed.

A number of theories and models will be introduced throughout the Chapter to account for the functional impairments in psychopathic cognition. This includes the *Reflective-Impulsive Model* (Strack & Deutsch, 2004), the *Cognitive-Interpersonal Theory of Psychopathy* (Blackburn, 2003), Huesmann's (1998) *Integrated Model of Information Processing*, the *Response Set Modulation Hypothesis* (Newman, 1998; Patterson & Newman, 1993), and Kohlberg's (1958) *Cognitive Model of Moral Development*.

4.2 Cognitive processing in psychopathy

Psychopathy is a complex disorder with largely unknown etiology and processes (Hiatt & Newman, 2006). Though empirical studies investigating the disorder have found broad, subtle deficits in cognitive processing, the literature has tended to focus more on the role of affect[27]. It is essential, however, to examine cognitive processing in psychopathy. Cleckley (1982), for example, stated that cognition is an integral aspect of the construct and impairments in this area predispose individuals to behave in a manner that is unhelpful to themselves and harmful to others. Thus, understanding cognitive processing in psychopathy may further improve the assessment, treatment and management of those with the disorder.

[27] Chapter five provides an overview on affective processing in psychopathy.

Despite the increasing interest in cognition in psychopathy (e.g. Blackburn, 2007a), there is a lack of research directly examining cognitive processing in the disorder due to researchers and clinicians failing to incorporate cognition fully in the *assessment* of psychopathy and to see the construct as a concept distinct from personality disorder (Wilks-Riley & Ireland, 2012). The lack of research may also stem from the complex experimental techniques or testing involved when assessing cognition (Schaich Borg & Sinnott-Armstrong, 2013), as these are often time consuming and require training to administer. This is complicated further by the need to assess cognition at both an explicit and *implicit* level.

4.3 Explicit vs. implicit processing[28]

Research (e.g. Back et al. 2009; Reich, Below & Goldman, 2010) has demonstrated that individuals process information about themselves and their surroundings at both an explicit (conscious and controlled) and implicit level (unconscious and automatic). Whilst there is a wealth of literature focusing on explicit processing and its role in personality and behaviour, implicit processing has received little attention in comparison (Banse & Greenwald, 2007). However, recent developments in measures designed to assess implicit processing has resulted in an increased interest in the area. Examples of such measures include the Implicit Association Test (IAT; Greenwald, McGhee & Schwartz, 1998) and the Puzzle Test (Ireland & Birch, 2013).

In contrast to explicit processing, which has been described as controlled, declarative and conscious (Banse & Greenwald, 2007), implicit or 'automatic' processing has been viewed as a spontaneous process requiring little cognitive effort (Fleischhauer, Strobel, Enge & Strobel, 2013; Ireland & Adams, submitted). Further to this, a number of researchers (e.g. Wilson, Lindsey & Schooler, 2000) have suggested that implicit and explicit processing stem from two independent systems that are activated in different situations, and predict different types of behaviour (Briñol, Petty & Christian Wheeler, 2006). The latter includes a number of behaviours including aggression (Ireland & Birch, 2013), self-harm (Randall, Rowe, Dong, Nock & Colman, 2013) and substance misuse (Stacy & Wiers, 2006). Thus, it becomes apparent that implicit and explicit processing systems function differently and require investigating as distinct concepts.

[28] In this section the term 'processing' includes both cognitive and affective processing.

Several theoretical models account for differences between explicit and implicit processing. One model in particular, the *Reflective-Impulsive Model* (Strack & Deutsch, 2004) suggests that behaviour occurs as a result of two interactive systems: a *reflective* system and an *impulsive* system. The reflective system is argued to represent explicit processing as it is based on a propositional process, slowly eliciting behaviour as a consequence of conscious accessible information (Ireland & Adams, submitted). The impulsive system conversely, is thought to activate behaviour without conscious thought, operating with little effort through "spread-of-activation processes in the associative memory network" (Fleischhauer et al. 2013, p. 155). To simplify, the Reflective-Impulsive Model proposes two systems, one thoughtful and one automatic, which interact with one another and therefore co-exist. The activation of behaviour (or behavioural schema) may be triggered by both of these systems (Back et al. 2009; Ireland & Adams, submitted). Distinguishing between the systems that underpin impulsive behaviour and thoughtful action therefore becomes crucial, especially when understanding processing in more complex presentations such as psychopathy.

Impulsive, 'automatic' responding has been considered a central feature of psychopathy (Hare, 1991, 2003). Despite this, impulsive implicit processing has received little empirical attention in the psychopathy literature, with studies focusing solely on explicit methods. However, given the behavioral characteristics of the disorder (i.e. an impulsive irresponsible lifestyle often involving antisocial tendencies; Roberts & Coid, 2007), it could be logically expected that psychopathic individuals would be characterised by less controlled and more automatic processing, requiring less effort. Further research is therefore needed to examine psychopathic processing at both an implicit and explicit level in order to further understanding in this area.

At the measurement level, implicit processing in psychopathy is not well represented, with measures such as the Psychopathy Checklist-Revised (PCL-R; Hare, 2003) and the Levenson Self-Report Psychopathy Scale (LSRP; Levenson et al. 1995) failing to account for implicit systems in the disorder. Most psychopathy measures examine the construct at an explicit level. This is problematic, especially as explicit measures are limited to what the individual is consciously aware of. It is therefore open to deception and impression management (Bluemke, Friedrich & Zumbach, 2010). Implicit measures avoid these biases and may be more suited to assessing psychopathy, particularly as those with the disorder are associated with traits such as pathological lying (Snowden et

al. 2004). Implicit measures also allow for the examination of more automatic processing (Ireland, 2011; Ireland & Adams, submitted). Thus, the application of implicit measures may allow for examination into the mechanisms underpinning the behavioral characteristics of psychopathy associated with more automatic responding (e.g. antisocial behaviour).

The importance of measuring explicit and implicit processing in psychopathy is accounted for by the Reflective-Impulsive Model which, as discussed, suggests that both systems interact with one another to predict certain types of behaviour. The introduction of the Affect, Cognitive and Lifestyle assessment (ACL; Ireland & Ireland, 2012) is therefore promising, as this newly developed measure assesses cognition and affect in psychopathy at an implicit and explicit level. Implementing this measure will assist researchers to understand cognitive and affective processing in psychopathy at an unconscious level.

Cognitive and affective processing occurring at an unconscious level is not immediately evident to the individual concerned and therefore cannot be effectively captured via self-report or interview, as these assessment strategies require a degree of awareness (Ireland & Adams, submitted). Thus, it becomes apparent that in order to fully understand psychopathic processing, specialised measures are required; measures that incorporate an implicit element and can assess the more automatic, uncontrolled systems underpinning the disorder.

Summary

Investigating implicit processing in psychopathy may provide some new theoretical insights, specifically in relation to cognition and affect. The inclusion of an implicit component in the assessment of psychopathy is crucial when advancing research. Implicit assessment will expose the more automatic, unconscious processes underpinning the disorder; which are yet to be understood. Implicit processing has also been argued to interact with more controlled explicit systems, and this should not be ignored. It is therefore important that psychopathy and psychopathic processing are examined implicitly and explicitly.

As discussed, implicit and explicit processing predict different types of behaviours depending on the context. Central to this, is the concept of cognitive schema. Cognitive schemas act as a guide for behaviour, forming pathways between the behaviour and the processing system (Back et al. 2009). Thus, cognitive schemas are a fundamental aspect of cognition in psychopathy and will be discussed next.

4.4 Early development of cognitive schemas[29]

The term "schema" has been extensively used within the area of psychology, specifically in relation to cognitive development (Young, Klosko & Weishaar, 2003). In this context, Young et al. (2003) conceptualised schema as an "abstract cognitive plan that serves as a guide for interpreting information and problem solving" (p. 7).

Beck (1967)[30] also referred to schema in his early work on cognitive therapy and described schema as a useful tool for making sense of life experiences. Beck argued that schemas often form during childhood and continue to develop; later being used to interpret experiences encountered as an adult. Schemas are susceptible to distortion and are therefore not always an accurate representation of the self, others, and the world (Beck, 1967). However, due to the need for 'cognitive consistency' (i.e. the human drive for a stable view of the self and others), schemas are known to be "superimposed on later life experiences, even when they are no longer applicable" (Young et al. 2003, p. 7). Thus, schemas can be described as adaptive or maladaptive.

Young et al. (2003) proposed that some schemas, particularly those that form as a result of unmet core emotional needs and 'toxic' early life experiences, might account for the core features of personality disorder. This would be expected to extend to psychopathy, since like personality disorder it is also underpinned by abnormal personality pathology. Furthermore, Beck, Freeman and Davis (2004) argued that schemas are the fundamental units of personality, and traits such as "withdrawn" and "arrogant" may be viewed as the real-life expression of schemas (p. 18). The inflexibility of personality disorders, and indeed psychopathy, could also be viewed as an extreme manifestation of cognitive

[29] Whilst much of this section focuses on those schemas developed during early childhood, other theorists (e.g. Erikson, 1950) have proposed that cognitive schemas also develop later on in life, particularly in 'normal' rather than clinical populations. However such a discussion would be beyond the scope of this Chapter.

[30] Beck's definition of schemata is different to that presented by Young. Young focuses more on how attachment has been the main disrupting factor.

consistency. That is, the disorders may stem from rigidly held maladaptive beliefs (Reeves & Taylor, 2007).

In relation to abnormal personality, Young et al. (2003) defined a specific subset of 18 schemas named 'Early Maladaptive Schemas' (EMS). EMS were collectively described as:

> *"A broad, pervasive theme or pattern… comprised of memories, emotions, cognitions, and bodily sensations… regarding oneself and one's relationships with others… developed during childhood and adolescence… elaborated throughout one's lifetime… and dysfunctional to a significant degree"* (Young et al. 2003, p. 7).

Thus, it becomes apparent that for a schema to be classified as maladaptive, it needs to negatively impact upon an individual's view of themselves and their interpersonal functioning. Young et al. (2003) categorised his EMS into a conceptual model representing five 'schema domains': *1). Disconnection and Rejection; 2). Impaired Autonomy and Performance; 3). Impaired Limits; 4). Other-Directedness; and 5). Over vigilance and Inhibition.* Table one display the five schema domains and the EMS that underpin each of these.

Table 1: EMS and schema domains.

Domain	EMS	Description
Disconnection and Rejection	Abandonment/Instability Mistrust/Abuse Emotional Deprivation Defectiveness/Shame Isolation/Alienation	Individuals with schemas in this domain are thought to often originate from a family that is unstable, abusive, cold, rejecting and isolated.
Impaired Autonomy and Performance	Dependence/Incompetence Vulnerability to Harm or Illness Enmeshment/Undeveloped Self Failure	This domain focuses on one's own expectations, and suggests that the environment may impact on an individual's perceived ability to function successfully in society.
Impaired Limits	Entitlement/Grandiosity Insufficient Self-Control/Self-Discipline	Individuals in this domain may have difficulties respecting the rights of others, making commitments, setting realistic goals and cooperating with others. They may also have an exaggerated sense of superiority.
Other-Directedness	Subjugation of Needs/Emotions Self-Sacrifice Approval/Recognition-Seeking	This domain is underpinned by schemas that are associated with an individual's excessive drive to meet others' needs rather than their own.
Overindulgence and Inhibition	Negativity/Pessimism Emotional Inhibition Unrelenting Standards/Hyper criticalness Punitiveness	This domain relates to an excessive emphasis on the suppression of one's own desires, needs and feelings to meet internalized rules and expectations.

It is important to recognise that individuals may hold a number of schemas across the five domains and are not necessarily restricted to one. Individuals may also have schemas that are positive, as Young et al. (2003) recognise that for every EMS there is a corresponding adaptive belief. However this is not articulated well in his work, which has arguably resulted in a lack of research on positive schema, especially in relation to psychopathy.

Understanding psychopathy through both maladaptive and adaptive cognitive schema may prove beneficial in recognising the intrinsic components of the disorder (Wilks-Riley & Ireland, 2012). More recent conceptualisations of psychopathy (e.g. Hare, 1991, 2003) have tended to focus solely on maladaptive, antisocial personality traits, failing to take into account the existence of any positive features. Examining positive cognitive schema in psychopathy may therefore help resolve this, providing a more holistic understanding of the disorder including *both* positive and negative characteristics.

Several researchers (e.g. Reeves & Taylor, 2007; Carr & Francis, 2010; Lawrence, Allen & Chanen, 2011) have found evidence for EMS in those with personality disorder at a clinical and sub-clinical level. However, the presence of EMS has been identified to be higher in clinical populations (e.g. Lawrence et al. 2011), suggesting EMS may predispose an individual to certain types of psychopathology. This may extend to psychopathy as certain personality disorders, i.e. antisocial, narcissistic and borderline, overlap with the construct (Huchzermeier et al. 2007).

Research has found different schemas to underpin different personality disorders (e.g. Reeves & Taylor, 2007; Carr & Francis, 2010). For example, Reeves and Taylor (2007) found EMS to significantly predict all personality disorder symptoms delineated in DSM-IV in a sample of 804 students. More specifically, they identified the following schemas to be significant predictors of the personality disorders associated with the definition of psychopathy: Insufficient self-control/self-discipline; Social Isolation; Abandonment; Enmeshment; Emotional Inhibition; Entitlement; and Mistrust/Abuse. These cognitive schemas may therefore also relate to the construct of psychopathy.

However this must be regarded as speculative, as there is a clear absence of research examining the link between psychopathy and cognitive schema. Wilks-Riley and

Ireland (2012) suggest that this neglect has occurred due to the psychopathy literature being dominated by an over-interest in measure development and the construct's association with offending behaviour. It may also stem from the content of early psychopathy conceptions (e.g. Cleckley, 1982), which appeared to place more emphasis on the role of affect in comparison to cognition.

Wilks-Riley and Ireland (2012) are the only researchers to date to explore the direct association between positive and negative cognitive schema and psychopathy across general and forensic samples. A clear role for cognitive schema in psychopathy was identified. Whilst there was a lack of association between psychopathy and Young's EMS, evidence was found for both positive and negative cognitive schema assessed via the Schemata: Positive and Negative, and Affect Assessment (SPANA-2; Wilks-Riley & Ireland, 2012). The notion that psychopathy is underpinned by positive schema supports the notion of 'successful psychopathy' and that the disorder is not always characterised by negative and antisocial traits. According to Wilks-Riley and Ireland (2012), the over focus on psychopathy as 'antisocial personality' has resulted in researchers failing to acknowledge the positive cognitions underpinning the disorder.

Wilks-Riley and Ireland (2012) also found evidence for a schema structure that was consistent with psychopathy across samples, thus highlighting that cognition is of equal importance and not population-specific. The schema structure consisted of an 'others' schema (i.e. *Abusive/Uncaring others)* and three self-schemas: '*Worthless/Self-Dislike'*; '*Positive Self*'; and '*Calm/Happy*'. Unsurprisingly, negative cognitive schema was positively associated with overall [increased] levels of psychopathy, primary psychopathy and secondary psychopathy. Positive cognition was also associated with the disorder.

When examining primary and secondary psychopathy, positive cognition was not associated with the latter. Wilks-Riley and Ireland (2012) suggested that secondary psychopathy captures the antisocial component of the disorder. The absence of positive schema would appear consistent with this. Furthermore, the notion that primary psychopathy does capture the core features of the disorder (Blackburn, 2007a) reinforces the role for positive cognitive schema in psychopathy.

These findings indicate that schemas relating to personality challenges, and indeed psychopathy, are not always maladaptive and can be adaptive. It therefore becomes apparent that enhancing our understanding of psychopathy through cognitive schema will not only allow practitioners to identify and target a psychopathic individual's core beliefs, but it will also enable a more optimistic-based approach to treatment and formulation (Wilks-Riley & Ireland, 2012). It will allow practitioners to highlight strengths in their clients as opposed to focusing on the negatives. More research exploring cognitive schema in psychopathy would help facilitate this.

Blackburn's (2003) *Cognitive-Interpersonal Theory of Psychopathy* provides further support for the role of cognitive schema in psychopathy. This theory is based on the notion that early interpersonal interactions generate strong biased expectations of how others are likely to respond to another's behaviour. An upbringing characterised by hostility and abuse would be likely to produce a hostile expectation, or hostile schema, of others and the world. Blackburn (2003) suggests that a particular behaviour "pulls" a specific type of response from another person (p. 63).

To illustrate, a hostile response would invite a hostile reaction, which in turn provides feedback confirming this biased expectation. This interpersonal style is commonly associated with psychopathy and provides one explanation as to why those with the disorder express a lack of concern and empathy towards others (Blackburn, 2003). That is, psychopathic individuals are may instigate unhelpful reactions from others, which would fuel an expectation that the world is an unhelpful place. They are therefore likely to behave in a manner that is conducive to this belief.

Thus, the cognitive-interpersonal model proposes that those with psychopathy have a distorted belief system originating from early developmental challenges and interactions with others, and it is this dysfunctional belief system that motivates many of the traits and behaviours associated with the disorder. However, in order for a schema to trigger behaviour, or an emotion, it must first be activated (Young et al. 2003).

Activation of a cognitive schema depends on two factors; the severity and pervasiveness of the schema (Young et al. 2003). According to Young et al. (2003), a more severe and pervasive schema would be likely to be activated by a greater number of situations and generate a more intense emotion or behaviour that lasts longer. However, researchers

have argued that some cognitive schemas are more accessible than others (e.g. Riso et al. 2006).

Furthermore, whilst Young's EMS have been described as more accessible and can be assessed via self-report measures (Riso et al. 2006), researchers also recognise that some cognitive schemas are *implicit* and can only be revealed through information processing tasks (Segal, 1988), such as Self-Referent Information Processing (SRIP) tasks[31] (e.g. Rogers, Kuiper & Kirker, 1977) and the Puzzle Test[32] (Ireland & Birch, 2013). This reinforces the need to assess cognition in psychopathy at both an implicit and explicit level.

Once activated, cognitive schemas (adaptive or maladaptive) are involved in the evaluation of incoming data, as well as the selection and implementation of a relevant strategy (Beck et al. 2004). Schemas consequently introduce a bias for cognitive processes (Beck et al. 2004), including those associated with the processing of information and moral reasoning.

Summary

Cognitive schemas, both positive and negative, appear to be an integral aspect of psychopathy, yet their relationship with the disorder is not well understood. More research is required to account for positive cognition in psychopathy and to develop treatment strategies that incorporate this strength. A more detailed understanding of cognitive schema in psychopathy would also allow for a balanced description of the disorder that incorporates both maladaptive and adaptive features.

As discussed, schemas are involved in the interpretation and evaluation of information and are therefore known to influence other aspects of cognition. This Chapter will now move on to examine these, commencing with a theoretical review of information processing in psychopathy.

[31] According to Rogers et al. (1977), the self appears to function as a superordinate schema that is involved in the processing of personal information. SRIP tasks are used to examine this at an implicit level.

[32] Ireland and Birch (2013) state that the Puzzle Test was designed to implicitly assess an individual's tendency to identify with aggression.

4.5 Information processing in psychopathy

Information processing has been identified to play a significant role in moderating affect, behaviour and decision-making (Baskin-Sommers, Curtin, Li & Newman, 2012). In combination with a maladaptive personality style, deficits in information processing have been related to psychopathy and have been used to provide an explanation as to why individuals with this disorder engage in offending behaviour (Wallace, Schmitt, Vitale & Newman, 2000). This section will examine information processing in psychopathy, applying theory to allow for an understanding of cognitive functioning in those with the disorder.

Huesmann's (1998) model of information processing is a good starting point to explain cognition in psychopathy as it takes into account childhood learning. It also touches on the role of implicit processing (i.e. how cognitions can occur at an automatic level; Ireland & Birch, 2013). Whilst this model is normally used to explain the development of aggression, it has a far broader application and can also be adopted to illustrate the cognitive characteristics of psychopathy, particularly those that promote antisocial tendencies.

Huesmann (1998) suggests that learning occurs through both enactive (i.e. learning from one's own behaviour) and observational learning processes (i.e. viewing other's behaviour). To illustrate, consider the following example: a child who frequently experiences others behaving violently is likely to respond in the same manner when confronted or victimized. According to Huesmann (1998), the likelihood of learnt behaviour becoming habitual is dependent on others' responses to an individual's actions, as well as the causal factors that instigated and maintained the behaviour. However, the individual's ability to interpret these depends on their cognitive capacity and information processing system (Huesmann, 1998). To fully understand habitual learned behaviour, it is first important to examine information processing in combination with environmental factors and personal characteristics.

Cognitive scripts are central to information processing and like schemas they are open to bias. Huesmann (1998) argues that scripts are stored in an individual's memory and govern how a person should behave in response to a situation. He also states that they influence an individual's perception of what the outcome of their behaviour is likely to

be which in some cases may lead to biases such as hostile attribution bias. Thus, cognitive scripts act as a guide for behaviour and are determined by individual differences, such as psychopathy.

Cognitive scripts are integrated into this model. It is proposed that the decision-making process at the moment of behaviour involves five elements that occur simultaneously and not in a step by step approach: 1). The individual encounters the social problem; 2). They evaluate the cues in the environment; 3). They search their memory for a script to guide the behaviour; 4). They evaluate the generated script; and 5). The individual behaves in accordance to the script.

Within this model there are three elements (i.e. two, three and four) at which individual differences, such as psychopathy, can affect the outcome. Given that psychopathic individuals have a distorted belief system (Blackburn, 2003; Wilks-Riley & Ireland, 2012) and are unable to appreciate the consequences of their actions (Newman, Schmitt & Voss, 1997; Newman, 1998), it is expected that they will experience difficulties when evaluating the environment, selecting and executing an appropriate script, and monitoring the effectiveness of this. Thus, those with psychopathy are likely to appraise events incorrectly and respond in a manner that is inconsistent to the situation; hence their propensity for violent [or antisocial] offending.

Huesmann (1998) recognised that evaluating the 'appropriateness' of a script plays a crucial role when deciding which scripts are stored, retrieved and utilised. For an individual to encode a script, the behaviour must have some relevance to an event or be reinforced through enactive learning (i.e. the behaviour is found to be useful when solving social problems or challenges). Therefore a script with salient cues, or one that has proven successful in the past, is more likely to be encoded in the memory system.

Taking into account their inability to effectively evaluate their chosen script and consider the appropriateness of the subsequent behaviour, psychopathic individuals are likely to develop a network of cognitive scripts conducive to inappropriate or unhelpful responding. It becomes apparent that information processing is a crucial aspect of cognition when understanding psychopathy and therefore warrants further investigation, especially as there is a lack of research directly applying Huesmann's model to the disorder.

According to Huesmann (1998), an individual's emotional state, alongside their memory contents, also has an influence over the behaviours they attend to and encode. For example, an individual who is angry and has an extensive network of cognitive scripts that are conducive to aggression may over attend to others' physical behaviour. They may also be more accepting of aggression than an individual whose memory is filled with pro-social alternatives. This is further complicated by the notion that an individual's emotional state can also be triggered by environmental stimuli (particularly stimuli that was present at the time the script was stored), which in turn may cue cognitions that define their feelings (Huesmann, 1998). Thus, cognition is not always an independent process and the interactive effects of other systems, such as affective processing, should also be considered.

At this point it is important to note that psychopathy has been associated with an inability to effectively identify and evaluate emotion (e.g. Dawel, O'Kearney, McKone & Palermo, 2012; Brook, Brieman & Kosson, 2013). This is likely to have an influence over the cues they attend to, their evaluation of these, and the cognitive script that is consequently retrieved. Thus, to clarify, if an emotional state is unrelated to the situation, an individual may select and interpret the wrong cues leading to biased responding. False evaluation of this responding is likely to perpetuate the accessing and subsequent utilisation of the cognitive script.

Evidence for this has been found to occur in those with psychopathy (e.g. Serin, 1991; Vitale et al. 2005). Vitale et al. (2005) identified that psychopathy in a sample of male offenders (assessed via the PCL-R) significantly predicted hostile attribution bias. That is, the results suggested that psychopathic individuals have a tendency to attribute others' behaviour to hostile intent. They concluded that individuals with the disorder utilise less information when making attributions and are more likely to rely on self-schemas (i.e. schemas that often portray the world and others as hostile and unpredictable; Cleckley, 1976). It therefore becomes increasingly evident that psychopathic individuals have a number of functional deficits and biases that interfere with their ability to process information accurately and respond appropriately.

Summary

Individuals with psychopathy have deficits in information processing that predispose them to engage in antisocial behaviour. In accordance with Huesmann's model, psychopaths can be conceptualized as experiencing difficulties when attending to, interpreting, and evaluating cues. This results in the storage of scripts that when retrieved, leads to responding that is inconsistent with the situation. Other factors, such as affective processing, may also have a significant influence on information processing. Thus, cognition may not be an independent process when interpreting and evaluating information in psychopathy.

Whilst Huesmann's model takes into account learning and the impact this has on the processing of information, it does not consider the role of [cognitive] self-regulation. This process is fundamental when understanding information processing in psychopathy and is better considered through the Response Modulation Hypothesis (Newman, 1998).

4.6 Response modulation in psychopathy

The Response Modulation Hypothesis is an attention-based model (Blair, Mitchell & Blair, 2005). It refers to the automatic interruption of goal-directed behaviour in accordance with information that is peripheral to an individual's current focus of attention (Zeier, Maxwell & Newman, 2009). Response modulation involves a shift in attention from ongoing behaviour to its evaluation (Blair et al. 2005).

According to Wallace et al. (2000), this automatic information processing activity does not require conscious control and is fairly effortless. It is therefore an implicit process and the automatic shift in attention is crucial in allowing an individual to monitor and if necessary to use information that is external to their primary focus of attention to alter their dominant 'response set' (Lorenz & Newman, 2002). That is, it enables an individual to *regulate* their ongoing behaviour in accordance to their surroundings. This argues again for a role for implicit cognition in psychopathic processing.

Cognitive self-regulation is an important aspect of response modulation and according to Wallace et al. (2000) this process involves three distinct phases: 1). Self-monitoring (i.e. observing one's own behaviour); 2). Self-evaluation (i.e. comparing behavioural

performance with one's own standards); and 3). Self-reinforcement (i.e. one's reaction, positive or negative, to self-evaluation). Each of these phases requires controlled information processing which can be easily interrupted if attention is needed elsewhere (Wallace et al. 2000). Self-regulatory processes are vital when making modifications to behaviour in response to contextual information. If available information indicates that behaviour is inappropriate then it is stopped and a new response set is initiated (Wallace et al. 2000).

It has been proposed that individuals with psychopathy present with deficits in response modulation and are therefore unable to automatically anticipate the consequences of their actions (Newman, 1998), i.e. they are unable to alter their primary focus of attention when a dominant response set has been established. Due to reduced automatic processing, psychopathic individuals arguably find self-regulation more effortful and therefore encounter difficulties evaluating and appropriately altering their behaviour, especially when engaged in goal-directed activity (Wallace et al. 2000).

Thus, the lack of ability to regulate or adjust their response set may account for the antisocial or maladaptive behaviours commonly perpetrated by those with the disorder. Difficulties when processing the meaning of contextual information may also account for deficits in affective processing, poor passive avoidance (i.e. failure to avoid stimuli paired with negative reinforcement) and impulsivity (Blair et al. 2005). The Response Modulation Hypothesis is therefore an important model when understanding cognition in psychopathy and has generated a significant amount of research on the topic. A review of this literature is crucial when examining response modulation deficits in psychopathy.

Newman et al. (1997) examined response modulation deficits in a sample of 124 (56 African American and 68 Caucasian[33]) offenders from a minimum-security prison. The researchers aimed to examine whether individuals with psychopathy are unresponsive to motivationally-neutral (i.e. unrelated to punishment) contextual cues that are peripheral to their dominant response set. Using the conceptualisation of psychopathy outlined by Cleckley (1976), Newman et al. (1997) subdivided their sample into high and low

[33] Newman et al. (1997) tested their hypotheses using the subsample of Caucasian offenders due to previous research finding a cultural difference in response modulation deficits. Research has found a weaker group difference between non-psychopathic and psychopathic African American prisoners on laboratory tasks when compared to their Caucasian counterparts (e.g. Kosson, Smith & Newman, 1990).

anxious psychopathic and non-psychopathic participants. A picture-word task (P-W task) similar to that developed by Gernsbacher and Faust (1991) was adopted to evaluate individual differences in the processing of contextual cues.

Participants were first presented with a 'P' or 'W' on the computer screen, which informed them as to whether the trial was either a picture trial (i.e. 'P') or word trial (i.e. 'W'). This arguably established a dominant response set (Newman et al. 1997). Depending on the type of trial, participants were instructed to indicate by pressing a button whether the stimuli presented in the test display was related to the stimuli shown in the context display. For example, on the word trial, participants must focus on the word in the context display and ignore the picture. This is the opposite for the picture trial. After each trial participants received feedback indicating whether they were correct or not. For correct answers participants received a monetary reward.

Results indicated that low anxious individuals with psychopathy did not display the usual interference effects. Instead, they engendered significantly less interference when compared to the low anxious controls (Newman et al. 1997). These findings are consistent with the Response Modulation Hypothesis and suggest that low-anxious psychopathic individuals (i.e. primary psychopathy) experience difficulties in the automatic processing of contextual cues. The finding that high anxiety psychopaths experienced more interference than high anxiety controls supported suggestions that this subsample is not characteristic of 'true psychopathy' (Newman et al. 1997). That is, individuals with high levels of anxiety may have different processes governing their behaviour. Similar findings to those of Newman et al. (1997) have been replicated in the community (e.g. Sadeh & Verona, 2008) and in psychopathic women detained in prison (e.g. Vitale, Brinkley, Hiatt & Newman, 2007), indicating that selective attention abnormalities in psychopathy are applicable across samples.

To examine the extent to which psychopathic individuals fail to attend to peripheral information is associated with both automatic and controlled processes, Jutai and Hare (1983) studied event-related brain potentials[34] (ERP) that were induced by tones. The amplitude of the ERP component is said to reflect the automatic direction of attention (Wallace et al. 2000). Participants were subjected to tones either whilst engaged in a

[34] Event related potentials are a measure of brain response in relation to a specific cognitive or sensory event.

computer game (acting as goal-directed behaviour) or when engaged in no task. Jutai and Hare (1983) identified that psychopathic and non-psychopathic individuals did not differ on the ERP amplitude when they were not playing on the computer games.

However, the amplitude of the ERPs was significantly less for the psychopathic group when the *competing* activity was introduced. The psychopath's lack of response to the incongruent information (i.e. the tones) indicates that attentional and controlled processing resources were not allocated to the processing of peripheral information (Wallace et al. 2000).

If these resources had been allocated then impairment in performance, or in this case, an increase in ERP amplitude would have been evident. In light of these findings, it can be proposed that the 'implicit' automatic direction of attentional and the 'explicit' controlled processing resources to peripheral information occurs less readily in psychopathic individuals when compared to their non-psychopathic counterparts (Wallace et al. 2000). Explicit and implicit cognitive processing therefore appears different in those individuals with psychopathy, justifying further investigation.

Further support for the occurrence of response modulation deficits in psychopathy have been identified by Zeier et al. (2009). Zeier et al. (2009) recognised that whilst other researchers (e.g. Newman et al. 1997; Smith, Arnett & Newman, 1992; Lorenz & Newman, 2002) have found evidence for response modulation deficits in psychopathy, they have failed to eradicate the possibility of an emotional or motivational explanation. In other words, they have not directly tested the role of attention to contextual information whilst controlling for the motivational or emotional aspects of the activity.

According to Zeier et al. (2009), it is important to do this in order to fully understand information processing in psychopathy, as the relative lack of concern for peripheral information may be "functionally similar" to the lack of concern for others, or fearlessness (p. 555). In their experiment, Zeier et al. (2009) adopted a modified version of the Flanker Task (Eriksen & Eriksen, 1974).

The Flanker Task includes a series of trials, with a number of these presenting a pre-target attentional cue indicating where the target stimulus will be displayed; therefore establishing a dominant response set. Other trials draw participants' attention to both

target and distractor locations ensuring there was no primary focus of attention. In line with the Response Modulation Hypothesis and previous research findings (e.g. Jutai & Hare, 1983), it was expected that individuals with psychopathy would not differ to non-psychopaths on these tasks (Zeier et al. 2009). Two different types of cuing manipulations were also introduced to further explore the role of attention. *Exogenous* cues drawing attention to the stimulus automatically and *endogenous* cues directing individuals to shift their focus of attention. By only including conditions that differed on attentional focus, they were able to limit their findings to the role of attention and ignore any possible influence due to motivation or emotional processing.

In Zeier et al. (2009), 110 Caucasian men incarcerated in a medium security prison were split into high and low levels of anxiety, as well as psychopathic and non-psychopathic subgroups. They found that individuals with primary psychopathy (i.e. individuals with psychopathy characterised by low levels of anxiety) were significantly less affected by information that was peripheral to their main focus of attention when identifying where the target would appear. However, as expected, low anxious psychopathic and non-psychopathic individuals displayed similar levels of interference in conditions that directed their attention to both target and distractor locations. It therefore becomes evident that attention plays a significant role in the sensitivity to contextual information in primary psychopathy once a dominant response set has been established (Zeier et al. 2009).

Deficits in response modulation have also been used to account for poor passive avoidance learning in psychopathy (Wallace et al. 2000). According to Blair et al. (2005), passive avoidance learning is instrumental and involves learning to respond to stimuli that give rise to a reward and avoiding those that result in punishment. Thus, passive avoidance learning requires the development of a stimulus-reinforcement association, that is, an association between stimulus and either a reward or punishment (Blair et al. 2005).

When presented with situations that require this type of learning, individuals with psychopathy (particularly low-anxious psychopaths) have been found to commit more errors than non-psychopaths (e.g. Newman & Kosson, 1986; Thornquist & Zuckerman, 1995). They have also been found to pause less following punished responses (e.g. Newman, Patterson, Howland & Nichols, 1990). These findings have been consistently

replicated and have been identified to become more evident when a dominant response set has been established (e.g. O'Brien & Frick, 1996). In accordance with the Response Modulation Hypothesis, poor performance on passive avoidance tasks may relate to a psychopathic individual's inability to shift their attention from the goal to obtain a reward to the peripheral punishment information (Blair et al. 2005).

Summary

It therefore becomes apparent that individuals with psychopathy encounter difficulties when processing information that is peripheral to their current response set. The accessibility of peripheral information is arguably dependent on the automatic allocation of cognitive resources (Wallace et al. 2000). It appears that when these resources are being used elsewhere the psychopathic individual's ability to process peripheral information is reduced.

Thus, in line with Cleckley's (1982) description, individuals with the disorder do not display evidence of deficits in response modulation until their automatic (implicit) and controlled (explicit) processing resources are allocated to achieving a goal (Wallace et al. 2000). This is not to say that those with psychopathy cannot redirect their attention and regulate their own behaviour; it is just more effortful. It is important to note however, that the Response Modulation Hypothesis is not without its criticisms (i.e. it does not take into account 'healthy' cognition) and it is unclear as to what extent the model is synonymous to more contemporary theories of attention[35] (Blair et al. 2005).

Nonetheless, it is evident that individuals with psychopathy suffer from deficits when processing information and it is these deficits that impact on their decision-making and self-regulation capabilities. Impairments in these areas may also influence their moral reasoning capabilities (Schaich Borg & Sinnott-Armstrong, 2013), as it becomes evident that psychopathic individuals experience difficulties when taking all information into account, especially when engaged in goal-directed behaviour. This moves this Chapter into the area of moral reasoning.

[35] Discussions relating to the more contemporary models of attention, such as the Biased Competition Model (Desimone & Duncan, 1995), are beyond the scope of the thesis. The Biased Competition Model focuses on visual attention and this aspect of information processing is not assessed in this research.

4.7 Moral reasoning in psychopathy

Moral reasoning (or moral judgment) is a difficult construct to define due to many different usages of the term (Schaich Borg & Sinnott-Armstrong, 2013). Schaich Borg and Sinnott-Armstrong (2013) define 'moral judgment' as "the mental state or event of judging that some act, institution, or person is morally wrong or right, good or bad" (p. 109).

Whilst this definition appears relatively simple, there is controversy as to what is considered a moral judgment and the factors underpinning this. For example, participants have been found to have deficits in some types of moral judgments but not others (e.g. Parkinson et al. 2011). Different acts have also been identified to require different cognitive abilities (e.g. Cushman, 2008). Both of these issues have been complicated further by some researchers failing to distinguish moral judgment from affect, or moral emotion such as empathy[36] (Schaich Borg & Sinnott-Armstrong, 2013).

Thus, it becomes apparent that there are several complications when examining moral reasoning and as a result assessing the concept becomes problematic, especially as there is no clear definition. It is therefore unsurprising that researchers investigating moral reasoning in psychopathy have adopted a number of different assessment strategies, e.g. the Moral Judgment Interview (MJI; Kohlberg, 1958); the Defining Issues Test (DIT; Rest, Cooper, Masanz & Anderson, 1974); the Moral Judgment Task (MJT; Lind, 1978); the Moral/Conventional Test (Turiel, 1983); philosophical scenarios; and self-report[37]. This, in combination with the lack of research on 'moral cognition' in psychopathy has made it difficult to draw firm conclusions from the literature. Nonetheless, the ensuing paragraphs will provide an overview of the research on moral reasoning in psychopathy. 'Moral cognition' will be used interchangeably with moral reasoning from this point forward.

Using the Moral Judgment Interview (MJI), Link, Scherer and Byrne (1977) examined moral judgment in a sample of psychopathic prisoners (n = 16), non-psychopathic

[36] According to Schaich Borg and Sinnott-Armstrong (2013), it is possible to have moral judgment without affect. This section reviews only those studies that focus on moral judgment, not moral emotion (i.e. empathy).

[37] Whilst the thesis will examine moral reasoning using scenarios of real-life dilemmas presented in the Affect, Cognitive and Lifestyle Assessment (ACL; Ireland & Ireland, 2012), it is important to also review other assessment strategies to fully understand 'moral cognition' in psychopathy.

prisoners (n = 16) and prison staff (n = 16). The MJI required participants to deliberate on a number of moral dilemmas, to which they had to give their reasons supporting their conclusion. The MJI is interested in the reasons why an individual decides whether something is right or wrong and splits these into three levels (with each level presenting with two sublevels; Kohlberg, 1958): 'Pre-conventional reasoning' (i.e. reasons focusing on immediate consequences); 'conventional reasoning' (i.e. reasons based on the expectations of others); and 'post-conventional reasoning' (i.e. the reasons underpinning complex moral principles that are separate to social norms or rules) (Schaich Borg & Sinnott-Armstrong, 2013).

According to Kohlberg (1958) and his *Cognitive-developmental Theory of Moral Reasoning*, moral development occurs in stages, with the latter stages, i.e. the post-conventional reasoning level, reflecting improved moral judgment. Over time, individuals are said to experience a qualitative transformation in that their structure of thought develops as they mature (Kohlberg & Hersh, 1977). Structure of thought refers to the cognitive configurations that underlie moral content, rather than the content itself, i.e. the shape, pattern or organisation of responses (Kohlberg & Hersh, 1977).

In Link et al. (1977), 16 psychopathic patients presented with more structured thought, i.e. more post-conventional reasoning, than non-psychopaths and staff. Whilst this finding is surprising, it is important to recognise that Link et al. (1977) assessed psychopathy via the Minnesota Multiphasic Personality Inventory (MMPI). Thus, individuals classified as psychopathic in this study may not meet the diagnostic cut-off of the PCL-R. It is therefore difficult to generalise these findings to psychopathy today.

O'Kane, Fawcett and Blackburn (1996) administered the Defining Issues Test (DIT) to a small sample of high-secure psychiatric patients (n = 40). The DIT aims to assess an individual's level of moral reasoning in line with Kohlberg's (1958) model. Participants were presented with six moral dilemmas derived from the Moral Judgment Interview (MJI). They are then required to rate and rank 12 considerations (each representing one of Kohlberg's six moral stages) for each dilemma in accordance to their importance when making the decision. Participants are then asked to rank-order the four most important considerations.

O'Kane et al. (1996) did not identify any significant associations between moral reasoning and PCL-R defined psychopathy after controlling for IQ. Despite not reaching statistical significance, it is important to note however that they found moral reasoning to negatively correlate with psychopathy, which is in line with the expectation that those with the disorder make more inferior moral judgments. The lack of significance in this study may be explained through the sample size and low base rate of psychopathy.

Young et al. (2012) conducted a more recent study using another adaptation of the Moral Judgment Interview (MJI), the Moral Judgment Task (MJT). The MJT is also based on Kohlberg's (1958) stages of moral development and requires participants to respond to two moral dilemmas using a scale ranging from -3 to +3. Participants are then asked to rate 12 moral arguments; six that are consistent with their judgment and six that are against it (Schaich Borg & Sinnott-Armstrong, 2013). These arguments are assessed on a likert scale ranging from (-4) "I strongly reject" to (+4) "I strongly agree". Two different scores are calculated from the MJT; the moral preference score and the C-score. The C-score is useful as it reflects an individual's ability to recognise and weigh arguments regardless of whether these arguments are consistent with their own opinion (Schaich Borg & Sinnott-Armstrong, 2013).

In Young et al. (2012), individuals with psychopathy were found to have 'abnormal' moral cognition, namely they rated accidental harm as more morally permissible than non-psychopaths did. No differences between the psychopathic and non-psychopathic groups were found for the remaining moral conditions: intentional harms; attempted harms; and neutral acts. Young et al. (2012) explained their significant finding through the Response Modulation Hypothesis, indicating that deficits in information processing may also account for problems in other areas of psychopathic processing.

Moreover, Young et al. (2012) state that whilst accidents normally occur as a result of an individual causing harm unintentionally, a degree of blame is usually assigned to the person. One possible reason as to why psychopathic individuals view accidental harm as less blameworthy is that they attend only to the information that is central to an event. Thus, individuals with the disorder may have focused solely on the person's intentions rather than the conflicting peripheral information and negative outcome.

In contrast to Kohlberg's cognitive model of moral development, Turiel (1983) proposed that moral reasoning begins to develop early in life. He stated that moral violations and conventional violations[38] can be differentiated by individuals as young as three years old. Kohlberg (1958), however, suggested that this distinction cannot be achieved until an individual is at the post-conventional reasoning stage. Turiel (1983) also argued that moral decisions are serious, based on consequences, and do not take into account location, time and authority. That is, actions that are deemed morally wrong remain morally wrong even when authorities allow them to occur (Schaich Borg & Sinnott-Armstrong, 2013).

Thus, in accordance with Turiel (1982), moral judgments may develop separately to conventional reasoning, indicating that the two may be controlled and maintained through different cognitive systems (Schaich Borg & Sinnott-Armstrong, 2013). Several researchers (e.g. Blair, 1995; Blair, Jones, Clark & Smith, 1995; Aharoni, Sinnott-Armstrong & Kiehl, 2012) have investigated whether the moral/conventional distinction extends to the construct of psychopathy.

Blair (1995) examined the moral/conventional distinction in a sample of ten psychopathic and ten non-psychopathic individuals recruited from two high secure hospitals in England. Psychopathy was assessed via the PCL. To measure the moral/conventional distinction, he adopted four moral stories and four conventional stories previously used in the academic literature. Results indicated that unlike those without the disorder, individuals with psychopathy did not make a moral/conventional distinction[39] and this was found to correlate with the following PCL items: 'a lack of remorse or guilt', 'callous/lack of empathy' and 'criminal versatility'. Blair (1995) also found psychopaths made less reference to the victim's welfare when judging the stories.

Interestingly, Blair (1995) also recognised that those with the disorder treated conventional transgressions as moral transgressions instead of moral transgressions as

[38]An example of a conventional violation is that it is wrong for a child to hit another child. The moral violation relating to this would be that it is wrong for a child to hit another, even if they have been told that it is acceptable to do so (Schaich Borg & Sinnott-Armstrong, 2013).

[39] Whilst this finding has been related to the *Violence Inhibition Mechanism* (VIM; Blair, 1995) model, this model is outlined in the next Chapter as it focuses on an individual's ability to appropriately identify *affect*.

conventional transgressions[40]. Thus, it appears that individuals with psychopathy have difficulty when defining moral violation. As Maxwell and Le Sage (2009, p. 79) note, they tend to have a "flat view" of the seriousness of rule breaking. Further support for these findings has been provided by a similar study conducted by Blair and colleagues (e.g. Blair et al. 1995).

For this study, a larger sample of psychopathic (n = 20) and non-psychopathic (n = 20) participants were recruited from a high secure hospital and a prison. In support of the previous study, Blair et al. (1995) identified that whilst participants in the non-psychopathic group were generally able to make the distinction between moral and conventional violations, psychopathic individuals were not. However when this was explored further, psychopathic individuals were found to be able to make a distinction for the 'seriousness' dimension.

One possible explanation for this is that individuals with psychopathy are able to cognitively make the distinction for the seriousness dimension, but think that moral and conventional violations are equally authority-dependent and therefore inflate their scores on these items for impression management purposes (Schaich Borg & Sinnott-Armstrong, 2013), i.e. to prove that they have been reformed and understand rules (Shoemaker, 2011). Whilst the findings of Blair et al. (1995) cannot confirm this, other researchers (e.g. Aharoni et al. 2012) have attempted to provide more insight into the moral/conventional distinction in psychopathy.

However before discussing the findings of Aharoni et al. (2012), it is important to acknowledge that Blair et al. (1995) also identified that psychopathic individuals, when compared to their non-psychopathic counterparts, were less likely to incorporate other's welfare into the justifications behind their responses to moral transgression stories. This was found to significantly correlate with the 'lack of remorse/guilt' PCL item and fit well with the prototypical description of the clinical psychopath described by both Cleckley (1982) and Hare (1991, 2003).

Aharoni et al. (2012) aimed to overcome the possibility of impression management when investigating the moral/conventional distinction in psychopathy. By introducing a

[40] According to Blair (1995), moral transgressions relate to acts that violate moral standards and do not take into consideration the rights and welfare of others. Conventional transgressions however, are associated with the violation of rules within the social system, such as breaking the law.

forced-choice component, they were able to remove the incentive to rate all of the stimuli as morally wrong. Participants (109 prisoners and 30 students) were informed that half of the stimuli had been previously rated as morally wrong, and the other half as morally right. Thus, in order to maximize their score and maintain the investigator's positive impression participants had to classify all of the stimuli correctly.

In contrast to previous findings, Aharoni et al. (2012) identified that individuals with psychopathy performed similar to controls when distinguishing moral from conventional transgressions. However, the affective and antisocial facets of the PCL-R predicted reduced performance when making this distinction. Those individuals with deficits in affect or those with a poor understanding of moral norms (i.e. delinquents) may therefore be more inclined to make poor moral judgments (Aharoni et al. 2012). Nevertheless, the inconsistent findings outlined so far reflect the need to conduct further investigation into moral reasoning in psychopathy. It may also be beneficial to use a different test to assess moral reasoning; a test that incorporates the use of philosophical scenarios or real-life dilemmas.

Philosophical scenarios vary in detail and allow researchers to pit conflicting moral principles against each other to find out which moral principle prevails (Schaich Borg & Sinnott-Armstrong, 2013). Many of these scenarios consist of a personal versus an impersonal dilemma. According to Schaich Borg and Sinnot-Armstong (2013), a personal dilemma was argued to constitute a situation that was likely to cause harm and this harm was inflicted with intent and was person-specific. Any other situations that did not meet this criterion were classified as impersonal.

It has been proposed that individuals with psychopathy are more likely than controls to judge acts outlined in personal moral scenarios as more permissible than those described in impersonal situations due to their deficits in affective processing (Schaich Borg & Sinnot-Armstrong, 2013). A number of studies have used philosophical scenarios when examining moral reasoning in psychopathy (e.g. Cima, Tonnaer & Huaser, 2010; Pujol et al. 2012; Koenigs, Kruepke, Zeier & Newman, 2012; Stevens, Deuling & Armenakis, 2012).

Cima et al. (2010) recruited a sample of adult male participants and split these into three distinct categories: healthy controls (n = 35), psychopathic offenders (n = 14) and non-

psychopathic offenders (n = 23). A PCL-R cut-off score of 26 was used to classify individuals as psychopathic. All participants were presented with seven impersonal dilemmas and 14 personal dilemmas taken from the work of Greene, Sommerville, Nystrom, Darley and Cohen (2001).

Results suggested that psychopathic individuals responded to personal and impersonal dilemmas in the same manner as healthy controls and non-psychopaths, i.e. they viewed impersonal dilemmas as more permissible than personal dilemmas. Additionally, there were no group differences in moral judgments for either type of dilemma. Cima et al. (2010) concluded that whilst individuals with psychopathy have been previously found to present with deficits in cognitive functioning when discriminating between moral and conventional transgressions, this deficit does not appear to apply when judging moral dilemmas relating to personal and impersonal situations.

Pujol et al. (2012) also found similar findings to Cima et al. (2010), in that behavioural data showed psychopathic individuals (n = 22) and non-offenders (n = 22) to provide similar responses to most personal dilemmas, with the exception of two out of a possible 24 situations. No obvious group differences in moral judgments were identified. However, those participants classified as psychopathic were found to have a significant reduction in neural functioning. Thus, psychopathic individuals may use different neurobiological strategies to healthy controls when making moral judgments.

Pujol et al. (2012) included participants in the psychopathic group with a PCL-R score of 16. It is therefore unclear as to how many individuals scored above 30, leaving the possibility that higher scorers (i.e. > 30) may present with differences that do not appear in the samples recruited by both Pujol et al (2012) and Cima et al. (2010) (Schaich Borg & Sinnot-Armstrong, 2013). Further investigation is required.

Using a PCL-R cut-off score of 30, Koenigs et al. (2012) identified that psychopathic offenders endorsed a greater proportion of acts than non-psychopathic offenders. This was found to be particularly the case for impersonal dilemmas. However, when differentiating psychopathic individuals by their levels of anxiety, Koenigs et al. (2012) found that those in the low-anxious group (i.e. primary psychopathy) permitted a significantly greater proportion of the acts outlined in the personal moral dilemmas when compared to non-psychopaths. There was no significant difference identified

between individuals with high levels of anxiety (i.e. secondary psychopathy) and non-psychopaths on personal moral judgment.

These findings suggest that whilst psychopathic individuals in general endorse more acts relating to impersonal harm and rule violation than their non-psychopathic counterparts, low-anxious psychopaths are more willing to permit personal harms to achieve their behavioral goal (Koenigs et al. 2012). Koenigs et al. (2012) state that their findings reflect a particular affective/inhibitory deficit that may only be found in primary psychopathy.

Abnormal moral cognition has been found to extend to psychopathy in the community (i.e. successful psychopathy). Stevens et al. (2012) recruited a sample of undergraduate students (n = 272) and assessed moral disengagement through participant responses to four ethical `scenarios adapted from Loviscky, Trevino and Jacobs (2007). According to Stevens et al. (2012), these scenarios presented participants with a range of ethical dilemmas commonly found in the workplace, e.g. cutting corners to meet deadlines. Psychopathy was measured using the Self-Report Psychopathy Scale-III (SRP-III).

Results highlighted that individuals in the community with high levels of psychopathic traits were more likely than individuals with low levels to make unethical judgments relating to ethical business dilemmas. Such findings add to the academic literature on successful psychopathy, in that psychopathic individuals residing in the community are more likely to make decisions that are conducive to a range of instances of wrongdoing and unethical behaviour (Stevens et al. 2012). Further support for this has also been identified in a study using self-report methods of assessing moral reasoning (e.g. Glenn, Iyer, Graham, Koleva & Haidt, 2009).

Glenn et al. (2009) administered a battery of self-report measures[41] to 2,517 adult male volunteers who signed up to the study online. Moral deficits were identified in those scoring high on the LSRP. The deficits observed primarily related to the domains of 'Harm' and 'Fairness'. In light of this, Glenn et al. (2009) proposed that individuals

[41] The battery included the following measures: The Levenson Self-Report Psychopathy Scale (LSRP); Moral Foundations Questionnaire; Moral Foundations Sacredness Scale; Interpersonal Reactivity Index; Social Dominance Orientation Questionnaire; Disgust Scale-Revised; and the Ethics Positions Questionnaire.

with high levels of psychopathic traits living in the community were less likely to consider moral principles relating to harm and fairness when making moral decisions.

The researchers also found that individuals with psychopathic tendencies were more likely to violate moral principles of any type for non-moral incentives such as money. Thus, demonstrating further evidence for deficits in information processing, specifically response modulation, in that psychopaths were unable to monitor and regulate their behaviour when a goal had been established. It is important to recognise however, that this study relied heavily on self-report and due to the potential for impression management, the findings may not reflect participants' true moral beliefs.

Summary

A number of studies have found evidence for poor moral reasoning in psychopathy. Whilst this appears to be subtle, it may account for some of the adverse decisions made by those with the disorder. It is also important to recognise however, that several researchers did not find evidence of any specific deficits in moral reasoning.

Thus, it becomes apparent that further research is required; research with larger participant pools and higher rates of psychopathy. Existing research has been accused of failing to reach any meaningful conclusions due to their small sample sizes and low prevalence of the disorder (Schaich Borg & Sinnot-Armstrong, 2013). The incorporation of an implicit measure to assess for moral cognition is also warranted, as this will help draw out 'true beliefs' and control for impression management. Those with psychopathy may attempt to present themselves as 'moral' in a bid to manipulate others. Whilst implicit measures have rarely been adopted in the psychopathy literature, such measures would help to assess moral reasoning at an unconscious automatic level; a level that is not consciously controlled by the individual.

4.8 Concluding comments

The literature on cognitive processing in psychopathy highlights a broad array of deficits (Hiatt & Newman, 2006). These deficits, despite being subtle, play a significant role in psychopathy. That is, they account for a number of personality traits and behavioural characteristics commonly associated with the disorder.

From the literature, it appears that dysfunctional schemas in psychopathy give rise to poor moral judgments, and interpretations and conclusions that are consistently biased (Wallace et al. 2000). However, it is important to conclude that schemas are not always maladaptive. The presence of positive schemas in psychopathy is a novel and promising finding, in that treatment can be tailored to incorporate this strength.

Empirical studies examining cognition, particularly moral reasoning, have been criticised for recruiting small sample sizes, having low base rates of psychopathy, and for failing to control for impression management. Thus, incorporating an implicit element into these studies will reduce the potential for deception and allow cognition to be examined at an unconscious, automatic level. Improvements in the methods used to assess for cognition will also enable a more in-depth theoretical understanding of psychopathy. Further research incorporating these recommendations is therefore warranted.

Lastly, the mechanisms underlying specialised processes, such as decision-making, information processing and self-regulation, are complex and may not be fully understood through investigating cognition as an independent process (Baskin-Sommers & Newman, 2012). Instead, researchers are now beginning to consider the interactive effects of cognition on other systems, such as affective processing. Examining the relationship between cognition and affect will allow for a unified understanding of psychopathy; an understanding that can be promoted through one theoretical framework (Hiatt & Newman, 2006). A more detailed discussion on this will be provided in the next Chapter, along with a review of the literature on affective processing in psychopathy.

Chapter 5.
PSYCHOPATHY: AFFECTIVE PROCESSING

5.1 Structure of the Chapter

This Chapter provides an overview on affective processing in psychopathy. It examines the affective abnormalities commonly associated with the disorder, specifically those relating to identifying and evaluating emotion. Several researchers (e.g. McCord & McCord, 1964; Meloy, 1988) considered the psychopath unable to experience emotion, and according to Cleckley (1976) it is this lack of emotional experience that many psychopathic traits (i.e. a lack of remorse and guilt) follow. Thus, deficits in affective processing appear a central feature of psychopathy and a review of these deficits will be helpful in understanding the construct.

Several theories have been proposed to account for the functional deficits in affective processing in psychopathy. This includes the *Dysfunctional Fear Hypothesis* (Lykken, 1957); the *Behavioural Inhibition System/Behavioural Activation System* (BIS/BAS; Gray, 1970, 1987); the *Violence Inhibition Mechanism Model* (VIM; Blair, 1995); and Beck's (1987) *Theory of Emotional Disorders*. These theories will be introduced alongside a review of the relevant empirical studies investigating emotion and psychopathy.

Lastly, the Chapter also attends to the relationship between cognitive and affective processing, providing an explanation of the interactive effects of these two processes on psychopathy. This will prove useful, especially as cognition and affect have largely been studied as two separate systems (Dvorak-Bertsch, Curtin, Rubinstein & Newman, 2009).

5.2 Affective processing in psychopathy

Psychopathy has been viewed as a chronic clinical condition characterised by unusual emotional experiences (Steuerwald & Kosson, 2000). These unusual experiences have appeared in many conceptualisations of psychopathy (e.g. Cleckley, 1976; Hare, 1991,

2003; Cooke & Michie, 2001), including those made in the early 19th century. For example Pinel (1801/1962, cited in Steuerwald & Kosson, 2000) argued that those with psychopathy experienced deficits in 'passion' and affect, but not reasoning (hence, the term *manie sans delire*, which translates to madness without confusion; *See* p. 5).

Cleckley (1982) proposed 16 personality traits that he felt were clinically relevant to the construct of psychopathy. Four of these were associated with deficits in affect: 1). Absence of nervousness; 2). General poverty of major affective reactions; 3). Lack of guilt and remorse; and 4). Incapacity for deep affectional bonds. The portrayal of psychopathy through these personality traits led to the view that all psychopathic individuals were relatively emotionless (Steuerwald & Kosson, 2000). However, whilst Cleckley (1982) argued that most emotional reactions exhibited by psychopaths were dramatic displays lacking deep and sustained affect, he did note that such individuals were not fully devoid of emotion.

Furthermore, Cleckley (1982) suggested that psychopathic individuals suffer from detachment between their cognitive and affective processing systems. This may consequently impact on their ability to utilise emotion to modify their behaviour accordingly (Steuerwald & Kosson, 2000). Thus, whilst it may be inappropriate to view those individuals with psychopathy as emotionless, it is important to recognise that there may be other systems, such as moral development and information processing, that also play a significant role (Baskin-Sommers & Newman, 2012). The psychopath's ability to experience emotion and profit from this may be more complex than originally anticipated and warrants further investigation.

Blair et al. (2005) also place significant emphasis on affective processing in psychopathy, stating that it is the impairment in emotional learning that acts as the *root cause of psychopathy*. They believe that impairments in emotional learning give rise to the characteristics associated with 'true psychopathy' (i.e. PCL-R factor one; interpersonal and affective deficits), such as a lack of guilt, remorse and empathy. However according to Blair et al. (2005), this impairment does not necessarily relate to an increase in PCL-R factor two (i.e. antisocial behaviour); although they do argue that emotion dysfunction will predispose an individual to learn antisocial means of achieving their goals.

Interestingly, Blair et al. (2005) relate emotional impairment in psychopathy to atypical amygdala functioning caused by genetic abnormalities. This is supported by recent research (e.g. Damasio, 1994; Blonigen, Carlson, Krueger & Patrick, 2003; Tsuchiya & Adolphs, 2007), which has found the amygdala to function differently in those children on the trajectory for developing the disorder. Thus, it appears that Blair et al. (2005) are of the opinion that there is a genetic contribution to the affective deficits associated with the construct, and it is this contribution that initiates the development of psychopathy.

Figure one outlines the causal model of the development of psychopathy proposed by Blair et al. (2005). It provides a neurocognitive account of the disorder and allows the reader to understand how deficits in cognition and affect link to psychopathic personality and behaviour.

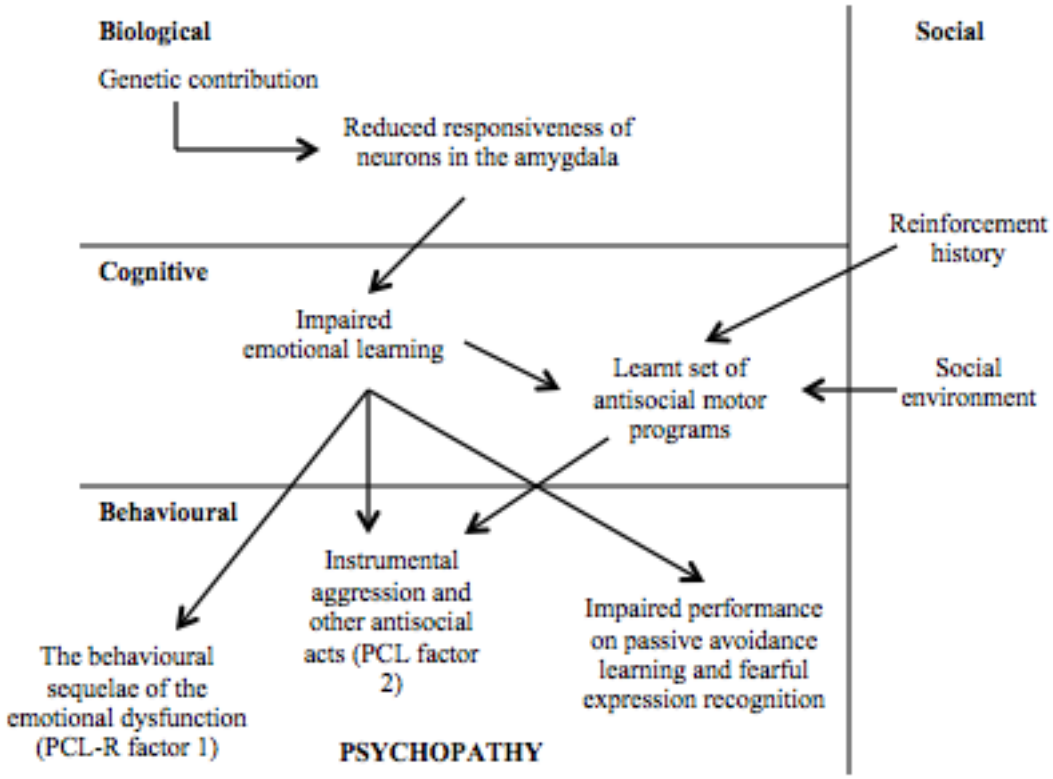


Figure 1: A causal model of the development of psychopathy (Blair et al. 2005, p. 111).

In terms of the cognitive aspects of the model, amygdala dysfunction has been linked to reduced attention (e.g. Anderson & Phelps, 2001) and problems with socialisation (Blair et al. 2005), as well as other difficulties, including instrumental learning and reward/punishment processing (e.g. Baxter & Murray, 2002). An individual who

presents with difficulty attending to emotional stimuli is likely to have impairments in their emotional learning.

However when examining 'socialisation', Blair et al. (2005) state that the amygdala responds to fear and sadness of victims allowing for the formation of 'moral stimulus-reinforcement associations' (*See* p. 97), which in turn induce empathy. Individuals who are less fearful due to early amygdala dysfunction will not find the distress cues of others aversive and it will therefore be difficult to socialise appropriately (Wootton, Frick, Shelton & Siverthorn, 1997; Blair, 2003; Blair et al. 2005); possibly leading to antisocial or unhelpful interactions. This is expanded upon in this Chapter's discussion of VIM.

Whilst this thesis does not directly examine the development of psychopathy, it is important to take note of the neurocognitive model proposed by Blair et al. (2005) as it emphasises the importance of cognition and affect in the disorder and indeed, the interplay between the two.

According to Brook et al. (2013), investigating the detection of emotional stimuli forms the most basic analysis of affective processing and therefore becomes a good starting point for discussion. This moves this Chapter on to the topic of identifying emotion in psychopathy.

5.3 Emotion recognition in psychopathy

There are two theories that account for emotion recognition in psychopathy; the *Dysfunctional Fear Hypothesis* (Lykken, 1957) and the *Violence Inhibition Mechanism Model* (VIM; Blair, 1995)[42]. Both propose that impairments in emotion recognition relate to the development of the disorder. These two theories are therefore important when attempting to understand the intrinsic mechanisms of the disorder from which it developed. Each theory will be discussed in turn.

[42] Whilst Beck's (1987) theory of emotional disorders also explores emotion recognition, it will be used in this Chapter to illustrate the evaluation of emotion in psychopathy.

The Dysfunctional Fear Hypothesis

This theory originates from an empirical study conducted by Lykken in 1957. Like Cleckley and Karpman, Lykken (1957) also recognised that there was a specific sub-type of psychopath (i.e. the primary psychopath) that was absent from any "neurotic motivations, hereditary taint or dissocial nurture" (p. 6). As discussed (*See* p. 10), it has been argued that primary psychopaths are characterised by an absence of defective emotional reactivity, specifically in relation to anxiety (e.g. Karpman, 1955, cited in Skeem et al. 2003).

In support, Lykken (1957) hypothesised that those with primary psychopathy were defective in their ability to develop anxiety as an anticipatory emotional response to warning signals. He proposed that individuals with this defect generally display little anxiety in life situations that normally trigger this type of response. According to Lykken (1957), primary psychopaths are also incapable of avoidance learning in situations where such learning can only be caused through the mediation of an anxiety response. Lykken therefore appears to view primary psychopaths as suffering from deficits in fear conditioning and poor passive avoidance learning, with these deficits becoming increasingly evident in situations that would normally induce anxiety.

To test this, Lykken (1957) recruited 49 individuals classified as psychopathic and split these into two groups reflecting primary and secondary psychopathy. A battery of tests that measured anxiety reactivity or conditioning was administered. As predicted, primary psychopaths demonstrated reduced levels of anxiety and less avoidance of punished responses than secondary psychopaths and 'healthy' controls.

Thus, the Dysfunctional Fear Hypothesis assumes that 'healthy' individuals are frightened of punishment. This fear is paired with the action that resulted in punishment, therefore reducing the likelihood of the individual engaging in the action in the future (Blair et al. 2005). However, individuals with psychopathy are less afraid of punishment due to their defective emotional reactivity (i.e. deficits when recognising fear). Consequently, they experience less arousal to punishment and make weaker associations between their behaviour and emotion. Psychopathic individuals are therefore more likely than 'healthy' controls to continue to engage in the punished action, demonstrating poor passive avoidance learning (Blair et al. 2005).

Poor passive avoidance is a key component of the Dysfunctional Fear Hypothesis; yet the theory does not provide a detailed account of this learning process (Blair et al. 2005). Instead, poor passive avoidance in psychopathy may be better understood through the *Behavioural Inhibition System* (BIS) proposed by Gray (1970, 1987).

The BIS, and its counterpart, the *Behavioural Activation System* (BAS) considers a neurobiological approach to implicit behavioural motivation. Both motivational systems are reciprocally related, in that one system inhibits the activation of another (Newman, MacCoon, Vaughn & Sadeh, 2005). Whilst the BAS is sensitive to reward and activates behaviour, BIS is sensitive to punishment cues and initiates passive avoidance. From this perspective, an individual with weak BIS would be dominant in conflict situations and slow to cease responding in loss-type situations (Fowles & Dindo, 2006).

When applied to psychopathy, primary psychopathy has been associated with low BIS and average BAS, whereas secondary psychopathy has been argued to relate to high BAS and average BIS (Lykken, 1995). The suggestion here indicates that primary psychopaths experience difficulty at an unconscious level when generating automatic responses to punished stimuli, as well as stopping responding following punishment (Blair et al. 2005). Thus, weak BIS may account for the fear deficit in psychopathy (e.g. Lykken, 1995), as well as behavioural disinhibition and low levels of anxiety (Fowles & Dindo, 2006). In terms of secondary psychopathy, the high BAS and average BIS would mean that such individuals are active avoidant and, unlike primary psychopaths, over focus on reward-based cues.

Thus, it becomes apparent that individuals with psychopathy fail to account for emotional stimuli (specifically fear) due to poor passive avoidance and defective emotional reactivity. These processes occur automatically and are not consciously controlled (Blair et al. 2005). Assessing emotional recognition in psychopathy therefore requires measurement at an implicit level. Further support for the role of implicit processing in emotion recognition has been provided by the Violence Inhibition Mechanism Model (VIM) Model.

The Violence Inhibition Mechanism Model[43]

Blair (1995) considered the Violence Inhibition Mechanism Model (VIM) to be an implicit cognitive process, which when activated by non-verbal cues of distress, triggers a withdrawal response. That is, the model assumes that all humans are predisposed to find distress cues (i.e. negative emotion) aversive and are punished by signals of another person's upset (Blair et al. 2005). The model therefore relies largely on an individual's ability to recognise negative emotion, such as fear and sadness.

It is important to note that VIM does not imply that all responses to distress cues are the same. According to Blair (1995), other processes, such as executive functioning (e.g. attending to important details), have a significant influence on the final behavioural response and can overrule the VIM-predisposition to withdraw. For example, if the individual does not attend to the distressing emotional cues then the behavioural response to withdraw will not be generated. Thus, it becomes apparent that an individual's ability to identify emotion and respond appropriately is not only governed by affective processing systems, but also that of cognition.

At its simplest form, VIM has been proposed to develop from early experiences of socialisation. These include experiences that involve recognising and withdrawing from others' distress cues that have been caused by the self (Blair, 1995). During these early socialisation experiences, individuals arguably develop representations of the context through perspective taking with the victim (i.e. via classical conditioning[44]) (Blair, 1995). This perspective taking results in the expansion of representing triggers of VIM that when activated generate arousal, which can be interpreted as moral emotion, including empathy.

A lack of moral emotion has been associated with the construct of psychopathy (e.g. Cleckley, 1982; Hare, 1991, 2003). It would not be unreasonable to suggest then that VIM is somewhat dysfunctional in those with the disorder. The lack of VIM in psychopathy may reflect the psychopath's inability to *empathise* with their victim and

[43] It is important to note that there is an expansion to the VIM model, the *Integrated Emotions Systems Model* (Blair, 2005). However, this model describes empathy as a unitary function within the field of cognitive neuroscience and is beyond the scope of this thesis. This thesis does not examine psychopathy at a neurological level.

[44] Classical conditioning is the learning of new behaviours via association. Two stimuli are paired together to generate a learned response.

without this, there will be no association made between the victim's internal state and the activation of VIM (Blair, 1995; Blair et al. 2005). The representations of acts that cause others harm simply do not become triggers for VIM and the psychopath experiences little arousal as a consequence of this. Thus, impairments in VIM may result in the absence of moral emotion in psychopathy, as well as poor moral reasoning and a reduced responsiveness to sad and fearful facial expressions (Blair et al. 2005).

To expand on this, the psychopath's general disability to decode and respond appropriately to social signals, particularly others' emotion, has been linked to empathic dysfunction (Domes, Hollerbach, Vohs, Mokros & Habermeyer, 2013), which is considered an essential feature of the diagnostic criteria for psychopathy (e.g. Cleckley, 1982; Hare, 1991). There is some evidence for a general impairment of affect recognition in psychopathy (e.g. Dawel et al. 2012) and this has been related to the 'cognitive' facet of empathy (i.e. interpreting and describing an emotional state based on another person's expression of emotion; Domes et al. 2013).

The 'emotional' aspect of empathy however, focuses on an individual's responsiveness to another's affective state (i.e. vicariously *feeling* another person's emotion; Domes et al. 2013). Like cognitive empathy, affective empathy has also been associated with psychopathy. Early descriptions (e.g. Cleckley, 1982) of the construct for example, proposed that psychopaths were unable to feel compassion for others. Whilst both cognitive (i.e. perspective-taking) and affective (i.e. compassion) empathy are captured in VIM, some researchers (e.g. Blair, 2005; Dolan & Fullam, 2006; Jones, Happé, Gilbert, Burnett & Viding, 2010) have proposed that psychopathic individuals lack the ability to feel compassion, rather than the ability to understand others' inner states at an intellectual level (Domes et al. 2013).

Without detracting from the main focus of this section, research (e.g. Blair, Jones, Clark & Smith, 1997; Blair, 1999) has found individuals with psychopathy to demonstrate reduced vicarious conditioning (i.e. they presented with a decreased autonomic response to stimuli associated with others' upset or distress), thus providing some evidence of impairment in the emotional components of empathic functioning. Cognitive empathy however has received less support in the psychopathy literature, with Dadds et al. (2009) stating that impairments in this aspect of functioning resolve as the psychopath matures and "learns to talk the talk about others' emotion" (p. 599). This finding is

supported to an extent by a number of studies (e.g. Kosson, Suchy, Libby & Mayer, 2002; Montagne et al. 2005) concluding that individuals [adults] with psychopathy demonstrate impairment in the recognition of some emotional expressions, but not others. It therefore becomes apparent that empathy dysfunction in psychopathy is yet to be fully understood, specifically in relation to cognitive empathy where research has produced a mixed body of findings (Brook & Kosson, 2013). It may be that the psychopath's empathy deficits relate to other factors, such as the role of attention (e.g. Newman, 1998), intelligence (Blair et al. 2004) and poor passive avoidance (e.g. Eysenck, 1967; Trasler, 1978).

Poor passive avoidance has been proposed to mediate the inhibition of inappropriate behaviour and the development of socialisation (Eysenck, 1967; Trasler, 1978). As emphasised by Blair (1995), socialisation is crucial in the formation of cognitive and affective empathy. Without socialisation, individuals are unable to develop representations of the context through perspective taking, and consequently fail to generate the arousal necessary to induce empathy. The most common explanation for poor passive avoidance learning in psychopathy relates to deficiencies in fear conditioning (Lykken, 1957; Eysenck, 1967; Trasler, 1978). That is, levels of fear arousal in psychopathy are not sufficient to sustain conditioning or initiate avoidance learning (Lykken, 1957; Newman et al. 1990).

In addition to deficiencies in fear conditioning, Eysenck (1967) also related poor passive avoidance to personality. He was of the opinion that extraverts form conditioned responses slowly and were therefore less socialised than introverts (Blackburn, 2006). This therefore implies that extraverts take longer when forming the necessary associations required to empathise with others. Eysenck (1967) was of the opinion that psychopaths, and indeed criminals, have high levels of extraversion, neuroticism and psychoticism. Whilst psychoticism has not been readily linked to conditioning, it has been related to ‘primary psychopathy’ due to the underpinning facets of hostility, impulsivity and egocentricity. Eysenck’s theory of psychopathy has been criticised for providing an explanation at a descriptive level, failing to empirically link personality traits, such as psychoticism, to socialisation (Blackburn, 2006).

Nevertheless from a theoretical perspective, it appears that individuals with psychopathy have processing deficits that predispose them to encounter difficulties

when identifying emotional expressions, specifically expressions relating to fear and sadness. A more comprehensive review of the psychopathy literature is required to examine whether the proposals of both VIM and the Dysfunctional Fear Hypothesis are consistent with empirical findings.

Emotion recognition in psychopathy: A review of the literature

The majority of researchers (e.g. Kosson et al. 2002; Blair et al. 2004; Montagne et al. 2005; Hastings, Tangney & Stuewig, 2008; Iria, Barbosa & Paixão, 2012) investigating emotion recognition in psychopathy have focused on 'basic' facial expression[45] (i.e. universal expressions relating to anger, fear, surprise, happiness, disgust and sadness). Using computerised affect recognition tasks, these researchers have attempted to clarify whether emotion recognition deficits in psychopathy are specific, or whether they are pervasive and relate to several different types of emotion.

Facial affect recognition tasks usually consist of an established set of validated photographs of faces depicting basic emotional expressions (e.g. Ekman & Friesen, 1976). It is important to note however, that these tasks generally provide an explicit assessment of affect, failing to account for implicit processing. Thus, the following review is based solely on explicit affective processing in psychopathy. It appears that implicit emotion recognition has been neglected in the study of psychopathy, which is surprising considering that both the Dysfunctional Fear Hypothesis and VIM are considered to be motivated by implicit processes.

Nevertheless, Kosson et al. (2002) identified that psychopathic offenders present with impairments in nonverbal emotional processing, specifically in relation to facial affect recognition. The finding that psychopathic individuals present with impairments when identifying facial disgust is somewhat consistent with the Dysfunctional Fear Hypothesis and VIM for specific affective abnormalities. In contrast to these two theories, results indicated that psychopaths are not deficient at classifying fear and sadness. However, Kosson et al. (2002) recognised that this finding may have occurred, as the task materials did not provide a sensitive enough measure for individual

[45] Other researchers have examined affective processing in psychopathy using vocal affect recognition tasks (e.g. Blair et al. 2002; Bagley, Abramowitz & Kosson, 2009; Hiatt, Lorenz & Newman, 2002). Whilst findings indicate that psychopaths present with deficits in vocal affect recognition, there are too few studies to draw any firm conclusions at this point (Brook et al. 2013). This thesis will not be examining vocal affect recognition in psychopathy.

differences when classifying certain emotions. Thus, discrepancy between the current study and that of Lykken (1957) and Blair (1995) may relate to differences in methodological design.

When participants have been presented with fearful and sad expressions, those with psychopathy have been found to exhibit less autonomic responding than non-psychopaths (e.g. Blair et al. 1997). In light of this, Kosson et al. (2002) concluded that psychopathic offenders may not have deficits when identifying fear and sadness, but may instead have problems initiating autonomic activity in response to these emotional expressions. However, this statement was speculative and the researchers recommend further investigation in this area.

Contrary to expectations, Kosson et al. (2002) found psychopathic individuals to be more effective at recognising anger when compared to non-psychopaths. Whilst this finding had not been previously identified in the literature, it does correlate with suggestions that psychopathic individuals are characterised by a heightened attention to aggressive features (e.g. Doninger & Kosson, 2001). On reflection, this finding also fits well with the notion that psychopaths have cognitive schemas that portray others and the world as hostile (e.g. Blackburn, 2003). Such individuals may therefore be more sensitive to expressions of anger as a result of this. Though this finding can be accounted for and provides a potential example of the interplay between cognition and affect, it is not consistent with the Dysfunctional Fear Hypothesis, as this theory states that psychopathic individuals should demonstrate impairments when identifying threatening stimuli.

Like Kosson et al. (2002), Blair et al. (2004) found no evidence of impairment when identifying the facial expression anger. Psychopaths may therefore exhibit recognition deficits for certain emotions and not others. Nevertheless, it may be that individuals with psychopathy are in fact not threatened by anger. It appears that research has automatically assumed how the expression of anger is interpreted in psychopathy without empirically testing this. This is a criticism of the literature and provides greater rationale as to why affective processing in psychopathy warrants further investigation.

In support of the theories outlined, Blair et al. (2004) identified that psychopathic individuals presented with a selective impairment when recognising fearful facial

expressions. Psychopaths when compared to 'healthy' controls made more errors for fearful expressions and continued to do so even when the expression had morphed into its prototypical form, making it easier to recognise. Blair et al. (2004) stated how this result was not influenced by the methodological design of the experiment. To elaborate, whilst psychopathic individuals encountered problems when identifying fear, participants as a whole (i.e. including both psychopaths and non-psychopaths) found 'disgust' the most difficult expression to recognise. Thus, task difficulty cannot account for the significant findings; rather the results may reflect the actual deficits of those with the disorder.

Other studies have also found support for a fear recognition deficit in psychopathy (e.g. Montagne et al. 2005; Iria et al. 2012). Iria et al. (2012) identified individuals with psychopathy, regardless of being criminal or not, to demonstrate a reduced ability to recognise fear and sad facial expressions when compared to non-psychopaths. High levels of psychopathy associated with a specific affective deficit when identifying fear and sadness, which is consistent with the Dysfunctional Fear Hypothesis and VIM. Non-criminal psychopaths did not perform differently to criminal psychopaths. This indicates that criminality does not influence emotional processing in psychopathy and impairments may be consistent across samples (i.e. psychopaths found in community, forensic and clinical populations). It could be argued that psychopaths show a weakness in recognising others' emotional expressions, which may account for their propensity to manipulate and violate the rights of others (Iria et al. 2012).

It is important to note that Iria et al. (2012) found psychopathy to be related to the misidentification of anger. This finding is inconsistent with Kosson et al. (2002) and Blair et al. (2004), who identified psychopathic individuals to have the ability to recognise this emotion. Thus, it appears that the psychopathy literature has found mixed findings for the recognition of specific emotional expressions.

One possible explanation for the inconsistent findings highlighted here is that research has generally assessed emotional recognition in psychopathy in the context of 'cold' cognition as opposed to 'hot cognition'. It is certainly feasible that any deficits in recognition may only arise during periods of increased arousal (i.e. hot cognition) and not during the un-aroused experiments adopted. Further research is warranted to clarify this.

Clinical accounts of psychopathy (e.g. Cleckley, 1982) state that the disorder is characterised by a general absence of affect. This would arguably lend itself to the suggestion that psychopaths have an affective deficit when recognising a variety of emotions, not just that of sadness and fear. It could, for example, be suggested that psychopathic individuals experience difficulty when identifying all types of emotion, which would also account for the inconsistency in findings.

Hastings et al. (2008) found support for this suggestion and identified that psychopathic individuals experienced difficulty when recognising happy and sad facial expressions. Although correlations between psychopathy and their ability to recognise other emotions, such as anger, fear and sadness, did not reach significance, Hastings et al. (2008) noted that the direction of these were all negative. This would consequently suggest that the disorder is associated with recognition deficits for a number of different types of emotional expressions.

In an attempt to quantitatively clarify this, Dawel et al. (2012) conducted a meta-analysis examining facial affect recognition in adult psychopaths. This analysis revealed that those with the disorder presented with deficits when identifying both positive and negative emotion. Moreover, the researchers acknowledged that these deficits were pervasive, with psychopaths displaying significant impairments when identifying fear, happiness, surprise and sadness. Weighted effect sizes were negative for anger and disgust, though not statistically significant (Dawel et al. 2012).

Summary

Thus, it becomes evident that psychopathy is associated with impairments in emotional recognition. This deficit is pervasive and relates to both positive and negative emotion. The Dysfunctional Fear Hypothesis and VIM appear to be too specific and consequently do not acknowledge that those with the disorder have difficulty identifying other emotions as well fear and sadness.

At this point, it is important to note that additional research is needed to examine emotional recognition in psychopathy at an implicit level, as existing research has failed to take this into consideration. Assessing emotional recognition at an implicit level is important when understanding the impulsive, automatic processes underpinning the

psychopath's emotional experiences and may add clarification to the inconsistent findings.

Further research is also required to account equally for cognition and the interaction it has with affect in psychopathy. This is poorly understood in the psychopathy literature, Research that examines emotional recognition during periods of increased arousal (i.e. hot cognition) would also be of particular benefit, as contexts involving 'hot cognition' are more likely to draw out the natural tendencies of the psychopath.

Emotion recognition is only one aspect of affective processing in psychopathy. A great deal of attention in recent years has also focused on the psychopath's evaluation of emotional stimuli. According to Steuerwald and Kosson (2000), some of the more robust findings indicate that those with the disorder present with impairments when processing emotional stimuli and this may be influenced by a number of cognitive factors. This moves the Chapter into the evaluation of emotion in psychopathy.

5.4 Evaluating emotion in psychopathy

In his writings, Cleckley (1976) recognised inconsistency between the psychopath's ability to appraise affective information and ability to use this information to respond appropriately. He recognised that psychopathic individuals were able to demonstrate normal appraisal of explicit emotional cues in an abstract sense (i.e. during verbal discussions), but had difficulty using these cues at an implicit level to guide their judgments and behaviour (Lorenz & Newman, 2002). This highlights the discrepancy between explicit and implicit reactions to emotion in psychopathy and suggests that those with the disorder may have some form of deficit underpinning their implicit processing when evaluating emotional cues.

Whilst existing theories (e.g. VIM and the Dysfunctional Fear Hypothesis) address emotional deficits in psychopathy, it is unclear how they account for the inconsistency identified by Cleckley (Lorenz & Newman, 2002). Beck's (1987) Theory of Emotional Disorders however, can be applied to the construct to explain this 'paradox'. Although this theory was originally proposed to account for depression and anxiety, it has been found to have some utility when explaining abnormal affective processing in psychopathy (Blackburn, 2006).

Beck's Theory of Emotional Disorders

According to Beck's Theory of Emotional Disorders, specific emotions result from the cognitive appraisal of a situation (Blackburn, 2006). This appraisal manifests at both an explicit and implicit level and influences the emotion type experienced (Wells, 1997). As Blackburn (2006) notes, Beck's theory relies heavily on implicit beliefs, which are also known as cognitive schemas (*See*, p. 65).

Beck (1987) argues that specific emotions result from the cognitive appraisal of the effect that events have on one's self or personal views. For example, Blackburn (2006) describes that the emotion of anger is a consequence of the appraisal of an unwanted violation that one perceives to be either offensive or threatening. Cognitive schemas are central to an individual's personal view of the world (Beck, 1987) and therefore influence the individual's appraisal. However, schemas are often associated with biases, which arise from past personal learning history (Blackburn, 2006). Such biases are a source of emotional dysfunction and link to information processing challenges. That is, they give rise to distorted automatic self-evaluations and attributions of causality that would lead to inappropriate affective experiences and responding (Blackburn, 2006).

As discussed, psychopathic individuals are associated with information processing challenges (e.g. Newman, 1998) and poor early maladjustment (e.g. Frodi, Dernevik, Sepa, Philipson & Bragesjö, 2001). It is not unreasonable then to suggest that they also have distorted self-evaluations and biased attributions of causality, which would impact upon their ability to effectively evaluate and react appropriately to others' feelings and circumstances. Thus, Beck's theory is not stating that psychopaths are unable to benefit from emotional cues; they just have problems when evaluating and interpreting them.

Beck's theory emphasises the importance of examining affective processing in psychopathy at an implicit level, i.e. via cognitive schemas that influence information processing, and consequently give rise to abnormal affective experiences. The theory also highlights the role of cognitive-affective interactions in modulating the manifestation of affective processing in psychopathy. Moreover, it appears that cognitive schemas, and indeed information processing, have a significant influence on

emotional experiences in psychopathy, in that they determine how affective cues are evaluated.

However, one limitation of Beck's theory is that it does not capture the role of attention, which has previously been found to be a crucial aspect of psychopathic functioning (e.g. Newman, 1998). According to the Response Modulation Hypothesis (*See* p. 75), the emotional deficit of psychopathic individuals varies as a function of attentional focus (Baskin-Sommers & Newman, 2012). The Response Modulation Hypothesis states that individuals with psychopathy do not attend to peripheral cues, which may include important information required to effectively evaluate other's emotion.

Thus, it becomes apparent that in order to fully understand affective processing, specifically the evaluation of emotion in psychopathy, these two theories must be considered along with a review of the relevant literature. It is important to note however, that there has been a lack of research directly examining Beck's theory and almost all studies have applied their findings to the Response Modulation Hypothesis.

Evaluating emotion in psychopathy: A review of the literature

Adopting a lexical decision task, Lorenz and Newman (2002) examined affective processing in a sample of psychopathic and non-psychopathic offenders. Lexical decision tasks assume that emotion words prime associational networks on the basis of their emotional content or valence (Bower, 1981). To illustrate for example, the word 'heaven' would normally be associated with positive emotion.

Results indicated that non-psychopaths scoring low on anxiety demonstrated greater emotion utilisation than low-anxious psychopaths. That is, low-anxious psychopaths failed to access the affective associations primed by stimulus words and were consequently unable to relate the emotional valence of the word with a type of emotion (e.g. the word 'heaven' to positive emotion) (Lorenz & Newman, 2002). However both groups were found to rate emotional words in a similar manner, thus providing support for the paradox identified by Cleckley. In other words this supports the inconsistency proposed between the psychopath's ability to appraise affective information and their ability to use this information to respond appropriately.

Previous research (e.g. Williamson et al. 1991; Patrick, Bradley & Lang, 1993) has found similar findings to that of Lorenz and Newman (2002), although it is important to note that both Williamson et al. (1991) and Patrick et al. (1993) used different methods. Whilst Williamson et al. (1991) examined affective processing using event related potentials (ERP), Patrick et al. (1993) assessed startle responses (i.e. a sudden reaction to startling stimuli) whilst individuals observed slides differing in affective valence. Thus, Lorenz and Newman's (2002) results appear to be consistent with other studies using different methods.

Lorenz and Newman (2002) related their findings to the Response Modulation Hypothesis rather than to defective affective processing per se. They recognised that psychopaths were less influenced by the word's affective connotations (i.e. information that is incidental to the direct meaning of the word) than non-psychopaths when engaging in goal directed behaviour, which in this instance was the experimental task.

Thus, taking into account similarities between their emotional and information-processing deficiencies, psychopath's affective deficits, like their self-regulatory deficits, may involve impairment when processing secondary information (Lorenz & Newman, 2002). Moreover, individuals with psychopathy, particularly those characterised by low levels of anxiety, may be unable to implicitly activate the associative networks primed by peripheral emotional cues and instead may be more dependent on deliberate, conscious processing.

Further support for the role of the Response Modulation Hypothesis when evaluating affective stimuli has been provided by a number of researchers, including Mitchell, Richell, Leonard and Blair (2006), and Glass and Newman (2009). Glass and Newman (2009), for example, examined the differential effects of emotion on memory for primary versus secondary information. The researchers recognised that low-anxious psychopathic offenders were able to benefit from emotional cues that were central to their attentional focus and recalled more emotional words as a result. Emotional stimuli that were presented outside of the psychopath's attentional set did not influence recall.

According to Glass and Newman (2009), low-anxious psychopaths presented with a strong emotion memory effect for the stimuli presented in their primary focus. This effect remained evident even for the stimuli that was displayed for a limited amount of

time. Thus, the findings of this study are not consistent with existing theories, such as VIM and the Dysfunctional Fear Hypothesis, which state that psychopath's are characterised by an affective deficit. Rather, the results suggest that the psychopath's ability to evaluate and process emotional stimuli remains intact. It is their processing of contextual information that is impaired, which is cognition and relates to the role of attention.

In light of the findings, Glass and Newman (2009) concluded that individuals with psychopathy appeared unable to connect emotional experiences to contextual cues, specifically those that fell out their primary focus of attention. As a result, this may impair the psychopath's ability to benefit from one of the fundamental roles of emotion; redirecting attention. If emotion fails to redirect the psychopath's attention they will be less likely to learn from the contextual cues that link to significant emotional events and consequently, fail to appreciate the impact of their actions (Glass & Newman, 2009). Glass and Newman (2009) argue that such events will result in the psychopath having a limited experience of emotion, which will influence their ability to effectively evaluate emotion due to difficulty appreciating the broader context.

Glass and Newman's (2009) conclusion arguably fits well with Beck's (1987) theory, in that the psychopath's ability to benefit from emotional cues is limited to their primary focus of attention. This leads to a limited experience of emotion, or a biased view of emotional experiences that give rise to cognitive schemas, which maintain such beliefs. Whilst this link is only speculative, it would be valuable to empirically examine this to obtain a greater understanding of the mechanisms underpinning affective processing in psychopathy.

Abnormal attentional processes have also been found to relate to the psychopath's intrinsic fear deficit (e.g. Dvorak-Bertsch et al. 2009). More specifically, Dvorak-Bertsch et al. (2009) identified that individual differences in the affective-interpersonal component of psychopathy (i.e. PCL-R F1; Hare, 2003) were not associated with impairment in threat processing. Instead, Fearless Dominance (which has a unique relationship with PCL-R F1; Lilienfeld & Andrews, 1996) was associated with a reduced fear response only when attentional focus had shifted away from threat-relevant stimuli. Thus, it appears that abnormal attention and poor passive avoidance in psychopathy, captured by the Response Modulation Hypothesis, account for the

deficient fear response exhibited by those with disorder. Dvorak-Bertsch et al. (2009) found similar findings to Lorenz and Newman (2002) and Glass and Newman (2009) in a sample of students (n = 55), therefore suggesting that findings are consistent across samples.

At this point it is also important to note that the Response Modulation Hypothesis is different to the BIS model, in that it proposes that individuals will be responsive to threat or emotional cues as long as they are in the psychopath's primary focus of attention. In other words, individuals with psychopathy are able to process and evaluate fearful emotion, but the effectiveness of this is dependent on attentional demands of the situation. The BIS maintains that psychopaths are deficient at processing such stimuli regardless of attentional focus.

Anderson and Stanford (2012) further examined emotional processing differences in psychopathy using affective event-related potential (ERP) modulation (n = 40). Results indicated that individuals with high levels of psychopathy demonstrated increased ERP differentiation between emotional and neutral stimuli when their attention was directed towards these. However, the researchers state that it would be incorrect to state that psychopathic individuals process emotion at the same level as their non-psychopathic counterparts. Instead, Anderson and Standford (2012) argued that their data revealed psychopaths failing to achieve the same level of differentiation between emotional and neutral cues to that identified in 'healthy' controls. Thus, whilst attention appears to have a significant influence on affective processing in psychopathy, the characteristics of the ERP waveform indicated that processing may also be influenced by alternative neural processes that account for specific abnormalities (Anderson & Standford, 2012).

Nevertheless, Anderson and Stanford (2012) state that their results provide evidence for an implicit differentiation between emotional and neutral stimuli. That is, they argue that the implicit mechanisms associated with early discriminatory processes that link to the psychopath's attention and memory are either delayed or absent (i.e. they take longer to process emotional stimuli). However, when attention is explicitly required for task performance, ERP waveforms suggest that their level of processing becomes comparable to that of non-psychopaths. Deficits when processing emotional stimuli in psychopathy may therefore occur mainly at an implicit level.

Verona, Sprague and Sadeh (2012) advanced on previous research by examining inhibitory control and *negative* emotional processing in psychopathy. By focusing solely on negative emotion the researchers' aimed to understand the psychopath's evaluation of specific types of emotion. When compared to those with ASPD, individuals with psychopathy were found to demonstrate reduced neural processing of negative emotion and this was not affected by inhibitory control demands. Verona et al. (2012) found that psychopaths were unable to distinguish negative emotional stimuli from neutral stimuli even when cognitive demands were low. This partially suggests that emotional processing in psychopathy may not be solely due to attentional abnormalities, as participants continued to present with deficits when there was no attentional demand or behavioural goal (i.e. a dominant response set had not been established).

Despite this, Verona et al. (2012) found some support for the Response Modulation Hypothesis in that those with psychopathy failed to process the negative emotional properties of the word, which in the case was secondary to the primary task of inhibiting responses. It therefore appears that individuals with psychopathy may be less influenced by affective information when engaging in cognitive tasks. According to Verona et al. (2012) attending to the emotional content of words is crucial for generating more socially appropriate responding. The results of this study would therefore account for antisocial tendencies of those with psychopathy, as it is becoming clear that such individuals experience difficulty when evaluating emotional cues due to their attention challenges.

A more recent study conducted by Baskin-Sommers, Curtin and Newman (2013) expanded on the findings highlighted by Glass and Newman (2009) and Verona et al. (2012) and stated that in addition to attention, processing load may also determine whether psychopathic individuals presented with emotional deficits. Baskin-Sommers et al (2013) identified that a high processing load (i.e. more complex information) when compared to a low processing load (i.e. simple information) may have greater influence on emotional reactivity of psychopaths. Moreover, a high processing load together with an increased attentional demand may create a bottleneck, whereby psychopathic individuals have difficulty processing multiple channels of information simultaneously (Baskin-Sommers et al. 2013). Thus, there is reason to suspect that the attention

bottleneck is impeding affective processing in psychopathy. However, this is a relatively new finding and further research is needed.

Summary

It becomes evident that individuals with psychopathy have deficits in their ability to evaluate emotional stimuli. Individuals with psychopathy appear to be reliant on conscious processing when evaluating emotion, as research has found evidence for numerous implicit deficits, which link to their ability to discriminate between emotional stimuli and activate associative networks primed by peripheral emotional cues. More recent research has generally found this to relate to the Response Modulation Hypothesis, in that psychopaths are unable to attend to emotional information that is outside their primary focus of attention. This explanation may also extend to account for the recognition deficits discussed in the first part of this Chapter.

Examining the interaction between cognition and affect appears to be crucial when understanding psychopathic functioning and yet, until fairly recently, it has been poorly captured in the literature. Additional research is therefore required to investigate the interplay between cognition and affect in psychopathy.

5.5 Concluding comments

The literature on affective processing in psychopathy concludes that individuals with the disorder have deficits that impact on their ability to identify and evaluate emotional information. These deficits arguably account for the psychopath's propensity to manipulate and take advantage of others without experiencing any remorse, guilt or fear.

Affective deficits in psychopathy have been understood through a number of different theories. Whilst these theories each propose that the emotional experiences of psychopaths are underpinned by different mechanisms, Baskin-Sommers and Newman (2012) note that the theories are not mutually exclusive and could co-exist. Thus, it may be that psychopaths are underpinned by a number of processing deficits from different theories. For example, individuals with psychopathy may be unable to recognise others' distress cues due to early socialisation challenges, and their dysfunctional cognitive

schemas and abnormal attentional processes maintain this problem. Existing research has tended to limit its focus to one or two of these processes rather than capturing them all and investigating how they interact. In order to fully understand affective processing in psychopathy research needs to examine a range of emotion functioning deficits within a single sample. At the same time, it would also be beneficial to investigate how these deficits interact with cognition, as this is yet to be understood in the psychopathy literature.

Furthermore, implicit processing has been found to influence the evaluation of emotion in psychopathy and therefore forms an important part of this thesis. It has become evident that psychopaths are able to adequately process explicit emotional information, but it is when this information is more complex and is secondary to other stimuli that their implicit processing deficits become evident. However in order to make firm conclusions, further research is required to investigate affective processing in psychopathy using specialised techniques that allow for an assessment of emotion at an explicit and implicit level.

The next Chapter will summarise the key points identified in this Chapter and the previous Chapters, and utilise this to present a rationale for the research together with the thesis aims and predictions.

Chapter 6.
ADDRESSING THE RESEARCH PROBLEM

6.1 Structure of the Chapter

This Chapter describes how gaps in the literature will inform the aims and predictions of the thesis. Attention will be directed towards issues relating to the assessment and measurement of psychopathy, as well as to cognitive and affective processing. The Chapter will conclude by drawing predictions for the research based on the review of the empirical literature. An overview of how the thesis will address these predictions is also provided.

6.2 Rationale for the research

Since the 19th century, a number of conceptualisations have been proposed attempting to define the construct of psychopathy. Whilst these conceptualisations traditionally viewed psychopathy as mental illness (e.g. Pinel), the focus changed towards the early 20th century, with psychopathy being associated with abnormal personality pathology (e.g. Kraepelin, Schneider and Karpman). The view of psychopathy as abnormal personality was largely accepted. However, experts were unable to reach an agreement on the underlying features of the disorder, with some placing an emphasis on antisocial behaviour (e.g. Kraepelin) and others on deficits in affect (e.g. Schneider).

Cleckley (1982) recognised this discrepancy and through clinical observation he proposed a profile of the prototypical psychopath that defined the disorder via 16 personality traits. Cleckley did not view antisocial behaviour as a defining feature of psychopathy and this was reflected in his description of the disorder. Nevertheless, he did place emphasis on cognition and affect, stating that psychopaths suffer from deficits in these two areas. For example, he described them as making poor judgments and as having a general poverty in major affective reactions. Although deficits in affect had previously been associated with descriptions of the disorder, cognition was largely neglected. Thus, Cleckley's conceptualisation proved to be crucial in highlighting the importance of *both* cognitive and affective processing in psychopathy.

Since Cleckley's description of the disorder, the Psychopathy Checklist and its revision (PCL-R; Hare, 1991, 2003) have been developed. The PCL-R is currently held as the 'gold standard' for assessing psychopathy (Decuyper, De Pauw, De Fruyt, De Bolle & De Clercq, 2009), and has attempted to clinically operationalise and define the construct (Sevecke et al. 2009). A factor analysis of the PCL-R identified two stable correlated components. Component one was found to relate to a number of interpersonal traits (i.e. grandiosity, deception, and a lack of remorse or guilt), whilst component two was associated with various chronically unstable, socially deviant behavioural characteristics (i.e. impulsivity and irresponsibility; Hare et al. 1991).

Numerous researchers (e.g. Cooke & Michie, 1997; Cooke & Michie, 2001; Blackburn, 2007a) have expressed their concerns surrounding the PCL-R, specifically in relation to its structure and content. Cooke and Michie (2001), for example, revisited the factor structure of the PCL-R and argued that three rather than two psychopathic components could be determined from the items. They proposed that psychopathy is more reliably underpinned by interpersonal, affective and lifestyle features. Their model placed more emphasis on an affective component, highlighting the importance of affect in psychopathy. In agreement with Cleckley and Schneider, Cooke and Michie (2001) also placed a reduced emphasis on criminality, stating that this was a correlate more than a component of the disorder.

Neumann et al. (2006) disagreed with the three-factor model proposed by Cooke and Michie (2001). They argued that the elimination of the PCL-R items tapping into antisocial behaviour was not appropriate, as these items had been used to develop the measure. Additionally, Neumann et al. (2006) noted that the inclusion of these items provided a more statistically valid model, a model comprising of four components (Williams et al. 2007). Thus, it appears that there are unanswered questions regarding core features of the disorder, with disagreement on whether the construct is personality or behavioural-based. An expert consensus on the fundamental components of psychopathy would allow for a consistent approach that would extend to the assessment and treatment of the disorder.

Indeed, the current view of psychopathy as 'criminal psychopathy' explains in part the over-focus on forensic populations in the literature. It also reflects the measurement of

psychopathy via the PCL-R and the unclear history of the disorder in the DSM, with the construct being equated with antisocial personality disorder (ASPD). Viewing psychopathy as a behavioural entity has consequently led to many core features of psychopathy being ignored, specifically those relating to interpersonal, affective and cognitive functioning.

As noted, Cleckley (1976) argued that criminality was not an essential feature of psychopathy. Instead, he proposed that those with psychopathy suffer from a psychological deficit (both cognitive and affective) that predisposes them to behave in a manner that is harmful to themselves and others (Wallace et al. 2000). Cognition and affect are therefore integral aspects of psychopathy and yet this is not well researched, particularly with regards to cognition. Research has been limited to a small number of cognition and emotional variables and has not accounted for the interplay between the two.

Research has identified that those with psychopathy tend to have cognitive deficiencies in attention, information processing and behavioural inhibition. Individuals with psychopathy have been found to have deficits in response modulation (Newman, 1998). Response modulation represents an individual's ability to adapt to their environment when selecting and employing cues. This is problematic for those with psychopathy as they have difficulties in processing information outside their primary focus of attention whilst engaging in goal-directed behaviour (e.g. Jutai & Hare, 1983; Lorenz & Newman, 2002; Zeier et al. 2009). This leads them to select and respond to inappropriate cues.

Individuals with psychopathy are therefore less likely to appreciate the consequences of their actions and as a result encounter difficulties when engaging in all the elements of information processing specified by Huesmann (1998), i.e. they carry out an inappropriate response, attend to the wrong element of feedback and then encode the dysfunctional script for future use. The psychopath's inability to evaluate a response set and acknowledge the consequences may result in events that give rise to the development of maladaptive cognitive schemas (Wallace et al. 2000).

Schemas are an important element of cognitive functioning with a basis in early life experiences. Maladaptive cognitive schemas, in combination with an abnormal

personality style, explain why those with psychopathy are generally associated with offending behaviour and poor moral reasoning. It therefore becomes evident that cognitive schemas are a crucial aspect of psychopathic functioning and require further investigation, especially as there is a lack of research in this area.

In addition to their cognitive deficits, those with psychopathy have been found to have deficits in affective processing, i.e. they have been found to present with impairments when recognising emotion (e.g. Dawel et al. 2012) and when evaluating emotional stimuli (e.g. Williamson et al. 1991). Central to describing these deficits are the Dysfunctional Fear Hypothesis (Lykken, 1957), the Violence Inhibition Mechanism Model (VIM; Blair, 1995), as well as Beck's Theory of Emotional Disorders (Beck, 1987).

The Dysfunctional Fear Hypothesis focuses on deficient affective reactivity and proposes that individuals with psychopathy are less afraid of punishment due to their impairments when recognising emotion, specifically fear (Lykken, 1957). The hypothesis argues that psychopathic individuals experience less arousal to punishment and make weaker associations between their behaviour and emotions. Consequently, they are more likely than non-psychopaths to continue to engage in the punished action, demonstrating poor passive avoidance to negative emotional stimuli.

The Dysfunctional Fear Hypothesis has been criticised for being too specific and for attending only to fear. This criticism extends to VIM, which solely focuses on negative emotion, such as sadness, thus neglecting other emotional expressions. Both theories also fail to recognise the interplay between affect and cognition, which has been found to crucial when understanding psychopathic processing (e.g. Glass & Newman, 2009).

VIM assumes that all humans are predisposed to find distress cues unpleasant and are punished by signals of others' distress (Blair et al. 2005). During early socialisation, Blair (1995) stated that individuals develop representations of affective experiences through role taking with the victim. This results in the expansion of representing triggers of VIM that when activated generate arousal, which can be interpreted as moral emotion.

VIM has been noted to be problematic in those with psychopathy (Blair et al. 2005). The lack of VIM in psychopathy may capture the psychopath's inability to demonstrate empathy and without this, there will be no relationship made between the victim's emotion and the activation of VIM (Blair, 1995; Blair et al. 2005). The representations of acts that cause others harm therefore do not become triggers for VIM and the psychopath experiences little arousal as a consequence of this. Impairments in VIM may result in the absence of moral emotion in psychopathy, poor moral reasoning and a reduced responsiveness to sadness and fear.

Moving on to the evaluation of emotional stimuli, Beck's theory states that specific emotions result from the cognitive appraisal of a situation (Blackburn, 2006). The nature of the appraisal influences the emotion experienced. As Blackburn (2006) notes, Beck's theory relies heavily on the concept of schema which, as discussed, is central to an individual's personal view of the world. Beck argues that specific emotions result from the cognitive appraisal of the effect events have on one's self or personal views (e.g. self or personal schema).

Cognitive schemas are also associated with biases that arise from emotional dysfunction, information-processing challenges, and past personal learning history (Blackburn, 2006), which encourage individuals to misperceive threats or to over-emphasis threat. Research has found those with psychopathy to be related to such biases (e.g. Frodi et al. 2001). Thus, it is unsurprising that psychopaths have dysfunctional cognitive schemas, which lead to distorted self-evaluations and biased attributions of causality that influence their ability to effectively understand and react appropriately to other's emotion.

More recent developments have attempted to investigate the interaction between cognition and affect to provide a more detailed understanding of psychopathic functioning. In light of this, a number of researchers (e.g. Lorenz & Newman, 2002; Glass & Newman, 2009) have argued that psychopaths do not have deficits in affective processing per se, rather their inability to allocate attention outside their primary focus limits their experience of emotion. As a consequence, psychopathic individuals are unable to effectively evaluate emotion and appreciate the impact their actions have on others and themselves. However, it is important to note that research investigating this

interplay has only captured inattention and there may be other variables that have an influence.

Cognitive and affective processing becomes important when understanding psychopathy as it forms an element of 'true psychopathy', i.e. psychopathy as *abnormal* personality as opposed to *criminal* personality (Cleckley, 1982). Psychopathic processing is not wholly explicit and can occur at an implicit level. Unlike explicit processing, which is conscious and declarative, implicit processing is absent of conscious awareness (Amodio & Ratner, 2011). Research investigating psychopathic functioning has neglected the study of implicit cognitive and affective processing. This is problematic as implicit processes are an important aspect of functioning; they appear to drive social behaviour, particularly when responses are made quickly without prior thought (Amodio & Ratner, 2011). There is a need to explore this area in more depth to gain a greater understanding of both explicit and implicit processing in psychopathy, and to extend our theoretical understanding of this construct.

Moving into the area of measurement, as mentioned, the PCL-R is currently the core assessment tool for clinical psychopathy. It addresses factors via a self-report interview and a review of collateral information. The PCL-R has been described as a valid and reliable measure across institutionalised samples (Hare, Clark, Grann & Thornton, 2000) although its application to general samples is poorly researched by comparison. This is due to problems with acquiring background information from community samples, e.g. offending history, childhood background. There is, however, an increasing interest in understanding psychopathy within the community (Neumann & Hare, 2008) and among women (Logan & Weizmann-Henelius, 2012). The PCL-R screening version (PCL:SV; Hart et al. 1995) has been adopted in the research to explore this further but fails to capture implicit processing, as it is based solely on the PCL-R interpretation of psychopathy and does not incorporate a self-report (scale) component.

In addition to the PCL-R and its derivatives, there are four self-report measures of psychopathy available: 1). Self-Report Psychopathy Scale-III (SRP-III; Paulhus et al. in press); 2). Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996); 3). Levenson Self-Report Psychopathy Scale (LSRP; Levenson et al. 1995); and 4). Triarchic Psychopathy Measure (TriPM; Patrick, 2010). Whilst the TriPM has received little empirical attention, research has identified that the SRP-III, PPI and LSRP fail to

converge with one another, specifically in terms of content (Lilienfeld & Fowler, 2006; Williams et al. 2007). This has proven to be problematic, particularly since emergence of a three-factor model supported suggestions that the measurement of psychopathy via the PCL-R was not a true assessment of personality and had overlapped with a behavioural measure (e.g. Cooke & Michie, 2001). The differences among the self-report measures may stem from different strategies used in their development. None of the measures were developed using an expert Delphi approach where consensus in opinion is the primary goal. A Delphi approach would allow for expert agreement on measure content, which would resolve current disputes surrounding the factor structure of psychopathy.

Nevertheless, the increased emphasis on personality has encouraged several researchers to revert to the original conceptualisation of psychopathy (i.e. the conceptualisation first proposed by Cleckley, 1982) as 'abnormal personality' as opposed to 'criminal personality' (e.g. Cooke & Michie, 2001; Skeem & Cooke, 2010a,b). The view of psychopathy as 'criminal behaviour' has resulted in the PCL-R neglecting important aspects of psychopathic functioning, such as cognition and affect. As indicated, these form the core elements of personality and should be included in an assessment of the disorder. Thus, the PCL-R may arguably be viewed as inadequate as it does not attend to all aspects of the disorder, failing to provide a comprehensive assessment of psychopathy and psychopathic processing.

More recent measures of psychopathy have begun to incorporate specialist techniques in their assessment of the disorder. The Affect, Cognitive and Lifestyle Assessment (ACL; Ireland & Ireland, 2012), for example, examines psychopathy at a categorical and dimensional level via observation, collateral information, an interview, timed case scenarios, self-report, and an evaluation of presentation during assessment (observational assessment). Cognitive and affective functioning is also assessed using explicit and implicit methods. Examining psychopathy using a combination of different techniques, including self-report, would allow for the development and refinement of psychopathy assessment. That is, it would determine what is required to provide a holistic examination of psychopathy, one that is sensitive to cognitive and affective processing.

Thus, a new self-report measure of psychopathy is required that is in agreement with experts in the field and explores explicit cognitive and affective processing in detail. A collaborative approach with psychopathy measures that incorporate an implicit assessment of psychopathic processing will enable an understanding of cognition and affect at both a controlled (conscious) and automatic (unconscious) level. This is yet to be understood in the academic literature and will allow for psychological theories, such as Response Modulation, VIM and the Dysfunctional Fear Hypothesis to be better applied. The application of specialist assessment techniques, such as those adopted in the ACL (e.g. observation, timed case scenarios, interview, etc.) will also help determine the components required to provide an accurate and thorough assessment of the disorder.

6.3 Aims and predictions of the research

Taking into account the rationale presented here, this section will now present the aims of the thesis together with the associated predictions. Examples of the literature will be cited to support the predictions made.

Research has highlighted a lack of consensus among experts as to what components underpin psychopathy, with suggestions for a two- (e.g. Hare, 1991), three- (e.g. Cooke & Michie, 2001) and four-factor model (e.g. Hare, 2003). Experts have also been found to equate the construct of psychopathy with its assessment (Skeem & Cooke, 2010a), consequently viewing the disorder as a behavioural entity ignoring the fundamental aspects relating to interpersonal, cognitive and affective functioning.

Further to this, historical conceptualisations of psychopathy have placed little emphasis on cognition (e.g. conceptions provided by Kraepelin, Schneider and Karpman) and this appears to have extended to research examining the disorder (Hiatt & Newman, 2006). Affective processing however has been argued to be a central feature of psychopathy but has not been captured well in its measurement (Lilienfeld, 1994). Thus, given the suspected influence of the PCL-R on understandings of psychopathy, it would not be illogical to predict that experts will define psychopathy similar to that of the PCL-R, placing less emphasis on psychopathic processing, particularly cognition as it not well understood when compared to affect.

In light of this, the following aims and predictions have been proposed:

Aim 1: To understand psychopathy from an expert perspective and gain a consensus on the fundamental components of psychopathy.

Aim 2: To develop and refine a new self-report measure of psychopathy that is sensitive to explicit cognition and affect.

Aim 3: To use the new self-report measure, alongside existing psychopathy measures, to further understanding of explicit cognitive and affective processing in psychopathy.

Predictions: 1). Experts are expected to restate the PCL definition of psychopathy.

2). Experts are expected to capture the affective components of psychopathy in their understanding of the construct, but not cognition.

There are differences across existing self-report measures of psychopathy, specifically in relation to their content (Lilienfeld & Fowler, 2006). Whilst certain measures, such as the LSRP, suggest that an antisocial component is required when assessing the disorder, others do not (e.g. the PPI). Inconsistencies in content also extend to the assessment of psychopathic processing. Measures such as the PPI place emphasis on affect, whereas others ignore this aspect of psychopathy (e.g. the LSRP and SRP). As noted, the measurement of cognition has consistently received little attention.

Despite the inconsistencies noted here, research has found existing self-report measures of psychopathy to correlate positively with one another (e.g. Williams et al. 2007; Marcus et al. 2013). Research has also highlighted their ability to effectively assess the construct across populations (e.g. Poythress et al. 1998; Edens et al. 2008). Consistent with this, the new measure presented in this thesis (the Psychopathic Processing and Personality Assessment; PAPA) is predicted to behave in a comparable manner.

Similarly, the new self-report measure is expected to present with good construct validity and correlate with cognition and affect as identified in the psychopathy literature. Thus, the new measure is predicted to associate with positive cognitive schema, negative cognitive schema, and negative affect (e.g. Wilks-Riley & Ireland, 2012). It is also predicted to correlate with a tendency for hostile responding (e.g. Vitale et al. 2005), deficits in moral reasoning (e.g. Schaich Borg & Sinnott-Armstrong, 2013), and an inability to identify and evaluate emotion accurately (e.g. Glass & Newman, 2009; Dawel et al. 2012).

Thus, the following predictions have been outlined:

Aim 4: To evaluate the new self-report (PAPA) measure across populations.

Predictions: 3). The PAPA will positively associate with existing psychopathy measures (e.g. the LSRP and PCL:SV).

4). The PAPA will positively associate with a) negative cognitive schema; and b) positive cognitive schema.

5). The PAPA will positively associate with negative affect.

6). The PAPA will positively associate with a) fewer emotional words identified; and b) a lower strength of feeling for own and others' emotion[46].

7). The PAPA will positively associate with a) higher levels of hostile responding; and b) less support for a moral outcome in dilemmas.

Research has highlighted that those individuals with psychopathy have an array of explicit and implicit cognitive deficits. Wilks-Riley and Ireland (2012) found a clear role for cognitive schema in psychopathy. They identified that psychopathy was underpinned by both positive and negative cognitive schema and this was consistent

[46] These two variables correspond to deficits when identifying and evaluating/feeling emotion.

across samples, thus highlighting that cognition in psychopathy may not differ across student, forensic and clinical populations. Although evidence was found for positive cognitive schema in psychopathy, it is predicted that these schemas will be more evident in 'healthy' controls that present with fewer cognitive deficits.

From the psychopathy literature, it becomes evident that dysfunctional schemas give rise to poor moral judgments (e.g. Glenn et al. 2009; Young et al. 2012) and biased interpretations that may lead to hostile responding (e.g. Vitale et al. 2005). Selective attention abnormalities in psychopathy have also been found to be applicable across samples (e.g. Newman et al. 1997; Vitale et al. 2007; Sadeh & Verona, 2008), providing further support that cognition in the disorder is not population-specific.

In order to further examine explicit and implicit cognitive processing in psychopathy, the following aims and predictions were proposed:

Aim 5: To examine explicit and implicit cognitive processing in psychopathy across populations.

Predictions: 8). Those with higher levels of psychopathy will present with fewer positive cognitive schemas than individuals with lower levels of psychopathy.

9). Individuals with higher levels of psychopathy will present with more negative cognitive schemas than those with lower levels of psychopathy.

10). Those with higher levels of psychopathy will be less likely to support a moral outcome in dilemmas than individuals with lower levels of psychopathy.

11). Individuals with higher levels of psychopathy will display higher levels of hostile responding than those with lower levels of psychopathy.

The literature on affective processing in psychopathy concludes that individuals with the disorder have deficits that impact on their ability to experience remorse and empathy. More specifically, research has found psychopathic individuals to have difficulty when identifying emotion (e.g. Kosson et al. 2002; Blair et al. 2004; Dawel et al. 2012). Research is yet to determine whether this is emotion-specific or if it is applicable to all emotional expressions. Nevertheless, Iria et al. (2012) found non-criminal psychopaths to demonstrate similar affective deficits to psychopathic offenders, thus highlighting that impairment in emotion recognition may be consistent across samples.

Individuals with psychopathy have also been found to exhibit deficits in their ability to evaluate emotion (e.g. Lorenz & Newman, 2002; Dvorak-Bertsch et al. 2009; Anderson & Stanford, 2012). Anderson and Stanford (2012) concluded that psychopaths rely on conscious (explicit) processing when evaluating emotion, as they appear to have implicit [cognitive] deficits that relate to their ability to attend fully to emotional information. That is, they have been identified as unable to attend to emotional information outside their primary focus of attention, specifically when a dominant response set has been established (e.g. Mitchell et al. 2006; Dvorak-Bertsch et al. 2009). This interplay between cognition and affect has been recognised in psychopaths from forensic settings (e.g. Lorenz & Newman, 2002) and the community (e.g. Glass & Newman, 2009), thus reinforcing the notion that deficits in psychopathic processing are not sample-specific. Lastly, it is important to note that Wilks-Riley and Ireland (2012) found negative affect to be largely associated with the disorder.

In light of this, the following predictions were outlined:

Aim 6: To examine explicit and implicit affective processing in psychopathy across populations.

Predictions: 12). Individuals with higher levels of psychopathy will present with more schemas associated with negative affect than those with lower levels of psychopathy.

13). Those with higher levels of psychopathy will identify less emotional stimuli than those with lower levels of psychopathy.

14). Individuals with higher levels of psychopathy will demonstrate a lower strength of feeling for their own and others' emotion than those with lower levels of psychopathy.

6.4 Addressing the research aims and predictions

The aims outlined above will be addressed across three studies. The first study (*See* Chapter seven) aims to understand the construct of psychopathy from an expert perspective via a Delphi survey and a literature review. The study also intends on developing a new self-report measure of psychopathy (PAPA) that is in agreement with experts in the field and captures cognition and affect, so that it can be used in study two and three to further understanding of psychopathic processing. It is important that the new self-report measure captures cognition and affect equally to allow for an examination of the interplay between the two.

The new self-report measure will be evaluated and refined in the second study (*See* Chapter eight). Study two will focus on exploring the processing deficits (cognition/affect) identified in the Delphi survey. It will investigate the role of explicit processing in psychopathy via cognitive schema (both maladaptive and adaptive) and explicit negative affect, using the new self-report measure to assist with this. Forensic and student samples will be recruited to ensure that the new self-report can be applied across populations.

The final study, study three (*See* Chapter nine), will continue to evaluate and refine the new self-report measure of psychopathy. The new self-report will be applied alongside an implicit assessment of cognition and affect (e.g. the ACL), and an existing clinical measure of the disorder (e.g. PCL:SV) to understand how affect and cognition (both implicit and explicit) are presenting in both the consensus definition of psychopathy and psychopathy defined through clinical methods. This approach will allow for a detailed examination of implicit processing, thus providing a means of determining how this specifically relates to psychopathy and whether it enhances explicit approaches to measurement. The application of measures, such as the ACL, which offer an assessment of psychopathy via different techniques (e.g. observation, a review of collateral

information, interview, implicit methods, etc.) will also help establish what components are required to provide a comprehensive assessment of the disorder; an assessment that also attends to cognition and affect.

A clinical sample will be recruited in study three to investigate the applicability of the new self-report measure to this specialised population. Overall the thesis will allow for an examination of psychopathic processing across a variety of different populations, i.e. student, forensic and clinical.

In summary, there are four outcomes of the research:

1). A more developed understanding of what components underpin psychopathy using expert consensus.

2). The development and refinement of measurement using this consensus definition, with an outline as to what this should include.

3). A more detailed understanding of how affect and cognition, both implicit and explicit, are associated with psychopathy using the consensus definition and pre-exiting definitions (e.g. PCL approaches).

4). An outline of what a comprehensive assessment of psychopathy sensitive to affect and cognition should include (e.g. observation, collateral, implicit methods, etc.).

Chapter 7.

STUDY 1: USING AN EXPERT DELPHI STUDY TO EXAMINE AREAS OF IMPORTANCE IN PSYCHOPATHY

7.1 Structure of the Chapter

The study comprised a review of the relevant literature and an expert Delphi survey. The Delphi survey was conducted to 1). Understand psychopathy from an expert perspective, including attention to the role of cognition and affect; and 2). Use these observations, along with a literature review to develop a self-report measure of psychopathy that captured cognition and affect, and could be used in later studies to further understanding of processing in psychopathy.

The Delphi survey consisted of three rounds. The method and results for each will be presented in turn. This will be followed by a discussion of the study, which will include an overview of the limitations and issues for further research. A flowchart (Figure one) has been provided to guide the reader through this chapter.

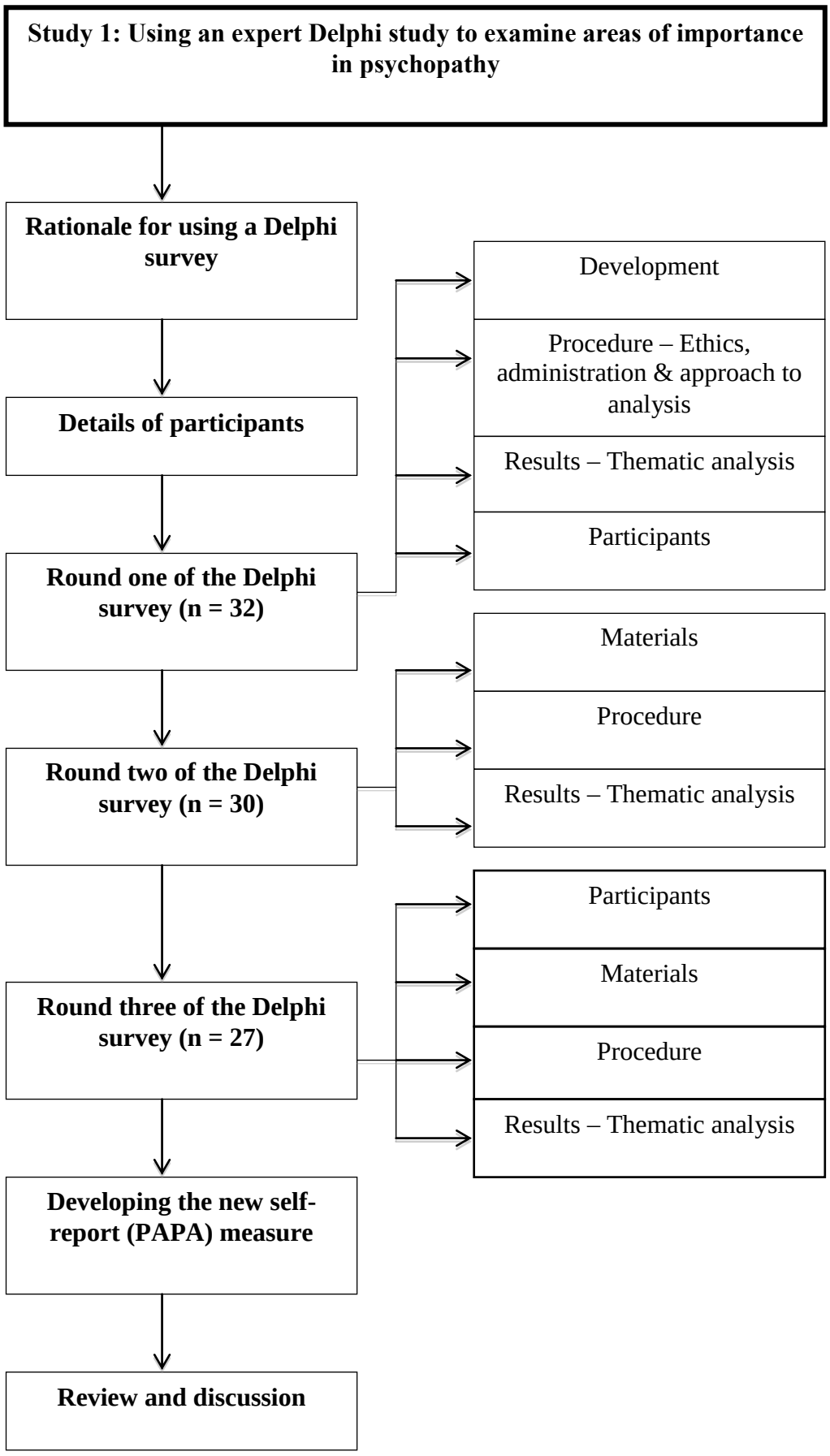


Figure 2: A flowchart of the processes underpinning study one.

7.2 Rationale for using a Delphi survey

Following a review of the literature, there appeared a number of issues surrounding the current assessment of psychopathy and as to what constitutes the construct. Given this, it was considered beneficial to explore an understanding of psychopathy using experts in the field. Experts were invited to provide their opinion via a Delphi survey.

A Delphi survey is an interactive[47] technique that allows the refinement of opinion over a number of rounds, with the ultimate aim of reaching agreement (Vosmer, Hackett & Callanan, 2009). Responses are collated at the end of each round and fed back to the individuals providing them with an opportunity to change their previous opinion in light of the group response. It also allows each participant to provide further comment as the rounds progress. Vosmer et al. (2009) suggest that a consensus level of 80% should be adopted to ensure that a high level of agreement is obtained. This consensus level was accepted and used throughout study one.

According to Skjutar, Christensson and Millersdorf (2009), exploring a concept through the professional perspective, i.e. via a Delphi survey, allows for a more holistic understanding. In terms of the current study, this technique would ensure that all aspects of psychopathy are being considered. Delphi surveys have been successfully utilised across a number of disciplines, including nursing (e.g. Boldt, Velstra, Brach, Linseisen & Cieza, 2013), medicine (e.g. Wildi, Hensel, Wertli, Michel & Steurer, 2013), health psychology (e.g. Kirchberger, Cieza & Stucki, 2008), forensic psychology (Tetley, Jinks, Huband, Howells & McMurran, 2012) and social care (e.g. Melpignano & Collins, 2003). They have also been used to develop diagnostic instruments, such as the assessment and screening tool towards the prevention of mother-to-child HIV transmission (PMTCT; Adegbehingbe, Paul-Ebhohimhen & Marais, 2006), and the empowerment questionnaire for inpatients (EQuIP; Lopez, Orrell, Morgan & Warner, 2010).

The following sections provide an overview of the participants recruited, and the development and progression of the Delphi survey. This will include details pertaining to the materials administered and the procedure used. The results of each round will also be presented.

[47] A procedure that involves a repetition of steps to achieve a desired outcome (Vosmer et al. 2009).

7.3 Participants

The expert panel was populated using a purposive sampling technique. This technique involves selecting participants based upon their characteristics, and in this instance, knowledge and experience. Experts were identified to take part if a review of the academic literature identified them as having authored a 'fair' impact[48] publication on psychopathy. Forensic practitioners (HM Prison Service) with experience in the assessment of psychopathy were also recruited. Approximately 200 experts overall were approached.

In total, 32 experts (16% response rate) participated in round one. Twenty-three were recruited from the United Kingdom, seven from North America, one from Canada, and one from Australia. Fifty six percent of the experts reported clinical experience in the assessment of psychopathy. Thirteen percent had published at least one-peer reviewed paper on the topic, and 31% had previously done both, i.e. published a paper and assessed for the construct.

7.4 Round one of the Delphi survey

Round one provided the experts with a list of items that could be used to develop an expert understanding of the construct and be employed in the new self-report measure of psychopathy. The experts had to rate these items in terms of the extent to which they felt each item best described psychopathy and should be included in the new measure. The aim of round one was to gain an agreement on whether each item should or should not be included and to also give experts opportunity to suggest further items that may have been missed.

7.5 Round one: Development of the Delphi survey

The items used in round one were generated from a systematic literature review conducted on the area of psychopathy. The literature was accessed through the following online databases: Academic Search Complete; Medline; PsycINFO; and

[48] Articles published in journals with an impact factor greater than .50 were identified as having fair impact. An impact factor reflects the average number of citations to articles published in a particular journal.

PsycARTICLES. The search terms 'psychopathy' and 'psychopathic personality' were used and abstracts (n = 277) belonging to the accessible peer-reviewed articles published over the last ten years (i.e. 2001 to 2011) were examined.

From this, 48 articles that were deemed the most relevant were studied in depth. The author looked for key findings that could be applied to better understand the construct and would be suitable for inclusion in a new self-report. Two hundred and twenty nine articles were not examined, as they did not *directly* study the construct of psychopathy or its measurement. Moreover, the author was informed by items/overarching concepts from previous research, such as the Psychopathy Checklist-Revised (PCL-R; Hare, 2003). Table two lists the articles that were examined in full.

Table 2: Articles used to generate the items for round one (n = 48).

Author(s)	**Year**	**Title**
Bagley, Abramowitz & Kosson	2009	Vocal affect recognition and psychopathy: Converging findings across traditional and cluster analytic approaches to assessing the construct
Benning, Patrick, Hicks, Blonigen & Krueger	2003	Factor Structure of the Psychopathic Personality Inventory: Validity and Implications for Clinical Assessment
Berardino, Meloy, Sherman & Jacobs	2005	Validation of the psychopathic personality inventory on a female inmate sample
Blackburn, Logan, Donnelly & Renwick	2008	Identifying psychopathic subtypes: Combining an empirical personality classification of offenders with The Psychopathy Checklist-Revised
Blagov et al.	2011	Personality constellations in incarcerated psychopathic men
Claes et al.	2009	Validation of the Psychopathic Personality Inventory among psychiatric inpatients: Sociodemographic, cognitive and personality correlates
Coid & Min	2008	The distribution of psychopathy among a household population: categorical or dimensional?
Copestake, Gray & Snowden	2011	A comparison of a self-report measure of psychopathy with the psychopathy checklist-revised in a UK sample of offenders
Decuyper, De Pauw, De Fruyt, De Bolle & De Clercq	2009	A meta-analysis of psychopathy-, antisocial PD- and FFM associations
Derefinko & Lynam	2007	Using the FFM to conceptualize psychopathy: A test using a drug abusing sample

(Continued)

Table 2: Continued.

Author(s)	Year	Title
Edens & McDermott	2010	Examining the construct validity of the Psychopathic Personality Inventory–Revised: Preferential correlates of fearless dominance and self-centered impulsivity
Glass & Newman	2006	Recognition of Facial Affect in Psychopathic Offenders
Guy, Edens, Anthony & Douglas	2005	Does Psychopathy Predict Institutional Misconduct Among Adults? A Meta-Analytic Investigation
Habel, Kühn, Salloum, Devos & Schneider	2002	Emotional processing in psychopathic personality
Hansen, Johnsen, Thornton, Waage & Thayer	2007	Facets of psychopathy, heart rate variability and cognitive function
Hare & Neumann	2009	Psychopathy: Assessment and forensic implications
Hare & Neumann	2010	The Role of Antisociality in the Psychopathy Construct: Comment on Skeem and Cooke (2010)
Hicks, Vaidyanathan & Patrick	2010	Validating female psychopathy subtypes: Differences in personality, antisocial and violent behavior, substance abuse, trauma, and mental health
Kennealy, Skeem, Walters & Camp	2010	Do Core Interpersonal and Affective Traits of PCL-R Psychopathy Interact With Antisocial Behavior and Disinhibition to Predict Violence?
Kreis & Cooke	2011	Capturing the Psychopathic Female: A Prototypicality Analysis of the Comprehensive Assessment of Psychopathic Personality (CAPP) Across Gender
Lee & Salekin	2010	Psychopathy in a noninstitutional sample: Differences in primary and secondary subtypes
Lindberg et al.	2009	Psychopathic traits and offender characteristics -- a nationwide consecutive sample of homicidal male adolescents
Long & Titone	2007	Psychopathy and verbal emotion processing in non-incarcerated males
Lynam et al.	2011b	Assessing the Basic Traits Associated With Psychopathy: Development and Validation of the Elemental Psychopathy Assessment
Marcus, John & Edens	2004	A Taxometric analysis of psychopathic personality
Marion & Sellbom	2011	An examination of gender-moderated test bias on the Levenson Self-Report Psychopathy Scale
Mayer, Kosson & Bedrick	2006	Neuropsychological implications of selective attentional functioning in psychopathic offenders

(Continued)

Table 2: Continued.

Author(s)	Year	Title
Miranda, MacKillop, Meyerson, Justus & Lovallo	2009	Influence of antisocial and psychopathic traits on decision-making biases in alcoholics
Neumann & Hare	2008	Psychopathic Traits in a Large Community Sample: Links to Violence, Alcohol Use, and Intelligence
Neumann, Hare & Newman	2007	The super-ordinate nature of the Psychopathy Checklist-Revised
Neumann, Malterer & Newman	2008	Factor structure of the Psychopathic Personality Inventory (PPI): Findings from a large incarcerated sample
Ogloff	2006	Psychopathy/antisocial personality disorder conundrum
Patrick, Edens, Poythress, Lilienfeld & Benning	2006	Construct validity of the Psychopathic Personality Inventory two-factor model with offenders
Pereira, Huband & Duggan	2008	Psychopathy and personality. An investigation of the relationship between the NEO-Five Factor Inventory (NEO-FFI) and the Psychopathy Checklist-Revised (PCL-R) in a hospitalized sample of male offenders with personality disorder
Ruiz, Pincus & Schinka	2008	Externalizing pathology and the five-factor model: A meta-analysis of personality traits associated with antisocial personality disorder, substance misuse, and their co-occurrence
Sadeh & Verona	2008	Psychopathic personality traits associated with abnormal selective attention and impaired cognitive control
Sadeh, Verona, Javdani & Olson	2009	Examining psychopathic tendencies in adolescence from the perspective of personality theory
Seibert, Miller, Few, Zeicher & Lynam	2011	An examination of the structure of self-report psychopathy measures and their relations with general traits and externalising behaviours
Skeem, Mulvey & Grisso	2003	Applicability of traditional and revised models of psychopathy to the Psychopathy Checklist: Screening Version
Smith, Edens & Vaughn,	2011	Assessing the external correlates of alternative factor models of the Psychopathic Personality Inventory-Short Form across three samples
Verona, Patrick & Joiner	2001	Psychopathy, antisocial personality and suicide risk
Verschuere, Crombez, De Clercq & Koster	2005	Psychopathic traits and autonomic responding to concealed information in a prison sample
Viding	2004	Annotation: Understanding the development of psychopathy

(Continued)

Table 2: Continued.

Author(s)	Year	Title
Walsh, Allen & Kosson	2007	Beyond social deviance: Substance use disorders and the dimensions of psychopathy
Walters, Brinkley, Magaletta & Diamond	2008	Taxometric Analysis of the Levenson Self-Report Psychopathy Scale
Warren & Clarbour	2009	Relationship between psychopathy and indirect aggression use in a noncriminal population
Wilson, Miller, Zeichner, Lynam & Widiger	2011	An examination of the Validity of the Elemental Psychopathy Assessment: Relations with Other Psychopathy Measures, Aggression, and Externalising Behaviours
Wogan & Mackenzie	2007	An inmate classification system based on PCL: SV factor scores in a sample of prison inmates

Fifty-eight items were developed from the literature review via thematic analysis[49]. These are presented in Table three. All of the items were categorised into one of seven over-arching themes: Defining the Construct; Interpersonal Features; Behavioural Characteristics; Cognition; Affect; Developmental Factors; and associated Health Factors.

In round one, experts had to rate the extent to which they agreed or disagreed with each item via a five-point likert scale ranging from strongly disagree (1) to strongly agree (5). Experts were also given the opportunity to suggest anything they felt was missing.

[49] An explanation of the stages involved in thematic analysis can be found on p. 134.

Table 3: Items included in round one.

Items
Defining the Construct
1. Psychopathy is underpinned by an interpersonal component (selfish, callousness, and remorseless use of others).
2. Psychopathy is underpinned by a socially deviant behavioural component (a chronically unstable, and antisocial lifestyle).
3. Offending behaviour is a correlate, rather than a component of psychopathy.
Psychopathy is defined through a series of abnormal personality traits:
4. Glibness/superficial charm
5. Grandiose sense of self-worth
6. Pathological lying
7. Conning/manipulative
8. Lack of remorse or guilt
9. Shallow affect
10. Callous/lack of empathy
11. Failure to accept responsibility for actions
12. Need for stimulation/proneness to boredom
13. Parasitic lifestyle
14. Poor behavioural controls
15. Early behavioural problems
16. Lack of realistic, long-term goals
17. Impulsivity
18. Irresponsibility
19. Juvenile delinquency
20. Revocation of conditional release
21. Promiscuous sexual behaviour.
22. Psychopaths have a propensity to engage in thrill and adventure seeking behaviour.
23. Psychopathy is best viewed as a personality disorder.

(Continued)

Table 3: Continued.

Items
24. Psychopathy is manifested at an early age, but remains stable over the course of an individual's life.
25. Psychopathy is a dynamic construct, i.e. an individual's level of psychopathy can increase or decrease over their life.
Interpersonal Features
26. Psychopaths have difficulties in forming and maintaining personal bonds.
27. Psychopaths perceive others as 'objects' rather than people.
Behavioural Characteristics
28. Psychopaths do not respond to punishment.
29. Psychopaths are represented by high rates of recidivism.
30. Psychopaths are often criminally versatile.
31. Psychopaths are poorly integrated.
Cognition
32. Psychopaths do not attend to information that is not central to an event, i.e. they ignore peripheral information.
33. Psychopaths have biased judgments of causality.
34. Psychopaths have an organised pattern of thought that is distorted.
35. Psychopaths often interpret everyday social situations as aggressive or hostile.
36. Psychopaths have difficulties with abstract concepts.
37. Psychopaths have a lack of insight.
38. Psychopaths are able to accurately evaluate and use emotive language when explicitly directed to do so.
39. Psychopaths are unable to inhibit their responses to avoid punishment.
Affect
40. Psychopaths are less influenced by emotion, e.g. emotional words, in comparison to non-psychopaths.
41. Psychopaths are unable to recognise and understand emotion and therefore do not modify their behaviour accordingly.
42. Psychopaths are less sensitive to experiencing emotion because they are trying to avoid experiencing negative emotion.
43. Psychopaths display low fearfulness.
Developmental Factors
44. Psychopathy results from problems in attachment that occurs during infancy.

(Continued)

Table 3: Continued.

Items
45. Attachment problems that have occurred between a child and their caregiver(s) are unlikely to lead to psychopathy.
46. Psychopaths often experience damage to their personality during childhood.
47. Psychopaths have a harsh and rejecting childhood.
As a child, a psychopath will have been exposed to:
48. Poor parenting, such as emotional abuse
49. Physical and/or sexual abuse
50. Caregiver conflict
51. Caregiver separation
52. A large family size, e.g. three or more children.
Associated Health Factors
53. High levels of psychopathy often occur along with an Axis I disorder, i.e. mental illness.
54. Psychopaths are more likely than non-psychopaths to exaggerate Axis I (mental illness) symptoms, or malinger.
55. Psychopaths regularly use illicit substances
56. Psychopaths exhibit more alcohol and drug-dependence symptoms than non-psychopaths.
57. Psychopaths who use illicit substances are more likely to have personality challenges.
58. Psychopaths with a substance misuse problem often have a co-occurring mental illness.

7.6 Round one: Procedure

Ethical issues

Ethical approval was obtained from the School of Psychology, University of Central Lancashire. Prior to taking part, participants were sent an invitation via email. The email contained an information sheet, providing experts with details relating to the aims of the research, consent, withdrawal, confidentiality, anonymity and what would be required of them. The research team's contact details were also provided.

Participants gave consent by ticking a box prior to completing the survey. All participants were sent a debrief sheet once they had completed all three rounds, or upon withdrawal[50].

Administration

All three rounds were administered online using Survey Monkey[51]. Round one was split into seven sections, with each section representing one of the seven themes identified from the literature review. At the beginning of each section, participants were provided with the following instructions: "Using the rating scale provided please indicate the extent to which you agree or disagree with each statement. Please only select one response for each statement unless otherwise instructed to do so". Figure two displays how each item included in round one was presented.

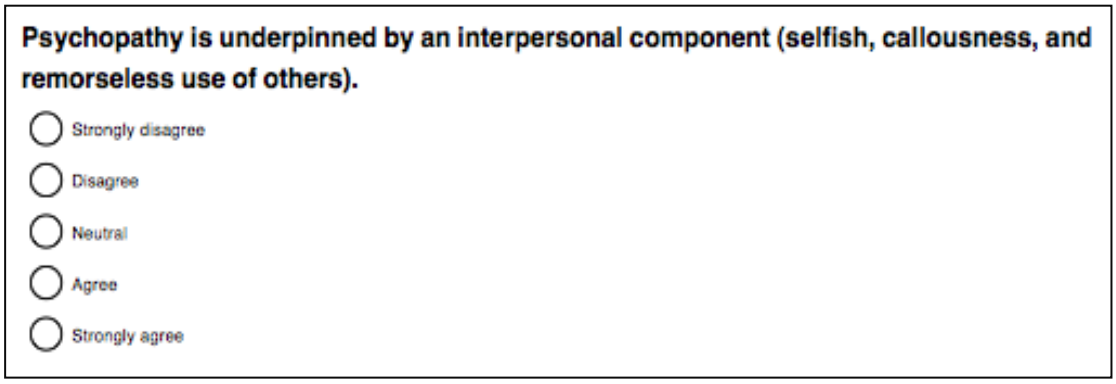


Figure 3: A screenshot of the item layout used in round one.

[50] Appendix three provides copies of the materials used in study one.
[51] Survey Monkey is an online organisation that allows its users to create their own web-based questionnaires and surveys.

At the start of round one, experts were reminded that the survey was only interested in the clinical construct of psychopathy, not the legal definition[52]. Participants were given four weeks to return round one. They were sent a reminder one week prior to the submission deadline.

Approach to analysis

Participants' data from round one was analysed by calculating the average percentage agreement and disagreement for each item. In line with recommendations (e.g. Vosmer et al. 2009; Kingston et al. 2011), a consensus of 80% was set across all three rounds to ensure that a high level of agreement was achieved. The items in round one, which achieved an agreement of 80% or greater (i.e. ≥80%) reached the required consensus to be included in round two.

A thematic analysis was also conducted on the comments and suggestions made by the experts to examine themes emerging from these. Thematic analysis is a qualitative method for identifying, analysing and reporting patterns within the data (Braun & Clarke, 2006).

Braun and Clarke (2006) suggest that thematic analysis involves six stages:

- Stage one focuses on becoming familiar with the data
- Stage two involves the initial coding of the data
- Stage three entails searching for the themes
- Stage four involves reviewing the themes
- Stage five involves defining and labeling the themes
- Stage six entails writing the report

All of the stages are not fully distinct from one another and the researcher is allowed to go back and forth over the stages to improve the analysis (Braun & Clarke, 2006).

[52] Experts were encouraged to view psychopathy as 'abnormal personality' rather than a behavioural construct used to describe individuals who inherently commit antisocial behaviour due to personal deficiencies.

7.7 Round one: Results

The average percentage agreement and disagreement for each item can be seen in Table four. The average percentage agreement was calculated by adding the percentage of experts who indicated on the likert-type scale that they 'agreed' with the item to the percentage of experts who indicated that they 'strongly agreed' with the same item. For example, in round one 50% of the experts indicated that they 'agreed' with item two. Nineteen percent stated that they 'strongly agreed' with item two. Thus, adding these two percentages together suggested that item two, "psychopathy is underpinned by a socially deviant behavioural component", had an average percentage agreement of 69%[53]. The average percentage disagreement was calculated in a similar manner, namely the percentage of experts who stated that they 'disagreed' with the item was added to the percentage of experts who 'strongly disagreed' with that particular item.

[53] The average percentage agreement and disagreement for each item may not always total 100%, as the experts were also able to rate each item with the option of 'neither agree or disagree'. For example, if 96% of experts agreed with an item and 4% neither agreed nor disagreed, the average percentage agreement for this item would be 96%.

*Table 4: The average percentage agreement and disagreement for all items in round one (n = 32). Values in **bold type** reached the required consensus level of 80%.*

Items	Percentage (%) Agreement	Disagreement
Defining the Construct		
1. Psychopathy is underpinned by an interpersonal component (selfish, callousness, and remorseless use of others).	**100**	0.0
2. Psychopathy is underpinned by a socially deviant behavioural component (a chronically unstable, and antisocial lifestyle).	68.6	21.9
3. Offending behaviour is a correlate, rather than a component of psychopathy.	71.9	18.8
4. Glibness/superficial charm*****.	**84.4**	9.4
5. Grandiose sense of self-worth*****.	**90.6**	6.2
6. Pathological lying*****.	**90.7**	6.2
7. Conning/manipulative*****.	**93.8**	6.2
8. Lack of remorse or guilt*****.	**93.8**	6.2
9. Shallow affect*****.	**87.5**	9.4
10. Callous/lack of empathy*****.	**93.8**	6.2
11. Failure to accept responsibility for actions*****.	**87.6**	6.2
12. Need for stimulation/proneness to boredom*****.	**81.3**	6.2
13. Parasitic lifestyle*****.	**81.3**	6.2
14. Poor behavioural controls*****.	56.3	15.6
15. Early behavioural problems*****.	59.4	21.9
16. Lack of realistic, long-term goals*****.	64.5	12.9
17. Impulsivity*****.	71.9	9.4
18. Irresponsibility*****.	71.9	12.5
19. Juvenile delinquency*****.	40.7	34.4
20. Revocation of conditional release*****.	34.4	37.5
21. Promiscuous sexual behaviour*****.	53.2	21.9

(Continued)

Table 4: Continued.

Items	Percentage (%) Agreement	Disagreement
22. Psychopaths have a propensity to engage in thrill and adventure seeking behaviour.	**84.4**	9.4
23. Psychopathy is best viewed as a personality disorder.	**81.2**	9.4
24. Psychopathy is manifested at an early age, but remains stable over the course of an individual's life.	62.5	25.0
25. Psychopathy is a dynamic construct, i.e. an individual's level of psychopathy can increase or decrease over their life.	56.3	15.6
Interpersonal Features		
26. Psychopaths have difficulties in forming and maintaining personal bonds.	**84.4**	9.4
27. Psychopaths perceive others as 'objects' rather than people.	71.9	12.5
Behavioural Characteristics		
28. Psychopaths do not respond to punishment.	28.2	43.7
29. Psychopaths are represented by high rates of recidivism.	**81.3**	3.1
30. Psychopaths are often criminally versatile*.	75.0	0.0
31. Psychopaths are poorly integrated.	28.2	21.9
Cognition		
32. Psychopaths do not attend to information that is not central to an event, i.e. they ignore peripheral information.	31.3	28.1
33. Psychopaths have biased judgments of causality.	50.0	12.5
34. Psychopaths have an organised pattern of thought that is distorted.	59.4	12.5
35. Psychopaths often interpret everyday social situations as aggressive or hostile.	50.0	25.0
36. Psychopaths have difficulties with abstract concepts.	25.0	34.4
37. Psychopaths have a lack of insight.	56.3	21.9
38. Psychopaths are able to accurately evaluate and use emotive language when explicitly directed to do so.	59.4	25.1
39. Psychopaths are unable to inhibit their responses to avoid punishment.	25.0	50.0
Affect		
40. Psychopaths are less influenced by emotion, e.g. emotional words, in comparison to non-psychopaths.	**93.7**	6.2

(Continued)

Table 4: Continued.

Items	Percentage (%) Agreement	Disagreement
41. Psychopaths are unable to recognise and understand emotion and therefore do not modify their behaviour accordingly.	46.9	37.5
42. Psychopaths are less sensitive to experiencing emotion because they are trying to avoid experiencing negative emotion.	28.2	15.6
43. Psychopaths display low fearfulness.	71.9	15.6
Developmental Factors		
44. Psychopathy results from problems in attachment that occurs during infancy.	34.4	21.9
45. Attachment problems that have occurred between a child and their caregiver(s) are unlikely to lead to psychopathy.	25.0	37.6
46. Psychopaths often experience damage to their personality during childhood.	56.3	18.8
47. Psychopaths have a harsh and rejecting childhood.	34.4	12.5
48. Poor parenting, such as emotional abuse.	62.6	6.3
49. Physical and/or sexual abuse.	46.9	9.4
50. Caregiver conflict.	43.8	9.4
51. Caregiver separation.	48.4	3.2
52. A large family size, e.g. three or more children.	9.3	28.2
Associated Health Factors		
53. High levels of psychopathy often occur along with an Axis I disorder, i.e. mental illness.	31.3	40.7
54. Psychopaths are more likely than non-psychopaths to exaggerate Axis I (mental illness) symptoms, or malinger.	37.5	34.4
55. Psychopaths regularly use illicit substances.	75.0	15.6
56. Psychopaths exhibit more alcohol and drug-dependence symptoms than non-psychopaths.	34.4	31.2
57. Psychopaths who use illicit substances are more likely to have personality challenges.	78.1	6.3
58. Psychopaths with a substance misuse problem often have a co-occurring mental illness.	31.2	18.8

Note. Items marked with an * are items taken from the PCL-R

Table four indicates that of the 58 items included, 16 reached a consensus of ≥80% with experts indicating that they agreed/strongly agreed that these items are important and should be included in the next round. Forty-two items did not reach the consensus but were included in round two as the author decided to give the experts another opportunity to rate them in light of their previous response and also since it was apparent that experts were presenting the PCL-R items exclusively. This decision was made as it was felt that the consensus cut-off of 80% might have been too high for this reason.

For example, almost all of the items taken from the PCL-R reached the required consensus cut-off for inclusion in round two, with the exception of 'poor behavioural controls', 'impulsivity', 'juvenile delinquency', 'revocation of conditional release', 'promiscuous sexual behaviour', and 'psychopaths are often criminally versatile'. This issue will be discussed later. Items relating to the interpersonal features of psychopathy (e.g. psychopaths have difficulties in forming and maintaining personal bonds) also appeared to meet, or were close to meeting the cut-off (i.e. 71.9%). However, the items tapping into behavioural characteristics, cognition, affect, developmental factors and the associated health factors of psychopathy appeared to lack expert agreement.

Thematic analysis

A thematic analysis was conducted on the experts' comments and suggestions. Experts' comments and suggestions were grouped into twelve themes, as follows[54]: Stability of the Construct (6.3%); Negative Personality Characteristics (21.9%); Aggression (15.6%); Fear and Anxiety (18.8%); Reasoning Ability and Decision Making (13%); Emotional Processing (9.4%); Relationships with Others (18.8%); Substances and Risk-Taking Behaviour (9.4%); Schemas (9.4%); Experience of Emotion (9.4%); Poor Parenting (13%); and Gene/Environment Interaction (6.3%).

During analysis, connections between these themes were noted. The themes that shared a common link were categorised into super-ordinate themes. Table five provides an overview of the themes identified along with some illustrating comments.

[54] The percentages in parentheses correspond to the percentage of experts who made suggestions that fell into a particular theme.

Table 5: The themes identified during the thematic analysis along with examples of experts' suggestions and comments to illustrate (nb. Percentages in parenthesis relate to the percentage of experts who made suggestions that fell into a particular theme).

Super-Ordinate	**Theme (%)**	**Suggestion/Comment**
Defining the Construct	Stability of the Construct (6.3)	"Offenders with psychopathy can be treated and therefore their characteristics can be moderated over time".
	Negative Personality Characteristics (21.9)	"Suspicious, selfish, and hostile". "Sadistic personality traits".
Behavioural Characteristics	Aggression (15.6)	"Reactive vs. instrumental aggression components". "Psychopathic individuals experience a cold, hard vengeful anger, which is often misinterpreted as instrumental aggression".
	Substances and Risk-Taking Behaviour (9.4)	"Psychopaths use substances at a high rate and engage in risky sexual behaviour".
Cognition	Reasoning Ability and Decision Making (13)	"Rigidity of thought processes". "They discount other people in their decision-making".
	Schemas (9.4)	"Need to describe specific schemata that are common among psychopaths".
Affect	Fear and Anxiety (18.8)	"They are relatively fearless in the context of threat". "They have a lack of fear or anxiety". "People often misinterpret the fear response of psychopaths".
	Emotional Processing (9.4)	"Psychopaths have difficulties processing emotion". "People with psychopathic traits may not recognise or understand emotions others are experiencing".
	Experience of Emotion (9.4)	"Many psychopaths can intellectually describe emotions without having any real sense of what they feel like". "Psychopaths feel high levels of certain kinds of affect (anger, irritation) but lower levels of others (joy, sadness, anxiety).

(Continued)

Table 5: Continued.

Super-Ordinate	Theme	Suggestion/Comment
Developmental Factors	Relationships with Others (18.8)	"Disrupted peer relations". "They can form relationships and attach to others".
	Poor Parenting (13)	"Inconsistent care/lack of punishment". "Psychopaths have typically been exposed to parental antipathy, i.e. feeling hated".
	Gene/Environment Interaction (6.3)	"There is a large genetic influence and much of the developmental factors are really either expressions of parental psychopathy or reactions to the difficulty of rearing a psychopathic child". "Tough urban environment".

Inter-rater reliability of themes

A co-rater was asked to place the comments and suggestions made by the experts in round one into themes so that inter-rater reliability could be calculated[55]. All of the comments and suggestions made by the experts were considered. Table six displays the number of suggestions and comments placed into themes by the author and co-rater, identifying where agreement was present or absent.

Table 6: Inter-rater reliability for the comments and suggestions made in round one.

		Co-Rater	
		Present	Absent
Author	Present	37	13
	Absent	13	0

The two raters placed 74% of the experts' comments and suggestions into the same themes. However given that percentage values do not take into consideration any agreements that may have occurred by chance, Cohen's Kappa was also calculated. The inter-rater reliability for the raters was found to show fair agreement (Landis & Koch, 1977); Kappa = .26, $p < .05$.

[55] The co-rater was a postgraduate with training in the understanding and assessment of psychopathy.

7.8 Round two of the Delphi survey

Round two was conducted to allow experts to rate the items in light of the group response. Round two was also aimed to attain an agreement on the suggestions and comments made by the experts in the previous round.

7.9 Round two: Participants

Thirty experts completed round two (n = 30). A 94% response rate was obtained. A debrief sheet was emailed to the two experts who withdrew from round two.

7.10 Round two: Materials

Round two consisted of 96 items. The increase in item number was due to 38 additional suggestions made by the experts. The items were again categorised into the seven themes used in round one. However, in this round each theme was split into three subsections: *Section one* consisted of those items that reached the required consensus in the first round for that particular theme; *section two* comprised those items that did not reach a consensus; and *section three* consisted of additional items proposed by the experts. All experts were again given the opportunity to make suggestions.

Section one

For those items in section one, the average percentage agreement and disagreement was fed back to the experts[56]. This information was provided to encourage the experts to reach more of a consensus on each item. The experts had to respond to each item using a five-point likert scale ranging from strongly disagree (1) to strongly agree (5).

[56] Appendix three contains a copy of the Delphi survey. This provides details of the feedback given to participants at each round.

Section two

In terms of section two (i.e. those items that did not reach an agreement), experts had to state either 'yes' they felt that an item should be included, or 'no' that it should be discarded from the survey.

Section three

As this section consisted of the new items suggested by the experts, experts had to rate, for the first time, the extent to which they felt that each item should be included in the next round. This was completed using a five-point likert scale ranging from strongly disagree (1) to strongly agree (5).

7.11 Round two: Procedure

Experts received an email containing a link to round two. All participants were given a three-week deadline to return the survey. A reminder was sent one week prior to this. The inclusion/exclusion criteria used for round two was identical to that used the previous round, e.g. items has to achieve an agreement of 80% or greater (i.e. ≥80%) to be included in the next round.

Round two was analysed using the same method adopted for round one. The average percentage agreement and disagreement was calculated for each item and a thematic analysis was conducted on the suggestions and comments made.

7.12 Round two: Results

The average percentage agreement and disagreement for each item in round two was calculated[57]. In terms of section two, the percentage agreement was determined from the percentage of experts who responded 'yes' to an item. The percentage *dis*agreement was calculated from the percentage of experts who answered 'no' to an item. Table seven displays the percentages for each item.

[57] The average percentage agreement and disagreement for each item in section one and three may not always total 100%, as the experts were able to rate these items with the option of 'neither agree or disagree'. For example, if 98% of experts agreed with an item and 2% neither agreed nor disagreed, the average percentage agreement for this item would be 98%.

*Table 7: The average percentage agreement and disagreement for all items in sections one and three, and average percentage inclusion and exclusion for items in section two. Values in **bold type** reached the required consensus level of 80% in round two of the Delphi survey (n = 30).*

Items	Percentage (%)	
	Agreement/Inclusion	Disagreement/Exclusion
Defining the Construct		
Section 1: Items that achieved agreement in the previous Round		
1. Psychopathy is underpinned by an interpersonal component (selfish, callousness, and remorseless use of others).	**96.6**	0.0
2. Glibness/superficial charm*.	**93.4**	3.3
3. Grandiose sense of self-worth*.	**96.7**	0.0
4. Pathological lying*.	**86.7**	0.0
5. Conning/manipulative*.	**100**	0.0
6. Lack of remorse or guilt*.	**100**	0.0
7. Shallow affect*.	**96.7**	3.3
8. Callous/lack of empathy*.	**100**	0.0
9. Failure to accept responsibility for actions*.	**93.4**	0.0
10. Need for stimulation/proneness to boredom*.	**83.3**	0.0
11. Parasitic lifestyle*.	**83.4**	0.0
12. Psychopaths have a propensity to engage in thrill and adventure seeking behaviour.	**86.6**	0.0
13. Psychopathy is best viewed as a personality disorder.	**90.0**	0.0
Section 2: Items that did not achieve agreement in the previous Round		
14. Psychopathy is underpinned by a socially deviant behavioural component.	53.3	46.7
15. Offending behaviour is a correlate, rather than a component of psychopathy.	**86.7**	13.3
16. Poor behavioural controls*.	76.7	23.3
17. Early behavioural problems*.	76.7	23.3
18. Lack of realistic, long-term goals*.	73.3	26.7
19. Impulsivity*.	**82.8**	17.2

(Continued)

Table 7: Continued.

Items	Percentage (%) Agreement/Inclusion	Disagreement/Exclusion
20. Irresponsibility*.	**90.0**	10.0
21. Juvenile delinquency*.	53.3	46.7
22. Revocation of conditional release*.	36.7	63.3
23. Promiscuous sexual behaviour*.	53.3	46.7
24. Psychopathy is manifested at an early age, but remains stable over the course of an individual's life.	73.3	26.7
25. Psychopathy is a dynamic construct, i.e. an individual's level of psychopathy can increase or decrease over their life.	69.0	31.0
Section 3: Additional Items suggested by the Experts		
26. Psychopathic individuals experience a cold, hard vengeful anger, which is often misinterpreted as instrumental (planned) aggression.	40.0	16.7
27. Psychopaths can have both stable and dynamic features.	**96.6**	0.0
28. Psychopaths have a coping response to threat.	66.7	3.3
29. The need to dominate the social environment.	76.7	10.0
30. Sadistic personality traits.	30.0	26.7
31. Use of violence when not threatened.	53.3	10.0
32. Cruelty to others.	**80.0**	3.3
33. Resilient to stress/anxiety.	36.7	36.7
34. Relative fearlessness in the context of threat.	73.4	10.0
Interpersonal Features		
Section 1: Items that achieved agreement in the previous Round		
35. Psychopaths have difficulties in forming and maintaining bonds.	**100**	0.0
Section 2: Items that did not achieve agreement in the previous Round		
36. Psychopaths perceive others as 'objects' rather than people.	**80.0**	20.0
Section 3: Additional Items suggested by the Experts		
37. Interpersonal factors appear to be particularly important in the domain of female psychopathy.	36.7	6.7

(Continued)

Table 7: Continued.

Items	Percentage (%)	
	Agreement/Inclusion	**Disagreement/Exclusion**
38. Psychopaths feel superior to others, i.e. they view others as weak.	**90.0**	3.3
39. Psychopaths are unsentimental.	**80.0**	3.3
40. Psychopaths view others instrumentally.	**96.7**	3.3
41. Psychopaths are frightened of intimacy and closeness as they associate this with harm.	30.0	43.3
42. Their charm and positive attitude can leave others feeling motivated and enthused.	60.0	10.0
43. Psychopaths manipulate others for their own needs.	**96.7**	0.0
44. Psychopaths are over-optimistic about the future.	66.7	10.0
Behavioural characteristics		
Section 1: Items that achieved agreement in the previous Round		
45. Psychopaths are represented by high rates of recidivism.	**86.7**	0.0
Section 2: Items that did not achieve agreement in the previous Round		
46. Psychopaths do not respond to punishment.	60.0	40.0
47. Psychopaths are often criminally versatile*.	**80.0**	20.0
48. Psychopaths do not fit in well with others.	46.7	53.3
Section 3: Additional Items suggested by the Experts		
49. Not all psychopaths express their symptoms through criminal behaviour.	**90.0**	3.3
50. In the community individuals with psychopathy often channel their psychopathic traits into an environment that supports them, i.e. their work environment.	**80.0**	6.6
51. Psychopaths frequently use violence/aggression.	66.6	3.3
52. Psychopaths are generally more likely to engage in instrumental aggression than reactive aggression.	23.3	33.3
Cognition		
Section 2: Items that did not achieve agreement in the previous Round		
53. Psychopaths do not attend to information that is not central to an event, i.e. they ignore peripheral information.	60.0	40.0
54. Psychopaths have biased judgments of causality.	63.3	36.7

(Continued)

Table 7: Continued.

Items	Percentage (%)	
	Agreement/Inclusion	Disagreement/Exclusion
55. Psychopaths have an organised pattern of thought that is distorted.	69.0	31.0
56. Psychopaths interpret everyday social situations as aggressive or hostile.	66.7	33.3
57. Psychopaths have difficulties with abstract concepts.	70.0	30.0
58. Psychopaths have a lack of insight.	73.3	26.7
59. Psychopaths are able to accurately evaluate and use emotive language when explicitly directed to.	60.0	40.0
60. Psychopaths are unable to inhibit their responses to avoid punishment.	55.2	44.8
Section 3: Additional Items suggested by the Experts		
61. Psychopaths think of themselves rather than others.	**96.7**	0.0
62. Psychopaths are rigid in thought.	50.0	10.0
63. Psychopaths are primed to interpret threatening stimuli more.	40.0	16.6
64. Psychopaths possess maladaptive cognitive schemas.	70.0	3.3
65. Psychopaths possess adaptive cognitive schemas.	37.9	20.7
Affect		
Section 1: Items that achieved agreement in the previous Round		
66. Psychopaths are less influenced by emotion, e.g. emotional words, in comparison to non-psychopaths.	**96.7**	3.3
Section 2: Items that did not achieve agreement in the previous Round		
67. Psychopaths are unable to recognise and understand emotion and therefore do not modify their behaviour accordingly.	55.2	44.8
68. Psychopaths are less sensitive to experiencing emotion because they are trying to avoid experiencing negative emotion.	36.7	63.3
69. Psychopaths display low fearfulness.	73.3	26.7
Section 3: Additional Items suggested by the Experts		
70. Psychopaths have an impaired emotional learning.	**83.3**	6.7
71. Psychopaths have a different internal experience of emotion.	76.6	3.3
72. Psychopaths dissociate from their affect or emotion.	43.3	20.0

(Continued)

Table 7: Continued.

Items	Percentage (%)	
	Agreement/Inclusion	Disagreement/Exclusion
73. Psychopaths are shame averse.	46.6	23.3
74. Psychopaths experience high levels of certain kinds of affect, i.e. anger and irritation.	70.0	3.3
75. Psychopaths experience low levels of certain kinds of affect, i.e. joy, sadness, and anxiety.	70.0	6.7
Developmental factors		
Section 2: Items that did not achieve agreement in the previous Round		
76. Psychopathy results from problems in attachments that occur during childhood.	63.3	36.7
77. Psychopaths often experience damage to their personality during childhood.	73.3	26.7
78. Psychopaths have a harsh and rejecting childhood.	56.7	43.3
79. Poor parenting, such as emotional abuse.	73.3	26.7
80. Physical and/or sexual abuse.	63.3	36.7
81. Caregiver conflict.	60.0	40.0
82. Caregiver separation.	60.0	40.0
83. A large family size, e.g. three or more children.	20.0	**80.0**
Section 3: Additional Items suggested by the Experts		
84. Psychopaths are more likely to have caregivers with psychopathic traits.	56.7	23.3
85. As a child, a psychopath will have typically been exposed to parental antipathy, i.e. feeling hated by their caregiver(s).	46.7	6.7
86. A lack of peer support.	30.0	40.0
87. Inconsistent parental/caregiver discipline.	66.7	3.3
88. Poor parental/caregiver role modeling.	76.6	0.0
89. Antisocial or delinquent caregivers.	62.1	6.9
Associated health factors		
Section 2: Items that did not achieve agreement in the previous Round		
90. High levels of psychopathy often occur along with an Axis I disorder, i.e. mental illness.	33.3	66.7
91. Psychopaths are more likely than non-psychopaths to exaggerate Axis I symptoms, or malinger.	56.7	43.3

(Continued)

Table 7: Continued.

Items	Percentage (%)	
	Agreement/Inclusion	Disagreement/Exclusion
92. Psychopaths regularly use illicit substances.	76.7	23.3
93. Psychopaths exhibit more alcohol and drug-dependence symptoms than non-psychopaths.	40.0	60.0
94. Psychopaths who use illicit substances are more likely to have personality challenges, e.g. challenges relating to impulsivity and irresponsibility.	53.3	46.7
95. Psychopaths with a substance misuse problem often have a co-occurring mental illness.	33.3	66.7
Section 3: Additional Items suggested by the Experts		
96. Psychopaths who use illicit substances are more likely to have personality challenges relating to callousness and manipulativeness.	13.3	6.6

Note. Items marked with an * are items taken from the PCL-R

Table seven indicates that one item (i.e. item 83, psychopaths are associated with a large family size, e.g. three or more children) reached the required consensus to be discarded. Of the 96 items included, 30 items reached an agreement of ≥80% and were therefore included in round three under the heading of 'Agreement'. The remaining 65 items did not reach the required cut-off but were still included in round three under the heading of 'No agreement'. This decision was made as some items were close to reaching the required consensus level and it would serve as a final check against discarding them in error. Table seven shows that approximately one-third of the items were close to achieving a consensus, with 39 of the items reaching an average percentage agreement or disagreement that fell between 60 and 79%.

Defining the construct, Interpersonal Features, and Behavioural Characteristics all had a number of items that achieved a consensus level of ≥80%. The items belonging to the themes Cognition, Affect, Developmental Factors, and associated Health Factors again, all appeared to be lacking in agreement. As for the previous round, the items associated with the PCL-R achieved the greatest level of expert agreement.

Thematic analysis

The suggestions and comments made by the experts in round two were also analysed using thematic analysis. There were fewer suggestions made in this round as many of the experts' suggestions had already been incorporated following the completion of round one. Nevertheless, two themes were identified[58]: 1). 'Fear and Anxiety' (13.3%); and 2). 'Views relating to themselves and others' (6.7%). These themes were categorised into super-ordinate themes. Table eight provides an overview of the themes identified during the analysis.

[58] The percentage in parentheses corresponds to the percentage of experts who made suggestions that fell into that particular theme.

Table 8: The themes identified during the thematic analysis along with examples of experts' suggestions and comments to illustrate (nb. Percentages in parenthesis relate to the percentage of experts who made suggestions that fell into that particular theme).

Super-Ordinate	Themes	Suggestion/Comment
Affect	Fear and Anxiety (13.3)	"Low anxiousness. Hare originally included this and Newman always requires it".
Cognition	Views relating to Themselves and Others (6.7)	"Absolute certainty that their actions are justified". "Unconcerned about the opinions of others".

Inter-rater reliability was again calculated as conducted earlier. Full agreement was obtained.

7.13 Round three of the Delphi survey

The overall aim of round three was to confirm the consensus of each of the items and resolve any remaining lack of clarity. Round three also aimed to begin to finalise the items to be included in the new self-report measure of psychopathy. The method and results for this round are presented next.

7.14 Round three: Participants

Twenty-seven experts completed round three (n = 27). There was therefore a 90% response rate.

7.15 Round three: Materials

Round three consisted of 99 items. The number of items increased slightly from round two due to three additional items suggested by experts. All items were categorised into the seven themes used in rounds one and two. The items in round three were split into three separate lists. The first comprised of those items that achieved an agreement in round two. The second list contained those items that did not reach a consensus, and the third included all of the additional items suggested by the experts.

For those items in the first list, i.e. agreed content, the average percentage agreement was fed back to the experts. The experts had indicate whether each item should appear in the new self-report measure of psychopathy via a five-point likert scale ranging from strongly disagree (1) to strongly agree (5). Experts also had the option of ticking a box to indicate that a particular item should not be included. An identical scale was used to rate the additional items suggested by the experts.

For those items that did not reach agreement, experts had to indicate for the last time whether they thought each item should be included in the measure. They had to state either 'yes' that the item does need to be included, or 'no' to inform the author that the item can be discarded. The average percentage agreement was also fed back to the experts for these items.

7.16 Round three: Procedure

An email containing a link to round three was sent to the experts. Experts were given three weeks to complete and return the survey. A reminder was sent to the participants one week prior to the submission deadline. All experts, including the three that did not participate in this round, were sent a debrief sheet.

The average percentage agreement and disagreement were calculated for each item. This was calculated using the same method adopted in previous rounds.

7.17 Round three: Results

Each item needed to have an average agreement of 80% or higher (i.e. ≥80%) to be included in the new self-report measure of psychopathy. Those items that did not achieve this, or had an average disagreement that reached 80% were not included.

Predictions:

Experts are expected to restate the PCL definition of psychopathy.

Experts are expected to capture the affective components of psychopathy in their understanding of the construct, but not cognition.

Table nine shows the average percentage agreement and disagreement for each item included in round three. Items are presented in descending order, starting with those items that achieved the highest level of expert agreement.

*Table 9: The average percentage agreement and disagreement for all items included in round three (n = 27). Values in **bold type** reached an expert agreement of 80% or more.*

Items	Theme	Percentage (%)	
		Agreement	Disagreement
1. Psychopathy is underpinned by an interpersonal component (selfish, callousness, and remorseless use of others).	Defining features	**100**	0.0
2. Conning/manipulative.	Defining features	**100**	0.0
3. Lack of remorse or guilt.	Defining features	**100**	0.0
4. Callous/lack of empathy.	Defining features	**100**	0.0
5. Psychopaths manipulate others for their own needs.	Interpersonal	**100**	0.0
6. Psychopaths think of themselves rather than others.	Cognition	**100**	0.0
7. Irresponsibility.	Defining features	**96.3**	0.0
8. Psychopaths have difficulties in forming and maintaining personal bonds.	Interpersonal	**96.3**	0.0
9. Shallow affect.	Defining features	**96.3**	0.0
10. Failure to accept responsibility for actions.	Defining features	**96.3**	0.0
11. Psychopaths view others instrumentally.	Interpersonal	**96.3**	0.0
12. Psychopaths can have both stable and dynamic features.	Defining features	**96.2**	0.0
13. Grandiose sense of self-worth.	Defining features	**96.2**	0.0
14. Psychopaths are less influenced by emotion, e.g. emotional words, in comparison to non-psychopaths.	Affect	**92.6**	0.0
15. Psychopaths have a propensity to engage in thrill and adventure seeking behaviour.	Defining features	**92.6**	0.0
16. Glibness/superficial charm.	Defining features	**92.6**	3.7
17. Psychopaths frequently use violence/aggression.	Behavioural	**92.6**	7.4
18. Psychopaths display low fearfulness.	Affect	**92.6**	7.4
19. Pathological lying.	Defining features	**92.5**	0.0
20. Poor behavioural controls.	Defining features	**88.9**	11.1
21. Early behavioural problems.	Defining features	**88.9**	11.1

(Continued)

Table 9: Continued.

Items	Theme	Percentage (%) Agreement	Disagreement
22. Psychopaths perceive others as 'objects' rather than people.	Interpersonal	**88.5**	0.0
23. Psychopaths are often criminally versatile.	Behavioural	**85.2**	0.0
24. Psychopaths are cruel to others.	Defining features	**85.2**	0.0
25. Psychopaths are unsentimental.	Interpersonal	**85.2**	0.0
26. Not all psychopaths express their symptoms through criminal behaviour.	Behavioural	**85.2**	3.7
27. In the community, individuals with psychopathy often channel their psychopathic traits into an environment that supports them.	Behavioural	**85.2**	3.7
28. Lack of realistic, long-term goals.	Defining features	**85.2**	14.8
29. Psychopaths regularly use illicit substances.	Health factors	**85.2**	14.8
30. Psychopaths have an impaired emotional learning.	Affect	**84.6**	0.0
31. Psychopaths have a different internal experience of emotion.	Affect	**84.6**	15.4
32. Poor parental/caregiver role modeling.	Developmental	**84.6**	15.4
33. Need for stimulation/proneness to boredom.	Defining features	**81.5**	0.0
34. Parasitic lifestyle.	Defining features	**81.5**	0.0
35. Psychopaths feel superior to others, i.e. they view others as weak.	Interpersonal	**81.5**	0.0
36. Offending behaviour is a correlate, rather than a component of psychopathy.	Defining features	**81.5**	11.1
37. Psychopathy is manifested at an early age, but remains stable over the course of an individual's life.	Defining features	**81.5**	18.5
38. Relative fearlessness in the context of threat.	Affect	**81.5**	18.5
39. A psychopath's charm and their positive attitude can leave other feeling motivated and enthused.	Interpersonal	**81.5**	18.5
40. Psychopaths have biased judgments of causality.	Cognition	**81.5**	18.5
41. Psychopaths possess maladaptive cognitive schemas.	Cognition	**81.5**	18.5
42. Psychopaths experience high levels of certain kinds of affect, i.e. anger and irritation.	Affect	**81.5**	18.5
43. Psychopaths experience high levels of certain kinds of affect, i.e. joy, sadness, and anxiety.	Affect	**80.8**	19.2

(Continued)

Table 9: Continued.

Items	Theme	Percentage (%) Agreement	Disagreement
44. Psychopaths are over-optimistic about the future.	Interpersonal	77.8	22.2
45. Psychopaths do not attend to information that is not central to an event, i.e. they ignore peripheral information.	Cognition	77.8	22.2
46. Psychopaths have a lack of insight.	Cognition	77.8	22.2
47. Psychopathy is best viewed as a personality disorder.	*Defining features*	*77.7*	*0.0*
48. Inconsistent parental/caregiver discipline.	Developmental	76.9	23.1
49. Impulsivity.	*Defining features*	*74.1*	*0.0*
50. Psychopaths have an organised pattern of thought that is distorted.	Cognition	74.1	25.9
51. Psychopathy is a dynamic construct, i.e. an individual's level of psychopathy can increase or decrease over their life.	Defining features	73.1	26.9
52. Poor parenting, such as emotional abuse.	Developmental	73.1	26.9
53. Psychopaths are represented by high rates of recidivism.	Behavioural	70.4	3.7
54. Psychopaths are unconcerned about the opinions of others.	Cognition	70.4	11.1
55. Psychopaths have a coping response to threat.	Developmental	70.4	29.6
56. Psychopaths often experience damage to their personality during childhood.	Developmental	70.4	29.6
57. Antisocial or delinquent caregiver(s).	Developmental	69.2	30.8
58. Psychopaths interpret everyday social situations as aggressive or hostile.	Cognition	66.7	33.3
59. Psychopaths do not respond to punishment.	Behavioural	66.7	33.3
60. Psychopaths are able to accurately evaluate and use emotive language when explicitly directed to do so.	Affect	66.7	33.3
61. The need to dominate the social environment.	Defining features	66.7	33.3
62. Primary psychopaths, i.e. individuals whose psychopathy is genetically based, have low levels of anxiousness.	Affect	66.6	7.1
63. Physical and/or sexual abuse.	Developmental	65.4	34.6
64. Caregiver conflict.	Developmental	61.5	38.5

(Continued)

Table 9: Continued.

Items	Theme	Percentage (%) Agreement	Disagreement
65. Psychopaths who use illicit substances are more likely to have personality challenges, i.e. impulsivity and irresponsibility.	Health factors	61.5	38.5
66. Use of violence when not threatened.	Defining features	59.3	40.7
67. Psychopathy is underpinned by socially deviant behavioural component (a chronically unstable and antisocial lifestyle).	Defining features	59.3	40.7
68. Promiscuous sexual behaviour.	Defining features	57.7	42.3
69. Psychopathy results from problems in attachments that occur during childhood.	Developmental	55.6	44.4
70. Juvenile delinquency.	Defining features	51.9	48.1
71. Psychopaths are unable to inhibit their responses to avoid punishment.	Cognition	51.9	48.1
72. Psychopaths are rigid in thought.	Cognition	51.9	48.1
73. Caregiver separation.	Developmental	48.1	51.9
74. Psychopaths are more likely to have caregivers with psychopathic traits.	Developmental	48.1	51.9
75. Psychopaths are unable to recognise and understand emotion and therefore do not modify their behaviour accordingly.	Affect	48.1	51.9
76. Psychopaths are sensitive to threat.	Affect	44.4	25.9
77. Psychopaths have a harsh and rejecting childhood.	Developmental	44.4	55.6
78. Psychopaths are more likely than non-psychopaths to exaggerate Axis I (mental illness) symptoms, or malinger.	Health factors	44.4	55.6
79. Revocation of conditional release.	Defining features	40.7	59.3
80. As a child, a psychopath will have typically been exposed to parental antipathy, i.e. feeling hated by their caregiver(s).	Developmental	38.5	61.5
81. Psychopaths are shame averse.	Affect	37.0	63.0
82. Psychopaths dissociate from their affect and emotion.	Affect	34.6	65.4
83. Interpersonal factors appear to be particularly important in female psychopathy.	Interpersonal	33.3	66.7

(Continued)

Table 9: Continued.

Items	Theme	Percentage (%) Agreement	Disagreement
84. Psychopathic individuals experience a cold, hard vengeful anger, which is often misinterpreted as instrumental (planned) aggression.	Defining features	29.6	70.4
85. Resilient to stress/anxiety.	Defining features	29.6	70.4
86. A lack of peer support.	Developmental	26.9	73.1
87. Secondary psychopaths, i.e. those individuals whose psychopathy is environmentally based, have high levels of anxiousness.	Affect	25.9	18.5
88. Sadistic personality traits.	Defining features	25.9	74.1
89. Psychopaths are generally more likely to engage in instrumental (planned) aggression than reactive (emotional) aggression.	Behavioural	25.9	74.1
90. Psychopaths have difficulties with abstract concepts.	Cognition	25.9	74.1
91. Psychopaths are primed to interpret threatening stimuli more.	Cognition	25.9	74.1
92. Psychopaths possess adaptive cognitive schemas.	Cognition	22.2	77.8
93. Psychopaths exhibit more alcohol and drug-dependence symptoms than non-psychopaths.	Health factors	19.2	80.8
94. Psychopaths with a substance misuse problem often have co-occurring mental illness.	Health factors	15.4	84.6
95. Psychopaths are frightened of intimacy and closeness as they associate this with harm.	Interpersonal	14.8	85.2
96. Psychopaths are less sensitive to experiencing emotion because they are trying to avoid experiencing negative emotion.	Affect	14.8	85.2
97. Psychopaths do not fit in well with others.	Behavioural	14.8	85.2
98. Psychopaths who use illicit substances are more likely to have personality challenges, i.e. callousness and manipulativeness.	Health factors	11.5	88.5
99. High levels of psychopathy often occur along with an Axis I disorder, i.e. mental illness.	Health factors	0.0	100

All of the items with an agreement of 80% or greater (i.e. ≥80%) were retained. Forty-three items achieved the required cut-off and were included in the new self-report measure. These items are marked in **bold type** in Table nine. The author also decided to retain and include two additional items that did not reach the required consensus cut-off (i.e. 'Impulsivity' and 'Psychopathy is best viewed as a personality disorder'), as the academic literature highlighted them as particularly important (e.g. Blackburn, 2007b; Ray, Poythress, Weir & Rickelm, 2009). Their final inclusion/exclusion will be determined later in study two.

Items associated with the PCL-R again appeared to achieve the most agreement among experts. However, most items[59] relating to 'Developmental Factors' and 'associated Health Factors', did not reach agreement to be included in the new measure, indicating that experts placed little importance on these two themes when understanding and assessing the construct.

Round three indicated that experts generally viewed psychopathy as underpinned by both interpersonal features and behavioural characteristics. In terms of cognitive and affective processing, experts agreed that those with psychopathy have biased judgments of causality, possess maladaptive cognitive schemas, display low fearfulness, have both an impaired emotional learning and a different internal experience of emotion, and are less influenced by emotion. Experts also viewed psychopathic individuals as experiencing developmental problems, specifically poor parental/caregiver modeling.

7.18 Developing the new self-report measure of psychopathy

The items that achieved the level of required agreement after round three were transformed into items for the new self-report measure of psychopathy. Following the recommendations of Bowling (2009) and Rattray and Jones (2007), these items required simplifying and transforming into the first person. For example, 'Psychopaths manipulate others for their own needs' was changed to 'I will use people to get what I want'. Dephi items that contained more than one component were split so that the self-report did not contain double-baralled questions. For example, 'Glibness/superficial charm' was separated into 'I am able to talk myself out of situations by not answering

[59] With the exception of two: 1). 'Psychopaths regularly use illicit substances'; and 2). 'As a child, a psychopath will have experienced poor parental/caregiver role modeling'.

questions directly' and 'I am described as a 'charmer' by those that know me'. The new measure contained 54 items in total so that all of the Delphi items were fully captured. These are presented in Table ten.

Table 10: Items used in the new self-report measure of psychopathy.

Items (actual number in PAPA)	**Agreed theme**
I am only interested in myself (1).	Defining Features
I would describe myself as one of the most confident around (3).	Defining Features
I often take chances that could be risky to me or others (6).	Defining Features
I often don't think of the consequences of my actions (7).	Defining Features
As a person, I have always stayed the same (8).	Defining Features
I have been described as a cruel person who does not worry about hurting others (9).	Defining Features
Others would describe me as an irritable person with problems controlling my temper (11).	Defining Features
I regularly view others as lazy (14).	Defining Features
I am not that bothered about others (16).	Defining Features
Others complain that I never take the blame for my mistakes (20).	Defining Features
If others can help me, I expect them to do this without me returning the favour (21).	Defining Features
I find it impossible to resist temptation (22).	Defining Features
I am able to talk myself out of situations by not answering questions directly (30).	Defining Features
If I am caught out on a lie I can quickly think of a way out (31).	Defining Features
I am often bored (33).	Defining Features
I see no problem in living off the State/Government (35).	Defining Features
I enjoy doing things that are exciting or new (36).	Defining Features
I have been described as a 'fraudster' or a 'con artist' by those who know me (46).	Defining Features
I always accept responsibility for what I do (47).	Defining Features
I don't see why others can't take care of me (48).	Defining Features
I can be unpredictable (49).	Defining Features
I have clear goals for my long-term future (54).	Defining Features
I will use people to get what I want.	Interpersonal
I have a talent at making people feel good about themselves (12).	Interpersonal
I am described as a 'charmer' by those that know me (17).	Interpersonal
I find most people are weak and not worth bothering with (18).	Interpersonal
I tend to keep in touch with those close to me (24).	Interpersonal
I regularly view others as irritating (34).	Interpersonal
I can often find myself viewing others as nothing more than 'objects' (38).	Interpersonal
I find it difficult to give emotional and personal support to others (43).	Interpersonal

(Continued)

Table 10: Continued.

Items (actual number in PAPA)	Agreed theme
I often find myself thinking that I am more important than others (45).	Interpersonal
Others would describe me as a very intense person who has difficulty getting on with others (51).	Interpersonal
I have a problem with using alcohol (15).	Behavioural
I often get into trouble more than others (23).	Behavioural
I am able to commit a wide number of behaviours that, if caught, would get me into trouble (37).	Behavioural
I am an aggressive person in a number of situations (39).	Behavioural
I use illegal drugs more than most people I know (42).	Behavioural
I see a lot of hostility around me (13).	Cognition
I am a creative person who can think of more than one way of dealing with problems (27).	Cognition
The world is a threatening place, you have to 'watch your back' (28).	Cognition
I tend to think of one solution to a problem and stick to it (41).	Cognition
I often find people behave aggressively or in a hostile manner towards me (50).	Cognition
I do not feel guilty when I cause others to feel pain or hurt (2).	Affect
I often experience strong negative emotions, such as anger, sadness, and hatred (5).	Affect
I can allow my feelings to interfere with my decisions (10).	Affect
When I feel sad I can quickly make myself happy again (19).	Affect
I find it difficult to comfort others when they are upset (25).	Affect
I would describe myself as someone who is often 'fearless' when faced with a threat (26).	Affect
I often feel in touch with other people's feelings (29).	Affect
I often experience strong positive emotion, such as happiness and joy (32).	Affect
I very rarely experience fear (40).	Affect
If I do something wrong I will feel bad about it (44).	Affect
I find it easy to form strong emotional relationships with others (52).	Affect
As a child I often got into trouble more than others (53).	Developmental

When developing a new self-report measure, Bowling (2009), along with Rattray and Jones (2007), recognised that the type of question, the language used, and the order of items may all promote response bias. Consideration was made when ordering the items, in that controversial, negative or emotive items were not placed at the beginning of the new measure. Additionally, to reduce acquiescent response bias (i.e. the tendency to agree with a statement or respond in the same way to all statements; Rattray & Jones,

2007), the author ensured that a mixture of both negatively[60] and positively worded items[61] were included. Ten items were reversed (i.e. item numbers 10, 19, 24, 27, 29, 32, 44, 47, 52 and 54).

The readability of the new measure was analysed using the Flesch-Kincaid Test. This test assigned a reading score of 75.3 out of a possible 100 to the new measure. Higher scores indicate greater comprehension. The test suggested that participants require a fifth grade level of education (American Educational System) to be able to read and understand the new self-report. This equates to 'Year 6' (pupils aged between 10 and 11 years) in the United Kingdom's Educational System.

The timeframe used for the new self-report measure was 'in general', as it was clear from the literature and the Delphi survey that psychopathy is not a transient syndrome, but instead is persistent and re-occurring. The measure instructed participants to rate the extent to which each item described them using a structured response format. This took the form of a five-point likert scale ranging from 'Very unlike me' (1) to 'Very like me' (5).

The proposed self-report measure of psychopathy was named the 'Psychopathic Processing and Personality Assessment – version one (PAPA-1)[62]. The aim was to use this measure in the ensuing studies to assess its validity and content.

Specifically, the reliability, construct validity, internal consistency and concurrent validity of the PAPA-1 will be determined in the ensuing study, study two, and further explored in study three. Cronbach's alpha will be calculated and the new measure correlated with existing measures of psychopathy known to have good psychometric properties (i.e. the Levenson Self-Report Psychopathy Scale; LSRP). Construct validity (i.e. how well the items represent the underlying conceptual structure; Rattray & Jones, 2007) will also be examined. Content validity (i.e. whether the scale represents the concept the measure is intended to assess; Rattray & Jones, 2007) was established through the systematic review of the academic literature and the expert Delphi survey.

[60] Item numbers 1, 2, 4, 5, 6, 7, 9, 10, 11, 13, 14, 15, 16, 18, 20, 21, 22, 23, 25, 28, 30, 31, 33, 34, 35, 37, 38, 39, 41, 42, 43, 45, 46, 48, 49, 50, 51 and 53.
[61] Item numbers 3, 8, 12, 17, 19, 24, 26, 27, 29, 32, 36, 40, 44, 47, 52 and 54.
[62] A copy of PAPA-1 can be found in Appendix four.

7.19 Discussion

This study involved a review of the psychopathy literature and an expert Delphi survey. It aimed to generate an expert understanding of the construct, with a particular emphasis on psychopathic processing (both cognition and affect). The findings of the literature review and Delphi survey were used to develop a new self-report measure of psychopathy that was in agreement with experts in the field and also captured the core personality features of the disorder originally proposed by Cleckley (1982). Thus, the new measure aimed to assess abnormal personality over criminal behaviour; focusing more on cognition and affect than existing self-report measures of psychopathy, such as the Levenson Self-Report Psychopathy Scale (LSRP; Levenson et al. 1995) and the Self-Report Psychopathy Scale (SRP-III; Paulhus et al. in press).

Experts agreed that psychopathy could be understood through interpersonal factors, behavioural characteristics, deficits in cognition and affect, and developmental factors. The theme 'Associated health factors' lacked expert consensus and this may reflect the notion that 'health' and psychopathy are somewhat distinct constructs. That is, health factors are arguably dynamic in nature, where as psychopathy is static and experiences little change. Thus, health factors may not be considered relevant to psychopathy.

Experts appeared to be influenced by the PCL-R definition of psychopathy and rated items relating to this as most important. The prediction that experts would restate the PCL definition was therefore supported. This finding is consistent with Skeem and Cooke (2010a) who recognised that the theoretical construct and the assessment of psychopathy have somewhat become synonymous. It would not be unreasonable to suspect that experts rated familiar items more favorably and this would account for the high level of agreement on the PCL-R items. Experts sampled in the present study appeared to have an understanding of psychopathy that is congruent with the PCL-R.

As noted by Wilks-Riley and Ireland (2012), the academic literature has tended to over focus on the assessment of psychopathy and the behavioural features of the disorder. Whilst the literature has acknowledged the role of affect (e.g. Steuerwald & Kosson, 2000; Glass & Newman, 2009; Dawel et al. 2012), it has received little attention in comparison (e.g. Cooke & Michie, 2001). This also extends to cognitive processing in psychopathy, with a significant lack of research in this area (e.g. Blackburn, 2007a;

Wilks-Riley & Ireland, 2012; Schaich Borg & Sinnott-Armstrong, 2013). Nevertheless, experts rated items examining cognition and affect as important when understanding the disorder.

Experts rated items tapping into affect as more important than those associated with cognition. Only three items examining cognition reached the required consensus to be included in the new self-report measure, whereas seven 'affect' items met the criteria. As expected, item agreement was lower for both cognition and affect when compared to the interpersonal and behavioural features of the disorder.

Thus, partial support was found for the prediction stating that experts were expected to capture the affective components of psychopathy in their understanding of the construct, but not cognition. Cognitive processing was poorly captured in experts' understanding of the disorder and this may indicate a lack of familiarity with the academic literature in this area.

When compared to the interpersonal and behavioural features of the disorder, cognition and affect are not well understood (e.g. Flor, 2007) and this is illustrated in the Delphi survey. Fewer items associated with cognitive and affective processing reached the required consensus level. This finding may be accounted for through the experts sampled. A small number of experts took part in the survey, of which over half were Forensic Psychologists. Such individuals will have administered the PCL-R as part of their roles. This may have biased their responses as the PCL-R lacks items that attend to cognition and affect.

However, it is important to note that ten items examining cognition and affect did reach the required level of agreement to be included in the new self-report measure. This may be attributed to a small number of the experts (i.e. 13%) who were solely academics and had published at least one peer-reviewed paper on the topic of psychopathy. These individuals may arguably have more insight into the cognitive and affective underpinnings of the disorder and would therefore be likely to rate such items as important.

In terms of cognition and affect, experts agreed that individuals with psychopathy have biased judgments of causality [cognition], possess maladaptive cognitive schemas

[cognition] and display low levels of fear [affect]. They also have an impaired emotional learning [affect], a different internal experience of emotion [affect], and are less influenced by emotion [affect]. This understanding of psychopathy is consistent with the academic literature in that research has found individuals with the disorder to present with biased judgments (e.g. Vitale et al. 2005), have negative cognitive schemas (e.g. Wilks-Riley & Ireland, 2012), have deficient emotional reactivity (e.g. Lykken, 1957), experience problems when identifying (e.g. Blair et al. 2004; Dawel et al. 2012) and in evaluating emotions (e.g. Glass & Newman, 2009; Baskin-Sommers et al. 2013).

The expert understanding of psychopathic cognition and affect also overlaps with a number of psychological theories, including Beck's (1987) Theory of Emotional Disorders, Huesmann's (1998) Theory of Information Processing, the Violence Inhibition Mechanism Model (VIM; Blair, 1995), and the Dysfunctional Fear Hypothesis (Lykken, 1957). Both Beck (1987) and Huesmann (1998) recognise that biases in cognitive schema influence information processing and consequently give rise to attributions of causality that are inconsistent with the situation. Such attributions relate to abnormal affective experiences and therefore account for the psychopath's different internal experience of emotion (Beck, 1987). The Delphi survey captured the processes outlined here, thus aligning the expert definition of psychopathy with existing psychological theory.

The Dysfunctional Fear Hypothesis and VIM however, propose that psychopathic individuals are unable to identify emotion and this would inevitably impact on their emotional learning and vice versa. Whilst the Dysfunctional Fear Hypothesis states that individuals with psychopathy have deficient emotional reactivity and therefore experience less arousal to fear (Lykken, 1957), VIM suggests that impairments stem from early socialisation and difficulties associated with perspective-taking (Blair, 1995). The findings from the Delphi survey were largely consistent with both of these theories. However, experts attended less to the early developmental experiences proposed by VIM and how these relate to cognition and affect. It is anticipated that the application of theory to the expert understanding of psychopathy, and indeed the new self-report measure, will become clearer as this thesis progresses.

The inclusion of cognition and affect in the expert definition of psychopathy, albeit rather briefly, allows for a theoretical understanding of the construct that extends to the

new self-report measure; thus, enabling a theory-driven approach when assessing for psychopathy. The consensus on cognition and affect also suggests that experts are reverting to the original conceptualisation of the disorder as abnormal personality (i.e. Cleckley, 1976). However, this must be interpreted with caution as experts also placed an emphasis on behavioural features, associating psychopathy with criminality. Nevertheless, as discussed, this may be an outcome of the experts sampled, which moves this discussion on to the limitations of the study.

7.20 Limitations of the study

The present study is not without its limitations. A small number of experts took part in the Delphi survey and this mainly consisted of Forensic Psychologists from HM Prison Service. Such individuals will have administered the PCL-R and this may have influenced their ratings, in that they may have defined psychopathy similar to that of the PCL-R rather than expressing their own views on the construct.

A larger and more diverse sample size would have reduced the possibility of this bias, thus allowing for an in-depth consideration of *all* aspects of psychopathy, including cognitive and affective processing. Recruiting experts from a variety of disciplines, including psychiatry, nursing, clinical psychology, social care and occupational therapy would allow for an eclectic perspective of psychopathy that could be narrowed down via a Delphi approach to a consensus understanding of the disorder. It is important to note that the study originally aimed for this.

The high consensus cut-off (i.e. $\geq$ 80%) adopted in the present study may have also influenced the number of items that reached agreement and included in the new self-report. A lower cut-off may have allowed for more items, specifically those tapping into cognition and affect, to be included in the new measure. These items could have been removed if required following the evaluation and refinement of the measure in the ensuing studies. The high consensus cut-off was important however for producing a reliable and valid self-report measure.

Psychopathic processing was not fully accounted for by the experts, with this being particularly the case for cognition. It is worth highlighting that experts did not view cognition and affect as *equally* important and this is reflected in the number of items

that reached agreement for each processing system (i.e. affect, n = 7; cognition, n = 3). To examine the interaction between cognition and affect in psychopathy, it is important that both of these processes are captured equally. Thus, to resolve this, the following studies will adopt additional measures that also attend to processing in psychopathy to allow for an examination into this interplay.

7.21 Concluding statement

It becomes apparent that experts view psychopathy as being underpinned by interpersonal and behavioural features, as well as cognitive, affective and developmental factors. Whilst experts gravitated towards the PCL-R definition, the inclusion of items associated with cognition and affect allowed for their understanding of psychopathy, and indeed the new self-report measure, to be aligned with theory.

Experts identified a number of processing deficits associated with psychopathy. The following study will expand on this, further exploring these processing deficits in a sample of prisoners and students. Explicit processing in psychopathy will be explored via cognitive schema and negative affect, particularly as the Delphi survey identified cognitive schemas to be an integral aspect of the disorder. The new self-report measure will be adopted to assist with this exploration and at the same time, will be evaluated and refined.

Chapter 8.

STUDY 2: EXPLICIT COGNITIVE AND AFFECTIVE PROCESSING IN PSYCHOPATHY: EXAMINING STUDENT AND FORENSIC SAMPLES

8.1 Structure of the Chapter

The expert Delphi study (*See* Chapter seven) identified psychopathy to be associated with biased judgments of causality and maladaptive cognitive schemas. Experts also viewed those with the disorder to have a different experience of emotion and to be less influenced by emotion. The present study aimed to examine these deficits in more detail by exploring the role of explicit cognition and affect in self-report psychopathy in forensic and student samples via cognitive schema and negative affect.

The new self-report measure (i.e. the Psychopathic Processing and Personality Assessment – version one; PAPA-1) developed from the expert Delphi study will assist with this exploration, determining its value when assessing explicit cognition and affect in psychopathy and the relevance of these processes in the measurement of the construct. The new measure will also be evaluated across populations and refined.

This Chapter provides details relating to participants, materials and procedure. Findings of the study are also presented along with a discussion. This is followed by a conclusion, highlighting the implications for clinical practice and recommendations for future research.

It is important to note that the present study focuses solely on *explicit* cognition and affect in psychopathy. Implicit processing will be addressed in the next Chapter.

8.2 Participants

Four hundred and thirty one participants were sampled. One hundred and twenty one were male prisoners[63] and 310 university students (154 men and 156 women). The response rate for the forensic sample was 30% and for the student sample, 44%.

All prisoners were recruited from a Category B[64] private prison in the North West of England. Prisoners were divided into four offence types based on their reported index offence. Violent offenders (32.2%) reported offences such as actual bodily harm (ABH), grievous bodily harm (GBH), robbery, armed robbery, and murder. Drug-related offenders (16.5%) reported being convicted of offences such as drug possession, drug supply and drug manufacturing. Acquisitive offenders (19.0%) were associated with offences such as burglary. Offences that did not fall into any of the previous three categories were classified as 'other'. Other (22.3%) included offences such as vandalism, breach of probation order and dangerous driving. Twelve prisoners (9.9%) did not provide details of their index offence and none reported committing a sexual offence.

Students were sampled at a North West university. They were recruited from recreational areas on-campus, including canteens and common rooms. Descriptive statistics for student and forensic samples are presented in Table 11. Whilst all students provided details of their age, ten prisoners did not.

[63] The researcher did attempt to obtain a female forensic sample. However this was not possible, as the National Offender Management Service (NOMS) did not grant access.

[64] 'Category B' is a prison security classification. Prisoners are assigned to one of four categories (i.e. A to D) based on their offence and risk. Category B relates to those who do not require conditions of maximum security but require restrictions that prevent escape.

Table 11: Descriptive statistics for the participants sampled.

	n	Mean age	SD
Forensic sample			
Violent offenders	39	32.13	8.12
Drug-related offenders	20	32.85	7.82
Acquisitive offenders	23	29.41	8.79
Other	27	30.92	11.83
Offence not identified	12	35.20	14.89
Total	121	31.58	9.46
Student sample			
Men	154	23.01	6.07
Women	156	23.29	7.15
Total	310	23.19	6.63

8.3 Materials[65]

All participants received a study coversheet. This included information on the purpose of the research, the procedure used, consent and withdrawal process, confidentiality, advantages and disadvantages of taking part, handling raw data, and contact details of the research team.

The study employed the following measures[66]:

Psychopathic Processing and Personality Assessment – version one (PAPA-1): This is the new self-report measure of psychopathy based on the findings from the expert Delphi study (*See* Chapter seven). The measure consisted of 54 items[67] (e.g. "I am only interested in myself"; "I do not feel guilty when I cause others to feel pain or hurt"). Participants rated each item using a five-point likert scale ranging from very unlike me (1) to very like me (5). The measure examined the personality and behavioural traits related to psychopathy, with an emphasis on explicit cognitive and affective processing. Ten items were inverted controlling for response sets.

[65] Appendix four contains all materials used in study two.

[66] The three measures were selected as they could be administered to both forensic and community samples without the researcher requiring any formal training.

[67] Item 8 ("I have always stayed the same") provides an assessment of stability and was not included in the scoring of PAPA-1.

Prior to administering the PAPA-1, the measure was piloted with a student sample (n = 20) to assess its readability and layout. The following questions were added to the end of the measure to assist with this, "Overall do you think the questionnaire was easy to read?", "Overall do you think the questionnaire was easy to understand?", "Did you struggle to answer any of the questions?", "Did you find the questionnaire instructions easy to understand?", "Do you think the response scale is appropriate for the measure?", and "Do you think the layout and structure of the questionnaire was clear?"

The Levenson Self-Report Psychopathy Scale (LSRP; Levenson et al. 1995): This is a 26 item self-report measure developed to assess psychopathic traits within community and forensic samples. The measure broadly corresponds to both factors of PCL-R defined clinical psychopathy, i.e. factor one (F1; primary psychopathy), was assessed through 16 items such as, "looking out for myself is my top priority" and "I often admire a really clever scam". Factor two (F2; secondary psychopathy) was examined through ten items such as, "I don't plan anything very far in advance". All items were rated on a four-point likert scale ranging from strongly disagree (1) to strongly agree (4). Seven items were inverted, again controlling for response sets.

Schemata: Positive and Negative, and Affect assessment – version two (SPANA-2; Wilks-Riley & Ireland, 2012): This measure examined positive and negative cognitive schema, and negative affect associated with psychopathy. The SPANA-2 assessed negative cognitive schema through the following subscales: Abandoned; Mistrustful self/distrustful others; Worthless; Uncaring others; Abusive others; and Intolerant of others. Positive cognitive schema was examined via Happy/sociable; Hardworking; Calm controlled; Caring; Easy going; and Worthwhile.

Negative cognitive schema was assessed through items such as "I am isolated" and "I hate myself", whilst positive cognitive schema was associated with items such as "I get on well with others" and "I am a caring person". Items such as, "I am not in touch with my emotions" and "I am fairly cut off from my feelings" were used to address negative affect.

Participants had to rate the items on a five-point likert scale ranging from strongly disagree (1) to strongly agree (5). The measure consisted of 65 items; 30 were associated with positive cognitive schema, 30 with negative cognitive schema, and five

with negative affect. Twenty-nine items were reverse scored to control for response sets.

8.4 Procedure

Ethical approval was obtained from the University of Central Lancashire and the National Research Ethics Service (NRES): Northern and Yorkshire. The new self-report measure, the PAPA-1, was initially piloted using a sample of 20 university students. As noted, this was to assess the measure's layout and readability. The pilot was successful and the PAPA-1 was employed in the full study.

For the prison sample, all participants (except those residing on the healthcare wing and in segregation) were approached during a period of lock down[68]. Prison officers distributed the study materials (i.e. the study coversheet, questionnaires, blank envelope and study debrief). All prisoners were allocated two days to read the materials, decide whether they wished to take part, and complete the measures. Prisoners were told to detach the study debrief and retain this, as they may wish to contact the research team at a later date. They were also instructed to place all questionnaires in the blank envelope provided and seal. The prison officers collected all questionnaires, complete or not.

For the student sample, the researcher approached students in recreational areas (e.g. canteens and common rooms) on the university campus. Students were provided with a verbal explanation of the study and informed that participation was voluntary. All willing students were given a blank envelope containing the study materials. If the students wished for their data to be included in the research, they were told to return their completed questionnaires to the student support office in the School of Psychology.

All participants received a copy of the study debrief. This provided participants with additional information, including details pertaining to the measures used and the research aims. Contact details for support agencies and the research team were also supplied. The study coversheet instructed all participants to only read the debrief once they had completed the questionnaires. However, if the participants read this prior to

[68] Lock down refers to the period of time when all prisoners are confined to their cells.

completing the measures this would not influence their response, as the study had no element of deception.

8.5 Results

This section will present the findings of the present study. It will commence by describing the data screening process. This will be followed by preliminary analyses exploring the internal consistency of the measures adopted and the prevalence of psychopathy in the populations sampled. The PAPA-1 will then be evaluated, examining its validity and structure across populations. The factor structure of the LSRP will also be investigated. Results will conclude by exploring the role of explicit processing in psychopathy assessed by PAPA-1 and the LSRP, investigating the link between the construct and positive and negative cognitive schema, and negative affect. Predictions will be noted to remind the reader and maintain focus.

8.6 Data screening

All variables within the data set were examined to check for data entry errors, missing values, and the occurrence of univariate and multivariate outliers. One hundred and ninety eight values were identified as missing. A Little's MCAR test revealed that the data was missing at random for the forensic sample (x^2 = 4032.5, df = 4500, p> .05), but not the student sample (x^2 = 3735.8, df = 3304, p< .001). Thus, only missing data for the forensic sample was replaced using Expectation Maximisation. Using Mehalanobis Distance with p< .001, 34 cases (22 prisoners and 12 students) were identified as multivariate outliers and were deleted from the data set. There were no univariate outliers. Three hundred and ninety seven cases (99 prisoners and 298 students) were put forward for further statistical analysis.

It is important to note that prior to conducting the following analyses, tests were performed to check that each analysis met all necessary assumptions. No violations were found.

A flowchart (Figure 3) has been provided to guide the reader through the results section of this Chapter.

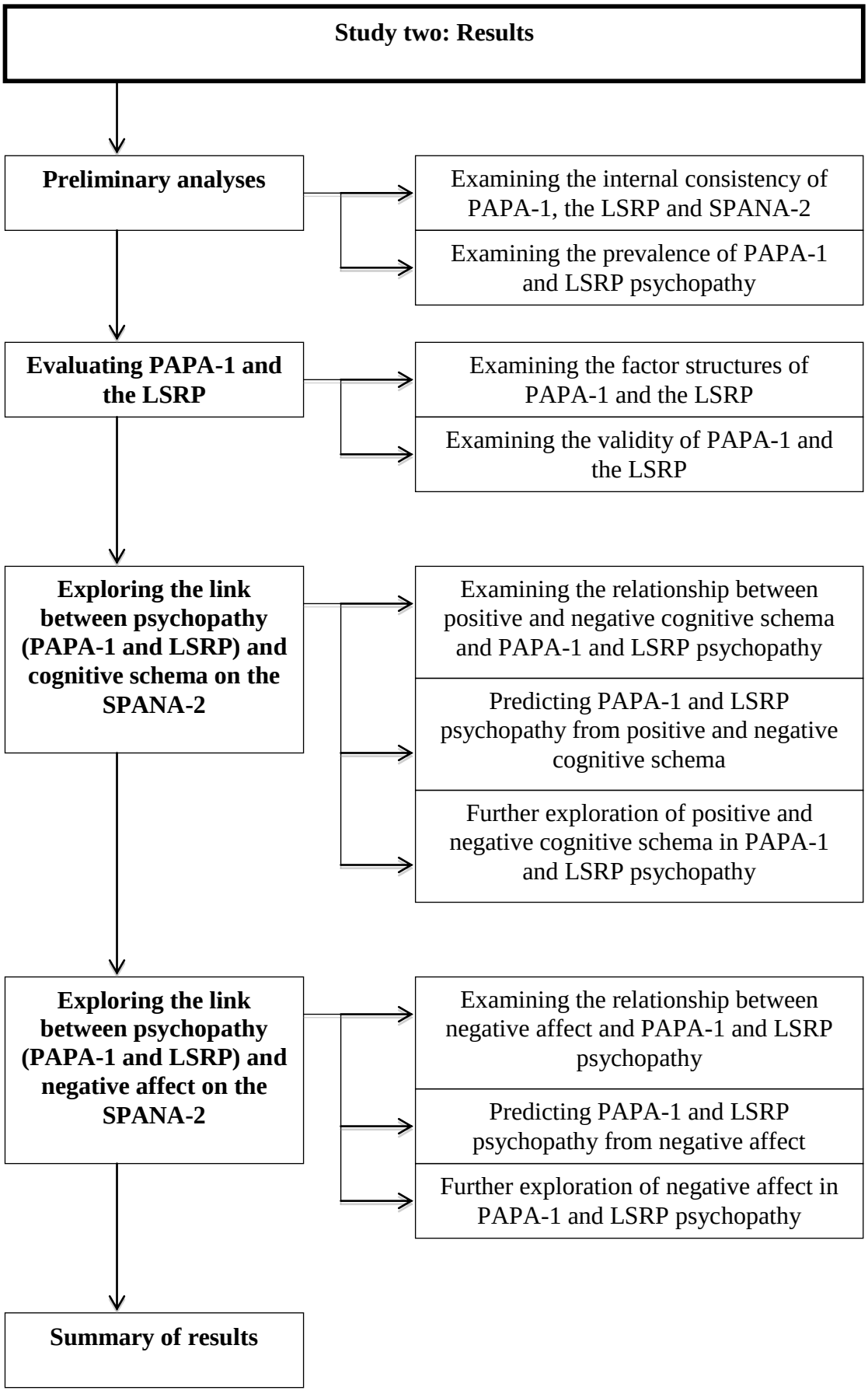


Figure 4: A flowchart illustrating the contents of the results section for study two.

8.7 Preliminary analyses

This section refers to the internal consistency of the measures adopted and the prevalence of psychopathy in the samples studied. To remind readers, the following measures were administered: the Psychopathic Processing and Personality Assessment – version one (PAPA-1), the Levenson Self-Report Psychopathy Scale (LSRP) and the Schemata: Positive and Negative, and Affect Assessment – version two (SPANA-2).

Internal consistency of the PAPA-1, LSRP and SPANA-2

Table 12 presents the internal consistency of the measures administered. It displays Cronbach's alpha for each measure at an overall and subscale level across samples.

Table 12: Internal consistency of the PAPA-1, LSRP and SPANA-2 across samples.

		Internal consistency (α)					
	Number of items	**Overall (n)**	**Items negatively correlating with the α**	**Student (n)**	**Items negatively correlating with the α**	**Forensic (n)**	**Items negatively correlating with the α**
PAPA-1							
Total	53	.88 (383)	5, 10, 12, 19, 27, 36	.87 (284)	5, 10, 19, 27, 36	.87 (99)	5, 10, 12, 19, 36, 52
LSRP							
Total	26	.88 (393)	-	.87 (294)	-	.89 (99)	-
Primary	16	.87 (395)	-	.86 (296)	-	.89 (99)	-
Secondary	10	.75 (395)	-	.73 (296)	-	.74 (99)	-
SPANA-2							
Total	65	.94 (382)	24, 64, 65	.93 (283)	24, 57, 65	.94 (99)	24, 64, 65
Abandoned	5	.84 (396)	-	.78 (297)	-	.89 (99)	-
Mistrustful self/distrustful others	5	.76 (394)	-	.74 (295)	-	.76 (99)	-
Worthless	5	.77 (395)	-	.78 (296)	-	.76 (99)	-
Uncaring others	5	.82 (396)	-	.78 (297)	-	.87 (99)	-
Abusive others	5	.83 (395)	-	.80 (296)	-	.86 (99)	-
Intolerant of others	5	.83 (396)	-	.82 (298)	-	.86 (99)	-
Happy/sociable	5	.65 (396)	-	.62 (297)	-	.73 (99)	-
Hardworking	5	.80 (396)	-	.82 (297)	-	.78 (99)	-
Calm controlled	5	.61 (397)	-	.54 (298)	-	.72 (99)	-
Caring	4	.77 (396)	-	.75 (297)	-	.81 (99)	-
Easy going	5	.70 (394)	-	.69 (295)	-	.72 (99)	-
Worthwhile	5	.61 (397)	-	.54 (298)	-	.73 (99)	-
Negative affect	5	.63 (396)	-	.65 (297)	-	.58 (99)	-

The PAPA-1 and LSRP were found to have acceptable levels of internal consistency across samples. This was also the case for subscales underpinning the LSRP. In terms of SPANA-2, most subscales achieved an acceptable level of internal consistency. 'Happy/sociable', 'calm controlled', 'worthwhile', and 'negative affect' demonstrated low levels. However, this was not expected to be high due to the number of items underpinning each subscale.

Prevalence of psychopathy defined by PAPA-1 and the LSRP

Table 13 presents the descriptive statistics for the overall sample and for each sample separately across PAPA-1 and the Levenson Self-Report Psychopathy Scale (LSRP). High mean scores on each measure indicate higher levels of psychopathy.

Table 13: Descriptive statistics for overall, forensic and student samples (nb. Standard deviation in parenthesis).

	PAPA-1				**LSRP**			
Population	**Mean (SD)**	**n**	**Skewness**	**Kurtosis**	**Mean (SD)**	**n**	**Skewness**	**Kurtosis**
Overall	122.72 (21.81)	383	.41	-.23	52.18 (11.23)	393	.29	-.15
Forensic	133.32 (23.46)	99	.14	-.34	56.46 (11.83)	99	.27	-.03
Student	119.02 (19.96)	284	.39	-.31	50.74 (10.65)	294	.22	-.37

Prisoners had higher psychopathy scores than students. This was significant for PAPA-1 ($t(381) = 5.86$, $p < .001$) and LSRP ($t(391) = 4.50$, $p < .001$). It is important to note that the same results would have been obtained if an ANOVA was performed[69].

The descriptive statistics indicated positive skewness for both measures, with clustering to the left at the low values. Kurtosis values also revealed a relatively flat distribution. However this is expected when examining psychopathy, as most participants should score low due to the low prevalence of the disorder.

[69] 'Sample' was coded onto one variable (i.e. overall sample). This variable had *two* levels, 'forensic' and 'student'. ANOVA requires three or more levels (Tabachnick & Fidell, 2013) and was therefore not appropriate.

8.8 Evaluating PAPA-1 and the LSRP

This section will explore the factor structure of PAPA-1 and the LSRP. Comments will also be made about the validity of both measures.

Prediction:

The PAPA will positively associate with existing psychopathy measures (e.g. the LSRP).

Factor structure of PAPA-1

The PAPA-1 was subjected to a principal components analysis to determine the structure of psychopathy in the participants sampled. The participants were analysed as an overall group, as the forensic sample was too small (n = 99) to investigate separately and would not meet the requirements for factor analysis. Tabachnick and Fidell (2013) recommend five cases for each item. The analysis presented here is exploratory.

An Oblimin rotation[70] extracted a three-component solution accounting for 19.0%, 6.9%, and 4.9% of the variance respectively. Thus, explaining 30.8% of the variance in PAPA-1. An inspection of the scree plot supported this structure. The pattern matrix indicated that 11 items loaded onto component one, three on component two, and seven on component three. Thirty-two items did not load onto any component, i.e. they did not obtain a loading of .50 or above as recommended by Tabachnick and Fidell (2013). The following items did not load onto any component (actual number in PAPA in parenthesis):

- I do not feel guilty when I cause others to feel pain or hurt (2)
- I would describe myself as one of the most confident around (3)
- I have been described as a cruel person who does not worry about hurting others (9)
- I can allow my feelings to interfere with my decisions [reverse] (10)
- I regularly view others as lazy (14)

[70] An Oblimin rotation was performed, as the extracted components were likely to correlate with one another.

- I have a problem with using alcohol (15)
- I am described as a ‘charmer’ by those that know me (17)
- When I feel sad I can quickly make myself happy again (19)
- Others complain that I never take the blame for my mistakes (20)
- If others can help me, I expect them to do this without me returning the favour (21)
- I tend to keep in touch with those close to me [reverse] (24)
- I find it difficult to comfort others when they are upset (25)
- I would describe myself as someone who is often ‘fearless’ when faced with a threat (26)
- The world is a threatening place, you have to watch your back (28)
- I often feel in touch with other people’s feelings [reverse] (29)
- I am able to talk myself out of situations by not answering questions directly (30)
- If I am caught out on a lie I can quickly think of a way out (31)
- I often experience strong positive emotion, such as happiness and joy [reverse] (32)
- I am often bored (33)
- I regularly view others as irritating (34)
- I see no problem in living off the State/Government (35)
- I am an aggressive person in a number of situations (39)
- I very rarely experience fear (40)
- I tend to think of one solution to a problem and stick to it (41)
- I use illegal drugs more than most people I know (42)
- I find it difficult to give emotional and personal support to others (43)
- I have been described as a ‘fraudster’ or a ‘con artist’ by those who know me (46)
- I always accept responsibility for what I do [reverse] (47)
- I don’t see why others can’t take care of me (48)
- Others would describe me as a very intense person who has difficulty getting on with others (51)
- I find it easy to form strong emotional relationships with others [reverse] (52)
- I have clear goals for my long-term future [reverse] (54)

Items negatively correlating with the total component loading were deleted and Cronbach's alpha was calculated for each factor. One item was removed from component one (i.e. item 5: I often experience strong negative emotions, such as anger, sadness and hatred) increasing the alpha from .70 to .84. Negative inter-item correlations between item 5 and the remaining items on this component were identified.

One item was also removed from component two (i.e. item 27: I am a creative person who can think of more than one way of dealing with problems) producing an alpha of .30. The removal of item 27 meant this component was no longer a scale and therefore deleted, as a scale requires three or more items. The removal of this component was consistent with the academic literature, as it captured a 'positive view of self and abilities'. Positive traits are not often associated with psychopathy or its assessment (e.g. Hare, 1991, 2003).

No items were deleted from component three and this factor had an alpha of .80. All inter-item correlations for this factor were positive. Table 14 presents the components underpinning PAPA-1. It displays the items, factor loadings and Cronbach's alpha for each component.

Table 14: Item and factor loadings for each PAPA-1 component (nb. Cronbach's alpha for each component is in parenthesis).

Item number	**Item**	**Factor loading**
F1: Dissocial tendencies (α = .84)		
23.	I often get intro trouble more than others	.63
50.	Others would describe me as a very intense person who has difficulty getting on with others	.61
6.	I often take chances that could be risky to me or others	.60
49.	I can be unpredictable	.57
7.	I often don't think of the consequences of my actions	.56
11.	Others would describe me as an irritable person with problems controlling my temper	.55
53.	As a child I often got into trouble more than others	.55
37.	I am able to commit a wide number of behaviours that, if caught, would get me into trouble	.53
22.	I find it impossible to resist temptation	.52
13.	I see a lot of hostility around me	.51

(Continued)

Table 14: Continued.

Item number	Item	Factor loading
F2: Negative views towards others (α = .80)		
4.	I will use people to get what I want	.71
45.	I often find myself thinking that I am more important than others	.69
44.	If I do something wrong I will feel bad about it [reverse]	.62
18.	I find most people are weak and not worth bothering with	.59
1.	I am only interested in myself	.58
38.	I can often find myself viewing others as nothing more than 'objects'	.58
16.	I am not that bothered about others	.55

'Dissocial tendencies' (i.e. PAPA-1 F1) positively correlated ($r = .45$, $p < .001$) with 'negative views towards others' (i.e. PAPA-1 F2). Thus, as scores on 'dissocial tendencies' increased, so did scores on 'negative views towards others'.

Mean scores were calculated from items that had a loading of .50 or above and presented in Table 15. Higher scores indicate higher levels of that particular component.

Table 15: Mean scores for the two components underpinning PAPA-1 (nb. Standard deviation in parenthesis).

PAPA-1 subscale	Mean (SD)
F1: Dissocial tendencies	23.39 (7.90)
F2: Negative views towards others	12.70 (4.66)

The overall sample (n = 394) appeared to have higher levels of 'dissocial tendencies' than 'negative views towards others'.

Factor structure of the LSRP

The LSRP was also subjected to a principal components analysis so that validity of this measure could be assessed and to allow for a more in-depth examination of self-report psychopathy. Following the recommendations for factor analysis outlined by Tabachnick and Fidell (2013), the sample was studied as a whole rather than splitting it

by population. As previously noted, the forensic sample was too small (n = 99) to perform an individual factor analysis for this population.

An Oblimin rotation[71] extracted a two-component solution accounting for 26.4% and 8.1% of the variance respectively. Thus, explaining 34.5% of the variance in the LSRP. An examination of the scree plot confirmed this structure. The pattern matrix indicated that 13 items loaded onto component one and seven on component two. Six items did not load onto any component, i.e. they did not obtain a loading of .50 or above as recommended by Tabachnick and Fidell (2013).

Items that did not load onto any component are as follows (actual number in LSRP in parenthesis):

- I let others worry about higher values; my main concern is with the bottom line (6)
- I would be upset if my success came at someone else's expense (10)
- I often admire a really clever scam (11)
- I find that I am able to pursue one goal for a long time [reverse] (19)
- Before I do anything I carefully consider the possible consequences [reverse] (23)
- Love is overrated (26)

There were no negative inter-item correlations found for the LSRP. Additionally, no items negatively correlated with total component loadings.

Table 16 presents the two components extracted from the LSRP. It displays the items, factor loadings and Cronbach's alpha for each component.

[71] An Oblimin rotation was performed, as previous research (e.g. Levenson et al. 1995) found components extracted from the LSRP to correlate.

Table 16: Item and factor loadings for each LSRP component (nb. Cronbach's alpha for each component is in parenthesis).

Item number	Item	Factor loading
F1: Selfish, uncaring and manipulative posture towards others (primary psychopathy; α = .86)		
3.	In today' world, I feel justified in doing anything I can get away with to succeed	.69
14.	I feel bad if my words or actions cause someone else to feel emotional pain [reverse]	.67
9.	I tell other people what they want to hear so that they will do what I want them to do	.67
16.	Cheating is not justified because it is unfair to others [reverse]	.64
2.	For me, what's right is whatever I can get away with	.62
15.	Even if I were trying very hard to sell something, I wouldn't lie about it [reverse]	.59
4.	My main purpose in life is getting as many goodies as I can	.58
5.	Making a lot of money is my most important goal	.56
8.	Looking out for myself is my top priority	.54
1.	Success is based on survival of the fittest; I am not concerned about the losers	.53
7.	People who are stupid enough to get ripped off usually deserve it	.52
12.	I make a point of trying not to hurt others in pursuit of my goals [reverse]	.52
13.	I enjoy manipulating other people's feelings	.50
F2: Impulsivity and a self-defeating lifestyle (secondary psychopathy; α = .74)		
22.	Most of my problems are due to the fact that other people just don't understand me	.64
21.	I quickly lose interest in tasks I start	.60
17.	I find myself in the same kinds of trouble, time after time	.60
18.	I am often bored	.60
24.	I have been in a lot of shouting matches with other people	.59
20.	I don't plan anything very in advance	.58
25.	When I get frustrated, I often "let off steam" by blowing my top	.53

Both components had acceptable levels of internal consistency. They were also found to positively correlate with each other ($r = .41$, $p < .001$). Thus, as levels of LSRP primary (i.e. LSRP F1) psychopathy increased, levels of LSRP secondary psychopathy (i.e. LSRP F2) also increased.

Mean scores were calculated for each LSRP component from items that had a loading of .50 or above and presented in Table 17. Higher scores are indicative of higher levels of that particular component.

Table 17: Mean scores for the primary and secondary psychopathy scales underpinning the LSRP (nb. Standard deviation in parenthesis).

LSRP subscale	**Mean (SD)**
F1: Selfish, uncaring and manipulative posture towards others (primary psychopathy)	24.68 (6.64)
F2: Impulsivity and a self-defeating lifestyle (secondary psychopathy)	15.19 (4.01)

The overall sample (n = 395) appeared to have higher levels of primary psychopathy than secondary psychopathy.

Validity of PAPA-1 and the LSRP

A strong positive correlation was found between overall PAPA-1 and LSRP scores ($r = .80$, $p < .001$). This was also the case for forensic ($r = .80$, $p < .001$) and student ($r = .78$, $p < .001$) samples. Thus, as psychopathy scores on the PAPA-1 increased, so did psychopathy scores on the LSRP. PAPA-1 demonstrated concurrent validity with an existing self-report measure of psychopathy.

The two components found to underpin PAPA-1 positively correlated with the LSRP components. Thus, indicating that as scores on 'dissocial tendencies' (i.e. PAPA-1 F1) and 'negative views towards others' (i.e. PAPA-1 F2) increased, scores on primary psychopathy (i.e. LSRP F1) and secondary psychopathy (i.e. LSRP F2) also increased. This demonstrates further evidence of validity for both self-report measures of psychopathy. Table 18 displays the correlation coefficients between these variables.

Table 18: Bivariate correlations between PAPA-1 and the LSRP subscales.

	LSRP F1: Primary psychopathy (n)	**LSRP F2: Secondary psychopathy (n)**
PAPA-1 F1: Dissocial tendencies	.50*** (392)	.69*** (392)
PAPA-1 F2: Negative views towards others	.68*** (392)	.35*** (393)

***** p< .001**

As reliability and validity has now been ascertained, the next step is to examine explicit cognitive processing in psychopathy. This section will move on to investigate the role of cognition, specifically cognitive schema, in psychopathy defined by PAPA-1 and the LSRP. The components underpinning PAPA-1 and LSRP identified here will also be examined to establish how they associate with cognitive processing.

8.9 Exploring the link between psychopathy and positive and negative cognitive schema

The relationship between psychopathy and positive and negative cognitive schema measured by the Schemata: Positive and Negative, and Affect Assessment – version two (SPANA-2) will be explored. This will be closely followed by a series of standard multiple regression analyses, which will determine the amount of variance positive and negative cognitive schema explain in psychopathy defined via PAPA-1 and the LSRP. This section will conclude with a series of independent samples t-tests to establish whether positive and negative cognitive schema are influenced by level of psychopathy.

Predictions:

The PAPA will positively associate with a) negative cognitive schema; and b) positive cognitive schema.

Those with higher levels of psychopathy will present with fewer positive cognitive schemas than individuals with lower levels of psychopathy.

Individuals with higher levels of psychopathy will present with more negative cognitive schemas than those with lower levels of psychopathy.

The Relationship between positive and negative cognitive schema and psychopathy assessed by PAPA-1 and the LSRP

Several Pearson *r* bivariate correlations were conducted to determine the strength of relationship between positive and negative cognitive schema and psychopathy defined by PAPA-1 and the LSRP. Table 19 and 20 display the correlation coefficients between these variables.

Table 19: Bivariate correlations between psychopathy assessed by PAPA-1 and positive and negative cognitive schema across samples.

		PAPA-1 (n)			
Cognition	**Overall**	**Forensic**	**Student**	**F1: Dissocial tendencies**	**F2: Negative views towards others**
Positive schema					
Happy/sociable	.32*** (382)	.33** (99)	.30*** (283)	.24*** (393)	.30*** (393)
Hardworking	.36*** (382)	.37*** (99)	.35*** (283)	.30*** (393)	.22*** (393)
Calm controlled	.39*** (383)	.38*** (99)	.34*** (284)	.45*** (394)	.25*** (394)
Caring	.51*** (382)	.48*** (99)	.55*** (283)	.34*** (393)	.51*** (393)
Easy going	-.05 (381)	.02 (99)	-.06 (282)	-.01 (391)	.05 (391)
Worthwhile	.23*** (383)	.45*** (99)	.15* (284)	.16** (394)	.25*** (394)
Negative schema					
Abandoned	.56*** (382)	.55*** (99)	.50*** (283)	.50*** (393)	.36*** (393)
Mistrustful self/distrustful others	.51*** (380)	.49*** (99)	.46*** (281)	.42*** (391)	.35*** (391)
Worthless	.39*** (382)	.35*** (99)	.32*** (283)	.41*** (393)	.21*** (392)
Uncaring others	.52*** (382)	.38*** (99)	.53*** (283)	.43*** (393)	.38*** (393)

(Continued)

Table 19: Continued.

	PAPA-1 (n)				
Cognition	**Overall**	**Forensic**	**Student**	**F1: Dissocial tendencies**	**F2: Negative views towards others**
Abusive others	.55*** (382)	.41*** (99)	.56*** (283)	.46*** (392)	.37*** (392)
Intolerant of others	.60*** (382)	.59*** (99)	.60*** (283)	.50*** (393)	.51*** (393)

***** p< .001; ** p< .01; * p< .05**

Positive cognitive schema correlated with psychopathy assessed by PAPA-1 for the overall sample and when split into prisoners and students. In all instances, as psychopathy scores increased, so did levels of positive cognitive schema. The exception to this was 'easy going', which did not significantly correlate with PAPA-1. Correlation coefficients ranged from .24 to .55, thus relationships were weak to moderate in strength.

Positive cognitive schema positively associated with each component underpinning PAPA-1. Thus, as 'dissocial tendencies' and 'negative views towards others' increased, positive cognitive schema also increased. However, 'easy going' did not significantly correlate with either component. Coefficients again indicated a weak to moderate relationship between variables.

Negative cognitive schema positively correlated with PAPA-1 across populations. This was also the case for 'dissocial tendencies' and 'negative views towards others'. Increased levels of negative cognitive schema were associated with increased PAPA-1 scores across samples and subscales. Correlations were of moderate strength.

Table 20: Bivariate correlations between psychopathy assessed by the LSRP and positive and negative cognitive schema across samples.

			LSRP (n)		
Cognition	**Overall**	**Forensic**	**Student**	**F1: Primary**	**F2: Secondary**
Positive schema					
Happy/sociable	.31***	.27**	.32***	.26***	.25***
	(392)	(99)	(293)	(394)	(394)
Hardworking	.39***	.35***	.41***	.27***	.35***
	(392)	(99)	(293)	(394)	(394)
Calm controlled	.46***	.42***	.45***	.31***	.44***
	(393)	(99)	(294)	(395)	(395)
Caring	.52***	.48***	.55***	.49***	.29***
	(392)	(99)	(283)	(394)	(394)
Easy going	-.02	-.02	.01	-.03	.02
	(390)	(99)	(291)	(392)	(392)
Worthwhile	.29***	.40***	.27***	.28***	.12*
	(393)	(99)	(294)	(395)	(395)
Negative schema					
Abandoned	.52***	.55***	.47***	.39***	.53***
	(392)	(99)	(293)	(394)	(394)
Mistrustful self/distrustful others	.47*** (391)	.49*** (99)	.42*** (292)	.36*** (392)	.46*** (393)
Worthless	.35***	.30**	.31***	.20***	.42***
	(391)	(99)	(292)	(393)	(393)
Uncaring others	.50***	.41***	.49***	.38***	.48***
	(393)	(99)	(294)	(394)	(395)
Abusive others	.50***	.38***	.51***	.40***	.47***
	(391)	(99)	(292)	(393)	(393)
Intolerant of others	.57*** (392)	.60*** (99)	.54*** (293)	.51*** (394)	.45*** (394)

***** p< .001; ** p< .01**

Negative cognitive schema positively correlated with the LSRP across samples and at factor level (i.e. primary and secondary psychopathy). Thus, as scores on the LSRP increased, negative cognitive schema also increased. Coefficients indicated that relationships were weak to moderate in strength.

Positive cognitive schema also positively correlated with the LSRP at factor level and across samples. In this instance, as positive cognitive schema increased, LSRP scores also increased. The only exception to this was 'easy going', which did not significantly correlate with LSRP psychopathy. Correlations were weak to moderate.

Predicting psychopathy assessed by PAPA-1 and the LSRP from positive and negative cognitive schema

A series of standard multiple regression analyses were performed to explore the extent to which positive and negative cognitive schema predict PAPA-1 and LSRP scores. Factors underpinning both measures were also examined. Tables 21 to 24 display regression coefficients and standard error B for each analysis. Analyses were completed separately to reduce the risk of multicollinearity.

Table 21: Predicting psychopathy assessed by PAPA-1 across samples from positive and negative cognitive schema.

	PAPA-1								
	Overall sample			Forensic sample			Student sample		
Predictor	**B (n)**	**SE B**	**β**	**B (n)**	**SE B**	**β**	**B (n)**	**SE B**	**β**
Positive schema									
Happy/sociable	-.85 (396)	.42	-.10*	-1.97 (99)	.86	-.25*	-.39 (297)	.45	-.05
Hardworking	.40 (396)	.31	.06	.73 (99)	.60	.11	.16 (297)	.35	.02
Calm controlled	1.19 (397)	.32	.16***	.44 (99)	.61	.07	1.47 (298)	.38	.19***
Caring	3.52 (396)	.47	.35***	1.60 (99)	1.13	.17	3.77 (297)	.48	.40***
Easy going	-.1.10 (394)	.24	-.17***	-.96 (99)	.57	-.14	-1.17 (295)	.26	-.20***
Worthwhile	-.56 (397)	.41	-.07	2.42 (99)	.91	.32**	-1.55 (298)	.45	-.18**
Negative schema									
Abandoned	1.13 (396)	.26	.22***	1.81 (99)	.47	.41***	.74 (297)	.31	.14*
Mistrustful self/distrustful others	.71 (394)	.27	.13**	1.28 (99)	.66	.22	.46 (295)	.28	.09
Worthless	.17 (395)	.26	.03	.05 (99)	.52	.01	.28 (296)	.32	.05
Uncaring others	-.47 (396)	.36	-.08	-1.61 (99)	.75	-.29*	-.01 (297)	.39	-.00
Abusive others	.70 (395)	.37	.12	-.74 (99)	.82	-.13	1.08 (296)	.38	.19**
Intolerant of others	1.42 (396)	.30	.25***	2.64 (99)	.69	.44***	1.06 (297)	.32	.20**

***** p< .001; ** p< .01; * p< .05**

PAPA-1: Overall sample

The predictors accounted for 60% (R^2 = .60, Adjusted R^2 = .59) of the variance in psychopathy defined by PAPA-1 for the sample as a whole (F(12, 367) = 45.6, MSE = 8989.4, p< .001). 'Calm controlled', 'caring', 'abandoned', 'mistrustful self/distrustful others' and 'intolerant of others', were all positive predictors (for all, t ≥ 2.65, p< 01). Thus, as levels of these schemas increased, psychopathy scores on the PAPA-1 also increased. 'Happy/sociable' and 'easy going' were negative predictors (for both, t ≥ -2.03, p< 05) indicating that as these schemas increased, PAPA-1 scores decreased.

PAPA-1: Forensic and student samples

For the prisoners, the predictors explained 63% (R^2 = .63, Adjusted R^2 = .58) of the variance in PAPA-1 (F(12, 86) = 12.2, MSE = 2829.6, p< .001). 'Happy/sociable' and 'uncaring others' were negative predictors (for both, t ≥ -2.14, p< 05), where as 'worthwhile', 'abandoned' and 'intolerant of others' were positive predictors (for all positive, t ≥ 2.67, p< 01). As levels of the schemas 'happy/sociable' and 'uncaring others' increased, psychopathy defined via PAPA-1 decreased. This was the opposite for schemas 'worthwhile', 'abandoned' and 'intolerant of others', where increased levels of these associated with higher levels of PAPA-1.

Predictors for the student sample accounted for 61% (R^2 = .61, Adjusted R^2 = .59) of the variance in PAPA-1 (F(12, 268) = 34.6, MSE = 5652.4, p< .001). PAPA-1 for students was positively predicted by 'calm controlled', 'caring', 'abandoned', 'abusive others' and 'intolerant of others' (for all positive, t ≥ 2.39, p< 05). 'Easy going' and 'worthwhile' were negative predictors (for both, t ≥ -3.49, p< 01). Thus for students, as levels of schemas 'calm controlled', 'caring', 'abandoned', 'abusive others' and 'intolerant of others' increased, so did scores on the PAPA-1. However, as levels of schemas 'easy going' and 'worthwhile' increased, PAPA-1 scores decreased.

Table 22: Predicting the PAPA-1 subscales from positive and negative cognitive schema.

	PAPA-1					
	F1: Dissocial tendencies			F2: Negative views towards others		
Predictor (n)	**B**	**SE B**	**β**	**B**	**SE B**	**β**
Positive schema						
Happy/sociable (396)	-.51	.17	-.17**	-.02	.11	-.01
Hardworking (396)	.08	.13	.03	-.09	.08	-.06
Calm controlled (397)	.97	.13	.35***	-.02	.08	-.01
Caring (396)	.56	.19	.16**	.91	.12	.43***
Easy going (394)	-.28	.10	-.12**	-.03	.06	-.02
Worthwhile (397)	-.29	.17	-.09	.00	.10	.00
Negative schema						
Abandoned (396)	.43	.11	.24***	.11	.07	.10
Mistrustful self/distrustful others (394)	.20	.11	.10	.07	.07	.06
Worthless (395)	.27	.11	.13*	-.10	.07	-.08
Uncaring others (396)	-.28	.15	-.13	.02	.09	.01
Abusive others (395)	.29	.15	.14	-.03	.09	-.02
Intolerant of others (396)	.33	.13	.16**	.43	.08	.36***

***** p< .001; ** p< .01; * p< .05**

PAPA-1 Factors: Overall sample

Separate multiple regression analyses were completed for the two subscales of the PAPA-1. These were performed independently to reduce the possibility of multicollinearity.

For 'dissocial tendencies' (i.e. PAPA F1), predictors explained 46% (R^2 = .46, Adjusted R^2 = .44) of the total variance ($F(12, 378) = 26.6$, MSE = 928.8, $p < .001$). This component was positively predicted by 'calm controlled', 'caring', 'abandoned', 'worthless' and 'intolerant of others' (for all positive, $t \geq 2.46$, $p < .05$), and negatively predicted by 'happy/sociable' and 'easy going' (for both, $t \geq -2.82$, $p < .01$). Thus, as scores on the schemas positively predicting PAPA-1 increased, so did scores on 'dissocial tendencies'. This was the opposite for schemas negatively predicting PAPA-1, with psychopathy scores on 'dissocial tendencies' decreasing as levels of these schemas increased.

Forty-one percent of the variance (R^2 = .41, Adjusted R^2 = .40) in 'negative views towards others' (i.e. PAPA F2) was predicted by the predictors ($F(12, 378) = 22.2$, MSE = 291.3, $p < .001$). This component was positively predicted by the schemas 'caring' and 'intolerant of others' (for both, $t \geq 5.61$, $p < .001$). In this instance, as levels of these two schemas increased, scores on 'negative views towards others' also increased.

Table 23: Predicting psychopathy assessed by the LSRP across samples from positive and negative cognitive schema.

	LSRP								
	Overall sample			Forensic sample			Student sample		
Predictor	**B (n)**	**SE B**	**β**	**B (n)**	**SE B**	**β**	**B (n)**	**SE B**	**β**
Positive schema									
Happy/sociable	-.77 (396)	.22	-.18***	-1.53 (99)	.40	-.39***	-.47 (297)	.25	-.11
Hardworking	.38 (396)	.16	.11*	.46 (99)	.28	.14	.38 (297)	.19	.11
Calm controlled	1.00 (397)	.17	.26***	.68 (99)	.29	.21*	1.22 (298)	.21	.29***
Caring	1.46 (396)	.24	.28***	.96 (99)	.53	.20	1.51 (297)	.27	.30***
Easy going	-.46 (394)	.13	-.14***	-.44 (99)	.27	-.13	-.45 (295)	.15	-.14**
Worthwhile	.14 (397)	.21	.03	.95 (99)	.43	.25*	-.07 (298)	.25	-.02
Negative schema									
Abandoned	.59 (396)	.14	.23***	.86 (99)	.22	.38***	.42 (297)	.17	.15*
Mistrustful self/distrustful others	.39 (394)	.14	.14**	.87 (99)	.31	.29**	.24 (295)	.15	.09
Worthless	-.18 (395)	.14	-.06	-.30 (99)	.24	-.10	-.22 (296)	.18	-.07
Uncaring others	-.09 (396)	.19	-.03	-.35 (99)	.35	-.13	.06 (297)	.22	.02
Abusive others	.11 (395)	.19	.04	-1.05 (99)	.39	-.36**	.44 (296)	.21	.15*
Intolerant of others	.80 (396)	.16	.28***	1.60 (99)	.32	.53***	.53 (297)	.18	.19**

***** p< .001; ** p< .01; * p< .05**

LSRP: Overall sample

The predictors significantly explained 58% (R^2 = .58, Adjusted R^2 = .57) of the overall variance in psychopathy assessed by the LSRP (F(12, 377) = 44.0, MSE = 2382.4, p< .001). 'Happy/sociable' and 'easy going' were negative predictors (for both, t ≥ -3.59, p< .001), and 'hardworking', 'calm controlled', 'caring', 'abandoned', 'mistrustful self/distrustful others' and 'intolerant of others' were positive predictors (for all, t ≥ 2.40, p< .05). As levels of those schemas positively predicting the LSRP increased, so did psychopathy scores. This was the opposite for schemas negatively predicting the LSRP, with increased levels of these schemas being associated with lower levels of psychopathy.

LSRP: Forensic and student samples

The predictors accounted for 68% (R^2 = .68, Adjusted R^2 = .64) of the variance in LSRP psychopathy for the forensic sample (F(12, 86) = 15.3, MSE = 778.5, p< .001). Psychopathy in this sample was positively predicted by 'calm controlled', 'worthwhile', 'abandoned', 'mistrustful self/distrustful others' and 'intolerant of others' (for all positive predictors, t ≥ 2.23, p< .05), and negatively predicted by 'happy/sociable' and 'abusive others' (for both, t ≥ -2.72, p< .01). As those schemas positively predicting psychopathy increased, scores on the LSRP also increased. The opposite was found for schemas negatively predicting psychopathy, with these being associated with low scores on the LSRP.

Fifty-six percent (R^2 = .56, Adjusted R^2 = .55) of the overall variance in LSRP psychopathy for the student sample was accounted for by the predictors (F(12, 278) = 30.0, MSE = 1548.2, p< .001). For students, psychopathy assessed by the LSRP was positively predicted by 'calm controlled', 'caring', 'abandoned', 'abusive others' and 'intolerant of others' (for all, t ≥ 2.07, p< .05). 'Easy going' was a negative predictor of psychopathy for this sample (t = -3.14, p< .01). Thus, as levels of the schemas 'calm controlled', 'caring', 'abandoned', 'abusive others', and 'intolerant others' increased, scores on the LSRP also increased. In contrast, scores on the LSRP decreased for students when levels of the schema 'easy going' increased.

Table 24: Predicting the LSRP factors from positive and negative cognitive schema.

	LSRP					
	F1: Primary psychopathy			F2: Secondary psychopathy		
Predictor (n)	**B**	**SE B**	**β**	**B**	**SE B**	**β**
Positive schema						
Happy/sociable (396)	-.33	.15	-.13*	-.22	.09	-.15*
Hardworking (396)	.04	.11	.02	.18	.07	.14**
Calm controlled (397)	.22	.12	.10	.47	.07	.34***
Caring (396)	1.05	.17	.35***	.12	.10	.06
Easy going (394)	-.20	.09	-.10*	-.17	.05	-.10*
Worthwhile (397)	.23	.15	.09	-.20	.09	-.13*
Negative schema						
Abandoned (396)	.28	.09	.19**	.21	.06	.23***
Mistrustful self/distrustful others (394)	.16	.10	.09	.16	.06	.16**
Worthless (395)	-.24	.09	-.14*	.10	.06	.09
Uncaring others (396)	-.07	.13	-.04	-.02	.08	-.02
Abusive others (395)	.01	.13	.01	.06	.08	.06
Intolerant of others (396)	.56	.11	.33***	.12	.06	.12

***** p< .001; ** p< .01; * p< .05**

LSRP factors: Overall sample

Analyses for the LSRP subscales were completed separately to reduce the risk of multicollinearity. The predictors explained 43% (R^2 = .43, Adjusted R^2 = .42) of the variance in LSRP primary psychopathy (i.e. LSRP F1; selfish, uncaring and manipulative posture towards others), ($F(12, 378) = 24.1$, MSE = 620.0, $p < .001$). LSRP primary psychopathy was positively predicted by 'caring', 'abandoned' and 'intolerant of others' (for all positive predictors, $t \geq 3.04$, $p < .01$). It was also negatively predicted by 'happy/sociable', 'easy going' and 'worthless' (for all negative predictors, $t \geq -2.19$, $p < .05$). As those schemas acting as positive predictors increased, so did scores on LSRP primary psychopathy. In contrast, as schemas negatively predicting LSRP primary psychopathy increased, scores on this component decreased.

The predictors accounted for 46% (R^2 = .46, Adjusted R^2 = .44) of the variance in LSRP secondary psychopathy (i.e. LSRP F2; impulsivity and a self-defeating lifestyle), ($F(12, 378) = 26.8$, MSE = 240.3, $p < .001$). 'Hardworking', 'calm controlled', 'abandoned' and 'mistrustful self/distrustful others' positively predicted LSRP secondary psychopathy (for all positive predictors, $t \geq 2.72$, $p < .01$), where as 'happy/sociable', 'easy going' and 'worthwhile' acted as negative predictors (for all negative predictors, $t \geq -2.28$, $p < .05$). Thus, as schemas positively predicting LSRP secondary psychopathy increased, scores on this component also increased. However, scores on LSRP secondary psychopathy decreased when schemas acting as negative predictors increased.

The Chapter will now examine the effect of level of psychopathy on positive and negative cognitive schema. Analyses will be completed for PAPA-1 and the LSRP. To remind readers, these analyses will investigate the following predictions:

Those with higher levels of psychopathy will present with fewer positive cognitive schemas than individuals with lower levels of psychopathy.

Individuals with higher levels of psychopathy will present with more negative cognitive schemas than those with lower levels of psychopathy.

Further exploration of positive and negative cognitive schema in psychopathy defined by PAPA-1 and the LSRP

A series of independent samples t-tests were performed to examine whether positive and negative cognitive schema were influenced by level of psychopathy.

A median split was conducted on PAPA-1 to separate participants into 'high' and 'low' levels of psychopathy. The median was 121.0 and those scoring above were classified into the 'high' group and those at or below this value into the 'low' group.

A median split was also performed on the LSRP, separating participants into 'high' and 'low' levels of psychopathy. The median was 52.0 and those scoring above this were classified into the 'high' group and those at or below into the 'low' group.

Descriptive statistics were calculated for positive and negative cognitive schema using the median splits. Mean scores for level of PAPA-1 and LSRP are displayed in Table 25.

Table 25: Descriptive statistics for positive and negative cognitive schema dependent on level of psychopathy assessed by PAPA-1 and the LSRP (nb. Standard deviation in parenthesis).

			Cognitive schema		
Measure	**Level**	**n**	**Positive**	**n**	**Negative**
PAPA-1	High	187	60.60 (11.70)	187	81.28 (17.22)
	Low	192	54.44 (11.50)	189	61.48 (15.37)
LSRP	High	182	61.95 (11.45)	181	80.24 (16.95)
	Low	206	54.00 (11.44)	204	63.28 (17.15)

Analyses revealed that there was a significant difference in level of PAPA-1 on positive ($t(377) = 5.17$, $p < .001$) and negative cognitive schema ($t(374) = 11.77$, $p < .001$), with those in the 'high' psychopathy category having more negative and positive cognitive schema than individuals in the 'low' category.

Further exploration also indicated that individuals in the 'high' LSRP psychopathy category to have more negative ($t(383) = 9.74$, $p < .001$) and positive cognitive schemas ($t(386) = 6.83$, $p < .001$) than those in the 'low' category.

This Chapter will now move onto examine *negative affect* in psychopathy defined by PAPA-1 and the LSRP.

8.10 Exploring the link between psychopathy and negative affect

The relationship between psychopathy and negative affect assessed by the Schemata: positive and negative, and affect assessment – version two (SPANA-2) will be examined. A series of standard multiple regression analyses will also be conducted, establishing the amount of variance negative affect explains in both PAPA-1 and the LSRP. This section will conclude with a series of independent samples t-tests to determine whether negative affect is influenced by level of psychopathy.

Predictions:

The PAPA will positively associate with negative affect.

Individuals with higher levels of psychopathy will present with more schemas associated with negative affect than those with lower levels of psychopathy.

The relationship between negative affect and psychopathy defined by PAPA-1 and the LSRP

A series of Pearson *r* bivariate correlations were conducted to investigate the strength of relationships between negative affect and PAPA-1 and the LSRP. Table 26 displays the correlation coefficients for these variables.

Table 26: Bivariate correlations between psychopathy defined by PAPA-1 and the LSRP, and negative affect across sample.

	Negative affect (n)
PAPA-1	
Overall	.58*** (382)
Forensic	.60*** (99)
Student	.58*** (283)
F1: Dissocial tendencies	.41*** (393)
F2: Negative views towards others	.48 ***(393)
LSRP	
Overall	.56*** (392)
Forensic	.55*** (99)
Student	.55*** (293)
F1: Primary psychopathy	.49*** (394)
F2: Secondary psychopathy	.42*** (394)

***** p< .001**

Negative affect positively correlated with overall PAPA-1 and LSRP across samples. It also correlated positively with both measures at factor level. Thus in all instances, as levels of negative affect increased, levels of psychopathy also increased. Coefficients indicated correlations were of weak to moderate in strength.

Predicting psychopathy assessed by PAPA-1 and the LSRP from negative affect

A series of standard multiple regression analyses were conducted to explore the extent to which negative affect predicts psychopathy defined by PAPA-1 and the LSRP. Factors underpinning both measures were also explored. To reduce the possibility of multicollinearity all analyses were conducted separately.

PAPA-1: Overall, forensic and student samples

Negative affect accounted for 34% (R^2 = .34, Adjusted R^2 = .34) of the explained variance in PAPA-1 for the overall sample, and 35% (R^2 = .35, Adjusted R^2 = .35) and 33% (R^2 = .33, Adjusted R^2 = .33) for the forensic and student samples respectively. All models were significant: Overall ($F(1, 380) = 195.8$, MSE = 61637.7, $p < .001$); forensic ($F(1, 97) = 53.1$, MSE = 19075.3, $p < .001$); and student ($F(1, 281) = 13.8.8$, MSE =

37139.3, p< .001). Negative affect was a positive predictor of PAPA-1 (for all, t ≥ 7.28, p< .001). Thus for all, as levels of negative affect increased, levels of psychopathy defined by PAPA-1 also increased.

PAPA-1 factors: Overall sample

Negative affect also explained 17% (R^2 = .17, Adjusted R^2 = .16) and 23% (R^2 = .23, Adjusted R^2 = .23) of the variance in 'dissocial tendencies' (i.e. PAPA-1 F1) and 'negative views towards others' (i.e. PAPA-1 F2) respectively. Both models were significant: 'Dissocial tendencies' (F(1, 391) = 78.0, MSE = 4071.7, p< .001) and 'negative views towards others' (F(1, 391) = 117.6, MSE = 1964.5, p< .001). Negative affect positively predicted the two PAPA-1 factors (for both, t ≥ 8.83, p< .001). In this instance, as negative affect increased, scores on both factors also increased.

LSRP: Overall, forensic and student samples

In terms of the LSRP, negative affect accounted for 31% (R^2 = .31, Adjusted R^2 = .31) of variance in psychopathy defined by the LSRP for the overall sample (F(1, 390) = 176.3, MSE = 15340.3, p< .001). Negative affect also explained 30% of variance in psychopathy for the forensic sample (R^2 = .30, Adjusted R^2 = .30) and 31% for the student sample (R^2 = .31, Adjusted R^2 = .30). This was significant: Forensic (F(1, 97) = 42.1, MSE = 4150.3, p< .001) and student (F(1, 291) = 128.6, MSE = 10157.6, p< .001). Psychopathy assessed by the LSRP was positively predicted by negative affect across samples (for all, t ≥ 6.48, p< .001). Thus for all, as negative affect increased, psychopathy scores on the LSRP increased.

LSRP factors: Overall sample

Both primary psychopathy (i.e. LSRP F1) and secondary psychopathy (i.e. LSRP F2) were positively predicted by negative affect (for both, t ≥ 9.03, p< .001), indicating that as negative affect increased, psychopathy scores on both LSRP factors also increased. Negative affect explained 24% (R^2 = .24, Adjusted R^2 = .24) of the variance in psychopathy for primary psychopathy and 17% (R^2 = .17, Adjusted R^2 = .17) for secondary psychopathy. This was significant: Primary psychopathy (F(1, 392) = 123.3,

MSE = 4143.4, p< .001) and secondary psychopathy (F(1, 392) = 81.5, MSE = 1086.7, p< .001).

This Chapter will now examine whether level of psychopathy has an influence on negative affect measured by the SPANA-2. Analyses will be completed for both PAPA-1 and LSRP.

Further exploration of negative affect in psychopathy assessed by PAPA-1 and the LSRP

A series of independent samples t-tests were performed to determine whether negative affect was influenced by level of psychopathy.

Using the same median split adopted when examining cognitive schema, participants were split into 'high' and 'low' levels of psychopathy. To remind the reader, a median split of 121.0 was adopted for the PAPA-1. Participants in the 'high' category had an average PAPA-1 score greater than 121.0 and those in the 'low' category had a PAPA-1 score of less than or equal to 121.0.

The LSRP had a median split of 52.0 and those scoring above this were classified into the 'high' group and those at or below into the 'low' group.

Using the median splits, descriptive statistics were calculated for negative affect. Mean scores for level of PAPA-1 and LSRP are displayed in Table 27.

Table 27: Descriptive statistics for negative affect dependent on level of psychopathy assessed by PAPA-1 and the LSRP (nb. Standard deviation in parenthesis).

Measure	**Level**	**n**	**Negative affect**
PAPA-1	High	187	81.28 (17.22)
	Low	189	61.48 (15.37)
LSRP	High	181	80.24 (16.95)
	Low	204	63.28 (17.15)

Analyses revealed that there was a significant difference in level of PAPA-1 and LSRP on negative affect: PAPA-1 ($t(374) = 11.77$, $p < .001$) and LSRP ($t(383) = 9.74$, $p < .001$). Participants in the 'high' psychopathy category had higher levels of negative affect than individuals in the 'low' category. This was the case for both measures.

8.11 Summary of results

To summarise the findings outlined here, the new self-report measure, the PAPA-1, had acceptable levels of internal consistency across samples and demonstrated concurrent validity with an existing self-report measure of psychopathy, the LSRP. Factor analysis of the PAPA-1 extracted a two-component structure underpinned by 'dissocial tendencies' and 'negative views towards others'. Factor analysis of the LSRP also identified a two-component solution. However in this instance, the two factors resembled primary (i.e. selfish, uncaring and manipulative posture towards others) and secondary (i.e. impulsivity and a self-defeating lifestyle) psychopathy.

In terms of cognition, positive and negative cognitive schema correlated with, and predicted psychopathy assessed by PAPA-1 and the LSRP across samples. Individuals with high levels of PAPA-1 were found to have higher levels of positive and negative cognitive schema. This was also the case for psychopathy defined by the LSRP.

Negative affect correlated with, and predicted psychopathy assessed by the PAPA-1 and the LSRP across samples. Those with 'high' levels of PAPA-1 were also identified as having more negative affect than those with 'low' levels of psychopathy. This was replicated for the LSRP.

Thus, cognitive schema (positive and negative) and negative affect are integral aspects of psychopathy defined by both expert consensus (i.e. the PAPA-1) and pre-existing definitions (i.e. the LSRP). This Chapter will now move on to discuss the results in relation to the academic literature and psychological theory.

8.12 Discussion

One aim of the present study was to evaluate the new self-report measure of psychopathy, the Psychopathic Processing and Personality Assessment – version one (PAPA-1), and establish the components underpinning the disorder defined through expert consensus. Exploratory factor analysis extracted a two-component solution from PAPA-1 comprising 'dissocial tendencies' and 'negative views towards others'. This was similar to the two-factor model of the Psychopathy Checklist-Revised (PCL-R; Hare, 1991), in that 'negative views towards others' was similar to the interpersonal component (i.e. PCL-R F1), and 'dissocial tendencies' to the chronically unstable, antisocial and socially deviant lifestyle component (i.e. PCL-R F2).

Factor analysis of the Levenson Self-Report Psychopathy Scale (LSRP) also extracted a two-component solution. This was consistent with that identified by Levenson et al. (1995) and Lynam et al. (1999), in that the measure was underpinned by a 'primary psychopathy' scale (i.e. selfish, uncaring and manipulative posture towards others) and a 'secondary psychopathy' scale (i.e. impulsivity and a self-defeating lifestyle). Replication of the Levenson et al. (1995) and Lynam et al. (1999) findings provide further support for the validity of the LSRP.

Acceptable levels of internal consistency were found for the factors underpinning PAPA-1, and indeed for the measure as a whole. As well as demonstrating acceptable levels of internal consistency, PAPA-1 was also found to be a valid assessment of psychopathy in that it correlated with a pre-existing self-report measure; it positively correlated with the LSRP. This demonstrated concurrent validity and supported the prediction that the PAPA will positively associate with existing psychopathy measures (e.g. the LSRP).

Further support for construct validity of PAPA-1 was evidenced through the prevalence of psychopathy identified in participants by this measure. Consistent with the literature (e.g. Strachan, 1993; Forth et al. 1996; Huss, 2009), PAPA-1 identified levels of psychopathy to be higher in prisoners than students. This was replicated for LSRP psychopathy.

PAPA-1 was also found to exhibit similar relationships with cognition to those identified by Wilks-Riley and Ireland (2012). It positively correlated with positive and negative cognitive schema defined using the Schemata: Positive and Negative, and Affect Assessment – version two (SPANA-2). This provided additional evidence of construct validity and supported the prediction that the PAPA will positively associate with both negative and positive cognitive schema.

A further aim of this study was to understand how explicit cognition is associated with psychopathy using an expert consensus definition (i.e. PAPA-1) and pre-existing definitions (i.e. the LSRP). As noted, analyses revealed that both positive and negative cognitive schema positively correlated with self-report psychopathy across samples. The only exception to this was 'easy going', which did not significantly correlate with PAPA-1. Nevertheless, a clear role for cognitive schema in psychopathy was identified supporting existing research (e.g. Wilks-Riley & Ireland, 2012).

The notion that cognitive schema correlated with psychopathy extends its application beyond that of personality disorder. Cognitive schemas, including Early Maladaptive Schemas (EMS; Young et al. 2003), have been readily applied to personality disorder (e.g. Reeves & Taylor, 2007; Carr & Francis, 2010; Lawrence et al. 2011), but less so to psychopathy (Wilks-Riley & Ireland, 2012). EMS focus solely on negative beliefs, neglecting positive characteristics.

This study therefore broadens the description of schema as a clear role was found for both *positive* and negative cognition, with individuals exhibiting 'high' levels of psychopathy also presenting with high levels of positive and negative cognitive schema. Thus, the prediction stating that individuals with higher levels of psychopathy will present with more negative cognitive schemas than those with lower levels of psychopathy was supported. However, findings did not support the prediction that those with higher levels of psychopathy will present with fewer positive cognitive schemas. As noted, individuals with 'high' levels of psychopathy were found to exhibit more positive cognitive schemas than those with 'low' levels of psychopathy, thus indicating that cognitive schemas in psychopathy are not purely maladaptive and may also contain positive aspects.

The findings highlighted here also support early conceptualisations of the disorder, such as descriptions provided by Cleckley (1976) and Schneider (cited in Werlinder, 1978). Both Cleckley and Schneider proposed that not all psychopathic individuals were involved in criminality and could also be found residing in the community (Stover, 2007). Thus, the finding that psychopathy is underpinned by positive cognitive schema, and indeed positive characteristics, is consistent with the notion of 'successful psychopathy' and that the disorder is not always associated with negative and antisocial traits.

As expected, negative cognitive schema significantly correlated and predicted self-report psychopathy across sample and at factor level. This finding is in agreement with Blackburn's (2003) Cognitive-Interpersonal Theory of Psychopathy, as this model states that individuals with the disorder have a distorted belief system originating from early developmental challenges and unhelpful interactions with others. It is this dysfunctional belief system that Blackburn (2003) associated hostile or negative expectations of others and the world, which would be conducive to beliefs that others are abusive, uncaring or not worth bothering with. Interestingly, the schema 'uncaring others' negatively predicted PAPA-1 psychopathy in the forensic sample. However this finding only just reached statistical significance and may instead reflect the low sample size for this population.

Positive cognitive schema also predicted self-report psychopathy. Whilst increased levels of 'calm controlled' and 'caring' predicted higher levels of PAPA-1 and LSRP psychopathy for the overall sample, increased 'happy/sociable' and 'easy going' predicted decreased levels of the construct. Thus, in terms of positive cognition, findings are mixed and suggest that not all positive schemas are conducive to psychopathy. Nevertheless, the findings highlighted here again reinforce the notion that cognitive schemas in psychopathy are not always maladaptive.

Analyses revealed that both positive and negative cognitive schema correlated with psychopathy in a similar manner across samples. This suggests that cognition in psychopathy is not sample-specific and supports the view of schemas as fundamental units of personality associated with certain developmental experiences consistent across psychopathology (Beck, 1967; Beck et al. 2004; Wilks-Riley & Ireland, 2012). However, this finding should be interpreted with caution, as the regression analyses

found positive cognition to account for more explained variance in psychopathy in students than prisoners. Whilst this was expected, as students are arguably likely to have more positive beliefs about the self, others and the world than those unable to conform to societal rules, further research is required to determine whether this finding was an artifact of the sample composition. This is not to say however, that prisoners have less positive beliefs, they may just find it difficult to access these (Wallace et al. 2000).

At factor-level, positive and negative cognitive schema demonstrated unexpected relationships with the two components underpinning PAPA-1: 'Abandoned', 'worthless', 'intolerant of others', 'happy/sociable' and 'easy going' all predicted 'dissocial tendencies' in a manner that was consistent with understandings of psychopathy. However, 'calm controlled' and 'caring' positively predicted this component, which is contrary to the characteristics normally associated with dissocial tendencies (i.e. impulsivity, reckless disregard of others, antisocial behaviour).

This finding may reflect biases in the method used to collect data; individuals with psychopathy are associated with increased levels of deception and lying (Snowdon et al. 2004) and this makes reliance on self-report problematic due to the possibility of malingering and impression management. Participants may have therefore rated themselves as more caring and calm to provide a positive impression. This explanation can also be applied to 'negative views towards others' to explain the unusual predictions exhibited by cognitive schema with this component.

Positive and negative cognitive schema also predicted primary and secondary subscales of the LSRP in a manner that was inconsistent with understandings of the construct. In contrast to Wilks-Riley and Ireland (2012), who found positive cognitive schema to predict primary psychopathy but not secondary psychopathy, results of the present study indicated that positive cognition predicted both subscales. Whilst this provides further support for a role of positive cognitive schema in psychopathy (e.g. Cooke & Michie, 2001), predictions with secondary psychopathy are questionable considering this scale reflects negative characteristics and antisocial tendencies. The inconsistent findings outlined here may be attributed to the low base rate of psychopathy identified in the participants sampled.

Nevertheless, positive and negative cognition were found to be integral aspects of psychopathy consistent across samples. The findings for positive cognitive schema have clear implications for clinical practice, specifically in terms of formulation and treatment. The inclusion of positive cognitive schema allows for an optimistic-based approach, which highlights the client's strengths as opposed to weaknesses when tackling core beliefs (Wilks-Riley & Ireland, 2012).

In addition to cognition, the present study also aimed to explore negative affect in self-report psychopathy. Negative affect, assessed via the SPANA-2, positively correlated with, and predicted psychopathy across samples and at factor-level. Thus, a clear role for negative affect that was shared across samples was identified. The prediction stating that the PAPA will positively associate with negative affect was supported. Participants with 'high' levels of psychopathy also had statistically significant higher levels of negative affect than those with 'low' levels of the disorder (on the basis of median splits). This finding supported the prediction that individuals with higher levels of psychopathy will present with more schemas associated with negative affect than those with lower levels of psychopathy.

Beck's (1987) Theory of Emotional Disorders could account for the high level of negative affect associated with psychopathy in the present study. Beck (1987) argued that maladaptive cognitive schemas arising from distorted self-evaluations and biased attributions of causality impair an individual's ability to understand, experience, and react appropriately to other's feelings and circumstances. As a clear role for maladaptive cognitive schema was found for psychopathy, such processes are likely to sustain and promote higher levels of negative affect, such as anger, as other individuals react negatively towards the 'psychopath's' inappropriate responding governed by their dysfunctional beliefs system. Whilst the present study did not directly examine the link between negative cognition and negative affect outlined here, findings suggest it could be a worthy area of further exploration.

Further analyses are required to explore this interaction, and indeed affect in psychopathy in more detail. The present study examined affect through five self-report items focusing solely on negative affect, thus ignoring other aspects of affective processing, such as identifying and evaluating emotion, recognised as important in psychopathy (e.g. Dawel et al. 2012; Glass & Newman, 2009). A more detailed

examination would allow for theories such as the Violence Inhibition Mechanism Model (Blair, 1995) and the Dysfunctional Fear Hypothesis (Lykken, 1957) to be applied. This is the focus of the ensuing study where cognition and affect can be examined in more detail, allowing for further exploration of the PAPA-1.

8.12 Limitations of the study

As noted, assessing psychopathy and psychopathic functioning via self-report may prove problematic given that those with psychopathy have been characterised as manipulative and deceptive (Roberts & Coid, 2007). In order to manage potential reporting biases, such as malingering and impression management, the inclusion of an implicit assessment to examine psychopathic processing would prove useful. This was not included in the current study but would further understanding of the role of cognitive and affective processing in psychopathy.

Students and prisoners may also have anticipated the purpose of the measures and consciously manipulated their responses to skew the results, thus failing to provide a true reflection of psychopathic processing. This could be prevented in the ensuing study by setting a fixed time limit for the completion of measures. None of the measures used in this study had a timing element. As noted by Hoaken, Shaughnessyn and Pihl (2003), a time limit would bring out impulsive responding and interrupt social-information processing. Such individuals may become overwhelmed by the time limit and the response options, forcing them to draw upon their natural tendencies.

The present study focused solely on cognitive schema and negative affect, ignoring other aspects of psychopathic processing, such as response modulation, information processing, moral reasoning and the identification and evaluation of emotion. The inclusion of explicit and implicit measures to assess these processes would allow for a more holistic understanding of psychopathic processing and in doing so, determining the components required for a comprehensive assessment of psychopathy that is sensitive to both cognition and affect. Extending these findings to other populations, such as psychiatric patients, would also allow for the PAPA to be applied and further refined.

The SPANA-2 provided a crude outline of negative affect, as it captured this through five items alone. This limits the extent to which negative affect can be applied to psychopathy. However, findings highlighted in the present study are sufficient to suggest that there is a clear role for affective processing in psychopathy and this should be explored in more detail.

8.13 Concluding statement

Findings suggest that PAPA-1 is thus far presenting as a reliable and valid measure of psychopathy in forensic and student samples. The PAPA correlated with, and was predicted by positive and negative cognitive schema, and negative affect. Findings acknowledged a clear role for positive cognitive schema in psychopathy, thus questioning conceptions of the disorder that focus purely on negative characteristics.

The study provides evidence that cognition and affect are central to psychopathy defined by expert consensus and pre-existing definitions. However, the present study was limited to the exploration of psychopathic processing via cognitive schema and negative affect. Further research is therefore required to broaden this understanding to include implicit processing. The ensuing study will investigate this, and at the same time identify the components required to provide a thorough assessment of psychopathy that accounts further for cognition and affect.

Chapter 9.

STUDY 3: IMPLICIT COGNITIVE AND AFFECTIVE PROCESSING IN PSYCHOPATHY: EXAMINING STUDENT AND CLINICAL SAMPLES

9.1 Structure of the Chapter

The present study will continue to evaluate the Psychopathic Processing and Personality Assessment (PAPA) across populations, including a student sample and a clinical sample of high secure psychiatric patients.

The study aims to use the PAPA in combination with an implicit assessment of cognition and affect in psychopathy (i.e. the Affect, Cognitive and Lifestyle Assessment, ACL; Ireland & Ireland, 2012) and a clinical measure of the disorder (i.e. the Psychopathy Checklist: Screening Version, PCL:SV; Hart et al. 1995), to examine how cognitive and affective processing in psychopathy manifest at both an *implicit* and explicit level. This will enable the study to determine how psychopathic processing relates to an expert understanding of the construct (*See* Chapter seven) and clinical methods of assessing for psychopathy.

The present study aims to explore how implicit cognitive and affective processing relates to psychopathy and at the same time, establish whether implicit measures will enhance the assessment of the disorder. The incorporation of measures that attend to both cognition and affect will allow for an examination of the interplay between the two processing systems.

The study also aims to identify the components required to provide a comprehensive assessment of psychopathy, an assessment that is sensitive to both cognitive and affective processing.

This chapter will outline the participants, materials and procedure adopted. Findings will be presented along with a discussion and limitations. This will be followed by a

conclusion, identifying implications for clinical practice and recommendations for additional research.

9.2 Participants

Ninety-one participants were sampled. Fifty were students and 41 were psychiatric patients. All participants were male. The response rate for the student sample was 96% and for the clinical sample, 37%.

Of the 111 patients approached 41 did not consent (37%), 14 were transferred to another hospital during recruitment or were on trial leave (13%), eight were deemed unwell by their Responsible Clinician (7%), six were transferred to an unsuitable ward (5%), and one withdrew (1%).

All patients were recruited from a high secure psychiatric hospital. Patients were approached on low and medium dependency wards. Those on high dependency wards or in seclusion were not sampled due to their increased risk and mental health. Patients on neurocognitive wards were also excluded from taking part, as they did not have the cognitive ability to engage. Average age of patients sampled was 39.8 years (SD = 10.0).

Students were recruited at a North West university. Average age of students was 22.5 years (SD = 4.4).

9.3 Materials

All participants received a study coversheet[72]. This provided information on the research, including aims, procedure, details of the measures used, time scale, consent and withdrawal process, confidentiality, and data protection. Participants also received a consent form, which they had to sign prior to taking part.

For the clinical sample, the Responsible Clinician had to provide written consent before the patient was approached. This was to ensure that the patient was suitable.

[72] Appendix five provides copies of the materials used in study three, with the exception of the ACL and PCL:SV as these are copyrighted and therefore cannot be included. However, a brief overview of these two measures has been provided to aid understanding.

Participants had to complete three measures:

Psychopathic Processing and Personality Assessment – version two (PAPA-2): Following study two (*See* Chapter eight), thirteen items were removed from the PAPA that did not load across the factor analyses. Four items were also reworded as it was felt that the language used was too complex and required simplifying:

- "As a person, I have always stayed the same" was changed to "As a person, I have never changed"
- "I can allow my feelings to interfere with my decisions" to "I can allow my feelings to interfere with my decisions (e.g. cloud my judgment)"
- "I can often find myself viewing others as nothing more than objects" to "I can find myself viewing others as nothing more than objects or things to be used"
- "I can use illegal drugs more than most people I know" to "I use illegal drugs, or those that are not prescribed to me, more than most people I know"

Four items were added to the measure to reflect the advances in the Diagnostic and Statistical Manual of Mental Disorders - version five (DSM-V; American Psychiatric Association, 2013), which had just been released. This included, "I am quick to respond in a hostile manner to threats or insults", "I often feel socially close to others [reverse]", "If I behave in an aggressive manner I often feel bad about it afterwards", and "I often feel emotionally close to others [reverse]".

Thus, the measure now contained 45 items[73]. The rating system and instructions remained the same, with participants rating each item via a five-point likert scale ranging from very unlike me (1) to very like me (5). Eleven items were reversed to control for response sets.

Psychopathy Checklist-Revised: Screening Version (PCL:SV; Hart et al. 1995): The PCL:SV is a 12-item screening assessment of clinical psychopathy derived from the Psychopathy Checklist-Revised (PCL-R; Hare, 1991). The measure is based on a subset

[73] Item 8 ("As a person, I have never changed") provides an assessment of stability and was not included in the scoring of the PAPA-2.

of PCL-R items that can be administered to community, forensic and clinical samples. A collateral review of background information (e.g. health records) is not required.

The 12 items are grouped into two factors. Whilst factor one represents a callous, selfish, and remorseless use of others, factor two resembles a chronically unstable antisocial lifestyle. Factors one and two mirror PCL-R factors one and two respectively.

Each item is rated via a three-point scale: Item does not apply (0); Item applies to a certain extent (1); and Item applies (2). Scores range from 0 to 24, with 13 as the recommended cut-off for clinical psychopathy (Hart et al. 1995).

Affect, Cognitive and Lifestyle Assessment (ACL; Ireland & Ireland, 2012)[74]: This is an interview that utilises collateral information to provide an assessment of general functioning across three broad domains; Affect, Cognition and Lifestyle. It can be administered to determine the presence of psychopathic functioning at an *implicit* and *explicit* level. The ACL assesses psychopathy via an interview, collateral information [completed for clinical sample only], timed case scenarios, self-report, and an evaluation of presentation during assessment (observation).

Explicit cognition is examined via interview questions that address characteristics such as, 'a lack of guilt/remorse and willingness to exploit and dominate' (e.g. "If your actions have a bad impact on others how do you feel?") and 'cognitive impulsivity'. (e.g. "To what extent do you find it difficult to keep your mind focused on tasks?"). Participants' responses were rated on a four-point likert scale where (0) suggests that a particular characteristic of explicit cognition was not evident and (3) indicates that it was extremely evident. Higher scores on this aspect of the ACL are indicative of psychopathic [explicit] cognitive processing.

Implicit cognition however, is assessed via tests that focus on 'making moral judgments' and 'a tendency for hostile responding'. This includes a conditional reasoning test (hostile responding) and moral judgment scenarios.

The moral judgment task presented participants with three moral dilemmas. All participants were required to assign a percentage (0 to 100%) to indicate the extent to

[74] See Appendix five for an overview of the ACL.

which they agreed with each scenario. A score of 100% is suggestive of more support for a moral outcome in dilemmas. As noted, there were three moral dilemmas and therefore the maximum percentage that an individual could score on this task was 300%.

Percentage figures were recorded along with the number of reasons participants provided to support their answer, and the time it took to give these. According to the scoring criteria set by Ireland and Ireland (2012), psychopathic individuals should generate fewer reasons for each moral dilemma. Their initial response may be impulsive, but then they should take longer than 'healthy' controls to generate additional responses.

For the hostile responding task, participants read through ten cases and selected one response from a series of four to account for the actions exhibited by individuals in each scenario. Out of the four available responses, one option was hostile, one was pro-social and two were neutral. This is a conditional reasoning test and is "good at managing intentional faking, providing that clients are not informed of the exact nature of the test" (Ireland & Ireland, 2012, p. 19).

The hostile responding task was timed and participants had one minute to respond to a scenario. Participants scored one point for each hostile answer, one point for each pro-social answer, and zero for other responses. Scores on this task ranged from 0 to 10, with higher scores indicating a preferred response type. For example, higher scores on hostile responding suggest that the participant is more likely to identify with hostility in ambiguous situations.

Like explicit cognition, explicit affect was also assessed via interview questions. These questions explore characteristics such as, 'recognising emotions' (e.g. "How would you describe emotion?"), 'callousness/lack of empathy' (e.g. "How have you shown you have cared?"), 'emotional impulsivity' (e.g. "How frequently do your emotions change?"), and 'anger/irritability' (e.g. "What sorts of things happen to make you annoyed?"). Participants' answers for this aspect of the ACL were rated on a four-point likert scale where (0) suggests that a particular characteristic of explicit affect was not evident and (3) indicates that it was extremely evident. Higher scores suggest the presence of psychopathic [explicit] affective processing.

The ACL investigates implicit affect through tests that address 'identifying emotion' and 'evaluating emotion'. The identifying emotion task consisted of three paragraphs. Each paragraph contained seven emotion words (e.g. anxious, failure, angry). Participants had to read each paragraph and find all 21 emotion words without making an error. Participants were timed on how long it took them to complete the activity. The number of emotion words identified and time taken was recorded for each participant.

Participants received a score of one for each emotion word identified. One point was deducted for each incorrect word selected. A maximum score of 21 could be achieved if all emotion words were identified and no errors were made. If no emotion words were identified, or participants made more errors than emotion words identified, a score of zero was given. A low score on this test indicates problems when identifying emotion.

For the evaluating emotion task, participants read seven short stories and ranked them in order ranging from 'very sad' to 'very happy'. Participants were told not to make any errors and that they would be timed. All participants started with a maximum score of seven. One score was deducted from this for each misplaced scenario. Thus, scores ranged from 0 to seven, with those participants making no errors achieving a score of seven. A low score on this task indicates problems when feeling/evaluating emotion.

Participants also had to indicate via a five-point likert scale ranging from (1) none at all to (5) a lot, how much emotion each scenario produced in them and how much they felt it would produce in others. Total scores were calculated for this activity, one for their own feelings and one for others' feelings. Scores ranged from 0 to 35 for each, with higher scores indicating stronger feelings.

Participant performance throughout the measure was rated on a four-point likert scale where (0) suggests that a particular characteristic (e.g. a tendency for hostile responding) was not evident and (3) indicates that it was extremely evident. A score of three highlights the presence of a characteristic in the participant's general functioning profile. Total scores on the general functioning profile ranged from 0 to 177, with the total decreasing to 111 when the collateral review was not considered (i.e. for the student sample).

Scores are generated to provide a profile in line with the proposed DSM-V[75] diagnostic criteria of psychopathic personality. Thus, a higher profile score is indicative of more severe levels of psychopathy. The profile assesses psychopathy through the following traits: Callousness (Antagonism); Aggression (Antagonism); Manipulativeness (Antagonism); Hostility (Antagonism); Deceitfulness (Antagonism); Narcissism (Antagonism); Irresponsibility (Disinhibition); Recklessness (Disinhibition); and Impulsivity (Disinhibition) and was developed to be consistent with accepted definitions of psychopathy.

9.4 Procedure

Ethical approval was granted by the University of Central Lancashire and the National Research Ethics Service (NRES): North West, Manchester South.

The student sample was recruited via posters placed around the university campus, specifically in recreational areas (e.g. canteens and common rooms). This instructed students to email the researcher for additional information. Students expressing an interest were sent a study coversheet enabling them to make an informed decision on their participation.

A convenient time and date for the research was arranged with students who confirmed that they were satisfied with the study protocol. All students were required to provide written consent. The research was completed in the laboratory rooms in the School of Psychology. Students, with the exception of two, completed the measures in one session lasting approximately 90 minutes. The exceptions completed the research across two sessions.

In terms of the clinical sample, patients' Responsible Clinicians were initially contacted to provide written consent. Upon receipt of this, patients were given the study coversheet by ward staff. The researcher visited each patient two days later to answer any questions and obtain written consent if they were happy with the study protocol and wished to participate.

[75] The ACL also provides a general functioning profile in line with the ICD-10 diagnostic criteria for dissocial personality disorder. However for the purpose of this research, this study will focus on the DSM-V profile of psychopathy.

On average, patients completed the research across three sessions, with each session lasting approximately 40 minutes. During sessions the researcher was assisted with a member of ward staff to minimise risk, as the researcher was not familiar with each patient's presentation. Accompanying staff were briefed prior to the start of each session to explain the purpose of the research and maintain confidentiality.

Upon completion, all participants were debriefed and received £10.00 for their time. The study debrief provided participants with additional information on the research, contact details of support agencies and the research team, and the process for obtaining a copy of the research findings.

9.5 Results

This section will present the findings of the study. The data screening process will be outlined followed by the internal consistency of each measure adopted and preliminary analyses investigating the prevalence of psychopathy in the populations sampled. The PAPA-2 will be evaluated across samples. The results section will then explore the role of implicit and explicit cognitive and affective processing in PAPA-2 and PCL:SV defined psychopathy. This will allow the study to also comment on the interplay between cognition and affect. Results will conclude by determining the components required to provide a comprehensive assessment of psychopathy.

9.6 Data screening

All variables were examined for data entry errors, missing values, and the occurrence of multivariate and univariate outliers. Thirty values were identified as missing. Three of these were found on the PAPA-2 and 27 on the ACL. A decision was made not to exclude or amend the scores of those with missing values on the ACL as this data was categorical and estimating values would not be appropriate. The three missing values on the PAPA-2 related only to the clinical sample (there was no missing data on the PAPA-2 for the student sample). Little's MCAR indicated that this data was missing at random (x^2 = 109.469, df = 132, p> .05) and it was replaced using Expectation Maximisation. No multivariate outliers were identified. In terms of univariate outliers,

two values[76] were found for the clinical sample and made less deviant by modifying their overall value to one unit larger than the next most extreme value within the data set. Ninety-one cases were put forward for further statistical analysis.

Prior to conducting the following analyses, tests were performed to check that each analysis met all necessary assumptions. No violations were found.

A flowchart (Figure 4) has been provided to guide the reader through the results section of this Chapter.

[76] One value was identified on variable ACL 1F (Time) and the other on ACL 2C (Time).

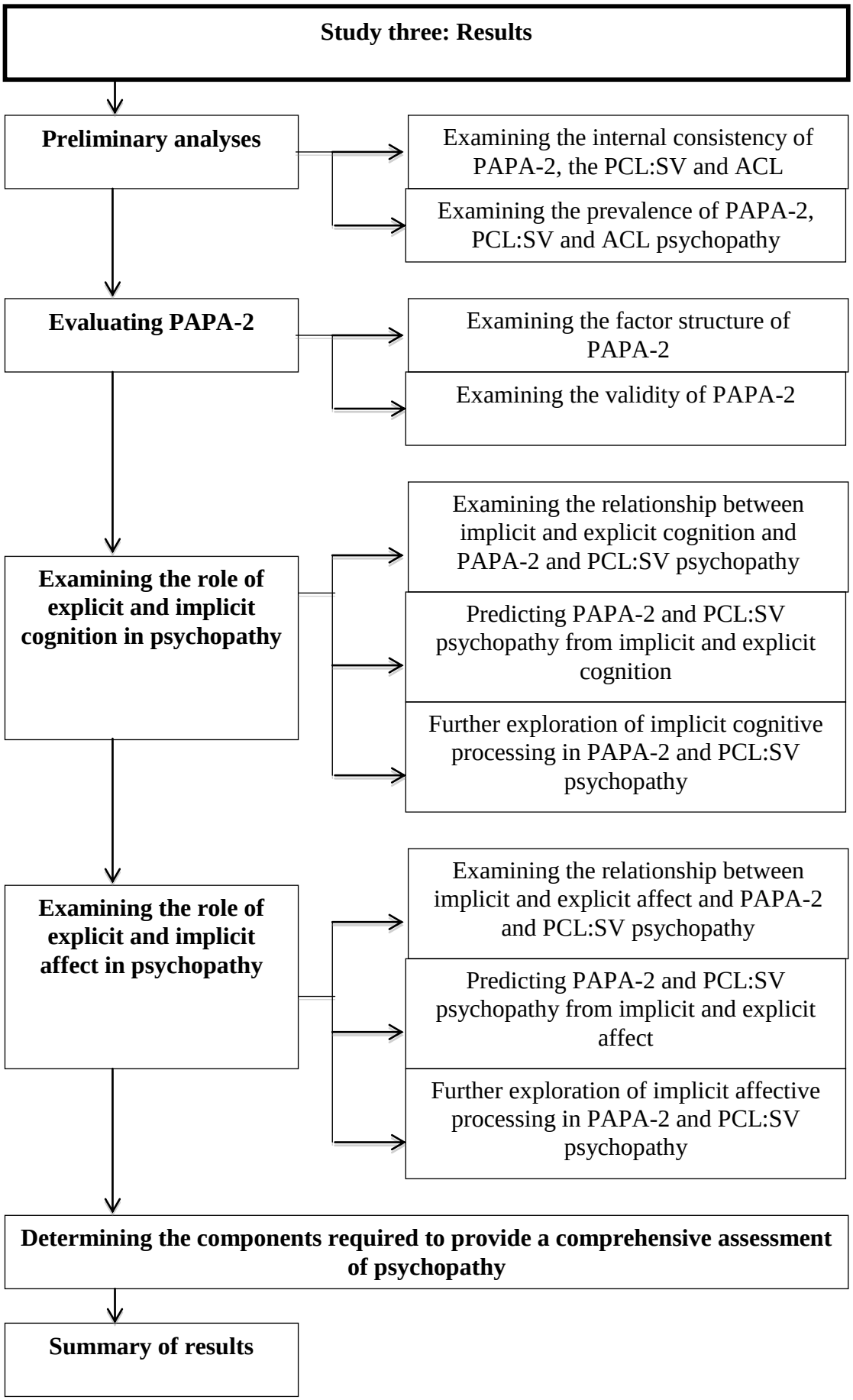


Figure 5: A flowchart illustrating the contents of the results section for study three.

9.7 Preliminary analyses

This section refers to the internal consistency of the measures adopted and the prevalence of psychopathy in the samples studied. To remind readers, the following measures were administered: the Psychopathic Processing and Personality Assessment – version two (PAPA-2), the Psychopathy Checklist: Screening Version (PCL:SV) and the Affect, Cognitive and Lifestyle Assessment (ACL)[77].

Internal consistency of the PAPA-2, PCL:SV and ACL

Table 28 presents the internal consistency of the measures administered. It displays Cronbach's alpha for each measure at an overall and subscale level across samples.

[77] The ACL provides for an overall rating of psychopathy but also examination of implicit and explicit affect and cognition.

Table 28: Internal consistency of the PAPA-2, PCL:SV and ACL.

				Internal consistency (α)			
	Number of items	**Overall (n)**	**Items negatively correlating with the α**	**Student (n)**	**Items negatively correlating with the α**	**Clinical (n)**	**Items negatively correlating with the α**
PAPA-2							
Total	44	.81 (91)	16, 22, 26, 28, 36, 37, 40, 45	.82 (50)	16, 22, 23, 26, 36, 37, 40, 45	.82 (41)	3, 16, 28, 30, 36, 37, 40
PCL:SV							
Total	12	.92 (91)	-	.77 (50)	-	.68 (41)	-
F1: Callous, selfish and remorseless use of others	6	.85 (91)	-	.83 (50)	-	.62 (41)	-
F2: Chronically unstable antisocial lifestyle	6	.89 (91)	-	.54 (50)	-	.64 (41)	-
ACL							
Total	37	.93 (88)	4H, 4I	.90 (50)	4I	.86 (38)	4C, 4E, 4I
Callousness	5	.84 (88)	-	.76 (50)	-	.76 (38)	-
Aggression	5	.70 (90)	-	.64 (50)	4D	.60 (40)	4D
Manipulativeness	4	46 (90)	-	.71 (50)	-	.12 (40)	3H
Hostility	2	.06 (91)	-	.03 (50)	-	.03 (41)	-
Deceitfulness	1	-	-	-	-	-	-
Narcissism	2	.64 (90)	-	.66 (50)	-	.64 (40)	-
Irresponsibility	1	-	-	-	-	-	-
Recklessness	5	.68 (91)	4H	.56 (50)	-	.75 (41)	4H
Impulsivity	4	.46 (90)	4I	.51 (50)	-	.26 (40)	4I

Note. When calculating reliability for the ACL, those items addressing the collateral review were not included. A collateral review was not completed for the student sample. Thus, in order to calculate alphas for the overall sample, these items were ignored. SPSS was unable to calculate alphas for 'deceitfulness' and 'irresponsibility', as these subscales were underpinned by one item.

Acceptable levels of internal consistency were found for PAPA-2 and this was also the case when the data was split into student and clinical samples.

The PCL:SV demonstrated an acceptable level of internal consistency across samples. When split into factors one (i.e. callous, selfish and remorseless use of others) and two (i.e. chronic and unstable antisocial lifestyle), reliability of the PCL:SV decreased and this may be due to the number of items underpinning each factor. However, students were an exception to this, as reliability was higher for factor one when compared to factor two and overall.

The ACL had a high level of reliability overall. When examining the subscales (DSM-V), internal consistency ranged from .06 to .84 for the overall sample, and from .03 to .76 for clinical and student samples. 'Hostility' had the lowest level of reliability for all and this may reflect the small number of items underpinning this subscale. Internal consistency for the ACL subscales was not expected to be high due to this.

Prevalence of psychopathy

This section presents the prevalence across the samples studied. Psychopathy is defined via the PAPA-2, PCL:SV and ACL. Table 29 displays the mean psychopathy scores overall and for student and clinical samples. Higher scores on each scale indicate higher levels of psychopathy. Table 29 also presents skewness and kurtosis values for all three psychopathy measures.

Table 29: Descriptive statistics for the overall sample, and student and clinical samples.

Measure	Psychopathy scores								
	Overall			Clinical			Student		
	Mean	SD (n)	Skewness/ Kurtosis	Mean	SD (n)	Skewness/ Kurtosis	Mean	SD (n)	Skewness/ Kurtosis
PAPA-2									
Total	108.90	19.57 (90)	.33/-.37	112.30	20.84 (40)	-.06/-.57	106.18	18.25 (50)	.67/.33
PCL:SV									
Total	7.90	7.04 (91)	.39/-1.44	14.63	4.22 (41)	-.74/-.47	2.38	2.72 (50)	1.70/3.15
F1: Callous, selfish and remorseless use of others	3.49	3.48 (91)	.53/-1.15	6.36	2.64 (41)	-.39/-.30	1.14	2.01 (50)	2.39/5.84
F2: Chronically unstable antisocial lifestyle	4.41	4.06 (91)	.48/-1.31	8.27	2.67 (41)	-.73/-.24	1.24	1.33 (50)	.88/.14
ACL									
Total	24.78	17.49 (88)	.57/-.75	38.53	14.12 (38)	-.07/-.42	14.34	11.61 (50)	1.73/3.67
Callousness	4.32	3.86 (88)	.90/-.05	6.95	3.78 (38)	.40/-.84	2.32	2.48 (50)	1.34/1.08
Aggression	3.13	2.96 (90)	.91/.03	4.88	2.98 (40)	.33/-.48	1.74	2.10 (50)	1.70/3.07
Manipulativeness	1.26	1.67 (90)	1.65/2.91	1.73	1.66 (40)	.92/.43	.88	1.59 (50)	2.63/8.14
Hostility	1.62	1.33 (91)	.83/.60	2.02	1.31 (41)	.51/-.27	1.28	1.26 (50)	1.28/2.63
Deceitfulness	.36	.71 (91)	2.04/3.71	.78	.88 (41)	.92/.09	.02	.14 (50)	7.07/50.0
Narcissism	.92	1.35 (90)	1.79/2.96	.98	1.53 (40)	1.86/2.93	.88	1.21 (50)	1.62/2.54
Irresponsibility	.67	.92 (90)	1.16/.19	1.23	.97 (40)	.22/-.96	.22	.58 (50)	3.19/11.33
Recklessness	1.85	2.11 (91)	1.35/1.09	2.22	2.52 (41)	1.17/.21	1.54	1.69 (50)	1.14/.33
Impulsivity	2.62	1.99 (90)	.62/-.32	3.60	1.96 (40)	.40/-.53	1.84	1.67 (50)	.87/.07

Note. As noted, a collateral review was not completed for the student sample. Thus, to allow for comparison between students and patients on the ACL, scores generated from the collateral review for patients were not included when calculating mean psychopathy scores.

For the overall sample, positive skewness indicated that data on the [total] PAPA-2, PCL:SV and ACL clustered towards the left; towards the low values. Kurtosis values also indicated a relatively flat distribution. This distribution was expected given that few participants should score high on psychopathy. However when examining the samples and the ACL components separately, the distribution of the data deviated from what was expected and this may relate to the low number of participants belonging to each population, and the small number of items underpinning each ACL subscale.

Patients had higher psychopathy scores than students in relation to the PCL:SV ($t(65.71) = -16.04$, $p < .001$) and ACL ($t(86) = -8.81$, $p < .001$), but not the PAPA-2 ($t(88) = -1.49$, $p > .05$)[78].

A one-way MANOVA revealed that there was a significant difference between students and patients on the combined dependent variables (PCL:SV factor one and two), $F(2, 88) = 152.6$, $p < .001$; Pillai's Trace[79] = .78. When PCL:SV factors one (i.e. callous, selfish and remorseless use of others) and two (i.e. chronically unstable antisocial lifestyle) were considered separately, using a Bonferonni adjusted alpha level of .025, a significant difference between samples was found for factor one ($F(1, 89) = 114.7$, $p < .001$) and factor two ($F(1, 89) = 265.4$, $p < .001$). An inspection of the descriptive statistics in Table 30 revealed that the clinical sample had higher PCL:SV factor one and factor two scores than the student sample.

A second one-way MANOVA found a significant difference between samples on the combined ACL subscales, $F(9, 78) = 12.9$, $p < .001$; Pillai's Trace = .60. When examining the ACL subscales separately, using a Bonferroni adjusted alpha level of .005, a significant difference between samples was found for 'callousness' ($F(1, 86) = 47.9$, $p < .001$), 'aggression' ($F(1, 86) = 35.1$, $p < .001$), 'deceitfulness' ($F(1, 86) = 38.3$, $p < .001$), 'irresponsibility' ($F(1, 86) = 34.4$, $p < .001$), and 'impulsivity ($F(1, 86) = 19.4$, $p < .001$)'. The clinical sample scored higher on all of these subscales when compared to students. There was no significant difference between samples for 'manipulativeness', 'hostility', 'narcissism', and 'recklessness' (for all ns, $p > .005$).

[78] Sample' was coded onto one variable (i.e. overall sample). This variable had *two* levels, 'clinical' and 'student'. ANOVA requires three or more levels (Tabachnick & Fidell, 2013) and was therefore not appropriate.

[79] In line with the recommendations of Tabachnick and Fidell (2013), Pillai's Trace was used due to the small sample size (n = 91).

9.8 Evaluating PAPA-2

This section will focus on evaluating the PAPA-2, examining its structure and validity.

Prediction:

The PAPA will positively associate with existing psychopathy measures (e.g. the PCL:SV).

Factor structure of PAPA-2

The PAPA-2 was subjected to a principal component analysis to determine the structure of psychopathy in the populations sampled. Due to the low sample size (n = 91), a decision was made to examine the participants as one group rather than splitting it by sample (i.e. clinical and student). The analysis was exploratory and additional research may be required to confirm the extracted factors[80].

An Oblimin rotation[81] extracted a three-component solution explaining 20.7%, 9.9% and 8.5% of the variance respectively. The three components accounted for 39.1% of the variance for the overall sample. An inspection of the scree plot confirmed this structure. Ten items loaded onto component one (F1), 11 on component two (F2), and six on component three (F3). Seventeen items did not load onto any component, i.e. they did not reach a loading of .50 or above as recommended by Tabachnick and Fidell (2013).

The following items did not load onto any component (actual number in PAPA in parenthesis):

- I am only interested in myself (1)
- I do not feel guilty when I cause others to feel pain or hurt (2)
- I have been described as a cruel person who does not worry about hurting others (9)

[80] The author decided not to perform a confirmatory factor analysis at this stage, as PAPA-2 was deemed to have too many items for this.
[81] This rotation was performed, as the extracted components were likely to correlate with each other.

- I can allow my feelings to interfere with my decisions (e.g. "cloud my judgment") (10)
- I am talented at making people feel good about themselves (12)
- I see a lot of hostility around me (13)
- When I feel sad I can quickly make myself happy again (16)
- I am quick to respond in a hostile manner to threats or insults (17)
- I find it impossible to resist temptation (18)
- I find it difficult to comfort others when they are upset (20)
- I would describe myself as someone who is often 'fearless' when faced with a threat (21)
- I am not bothered about others (24)
- The world is a threatening place, you have to 'watch your back' (25)
- I am often bored (29)
- I am an aggressive person in a number of situations (33)
- I use illegal drugs, or those that are not prescribed to me, more than most people I know (34)
- I find it difficult to give emotional and personal support to others (35)

Items negatively correlating with the total component loadings were removed and Cronbach's alpha calculated for each factor. One item was removed from component one (i.e. item 5) increasing the alpha from .70 to .81. Item 5 was found to also hold negative inter-item correlations with the remaining items on this component.

One item was also deleted from component three (i.e. item 30), again increasing the alpha from .61 to .82. Negative inter-item correlations between item 30 and the remaining items on this component were identified.

No items were removed from component two and this had an alpha of .85. Thus, the three-component solution had an acceptable level of internal consistency.

Table 30 displays the items and factor loadings, along with the Cronbach's alpha for each component.

Table 30: Items and factor loadings for each component of PAPA-2 (nb. Cronbach's alpha for each component is in parenthesis).

Item number	Item	Factor loading
Component 1: Dissocial tendencies (α = .81)		
19.	I often get intro trouble more than others	.73
43.	Others would describe be as an intense person who has difficulty getting on with others.	.65
11.	Others would describe me as an irritable person with problems controlling my temper.	.62
44.	As a child I often got into trouble more than others.	.57
7.	I often don't think of the consequences of my actions.	.57
42.	I often find people behave aggressively or in a hostile manner towards me.	.57
6.	I often take chances that could be risky to me or others.	.56
39.	I have been described as a 'fraudster' or a 'con artist' by those who know me.	.52
41.	I can be unpredictable.	.51
Component 2: Negative views towards others and tendency to objectify (α = .85)		
36.	If I do something wrong I will feel bad about it [reverse].	.75
37.	If I behave in an aggressive manner I often feel bad about it afterwards [reverse].	.71
32.	I can find myself viewing others as nothing more than 'objects' or things to be used.	.64
4.	I will use people to get what I want.	.64
3.	I would describe myself as one of the most confident people around.	.64
38.	I often find myself thinking that I am more important than others.	.63
27.	If I am caught out on a lie I can quickly think of a way out.	.57
14.	I regularly view others as lazy.	.55
40.	I always accept responsibility for what I do [reverse].	.55
15.	I find most people are weak and not worth bothering with.	.53
31.	I am able to commit a wide number of behaviours that, if caught, would get me into trouble.	.50
Component 3: Social and emotional difficulties (α = .82)		
45.	I often feel emotionally close to others [reverse].	.84
22.	I often feel socially close to others [reverse].	.74
23.	I am a creative person who can think of more than one way of dealing with problems [reverse].	.70
28.	I often experience strong positive emotions, such as happiness and joy [reverse].	.70
26.	I often feel in touch with other people's feelings [reverse]	.60

‘Dissocial tendencies’ (i.e. PAPA-2 F1) positively correlated with ‘negative views towards others and a tendency to objectify’ (i.e. PAPA-2 F2) ($r = .26$, $p < .05$). Thus, as scores on ‘dissocial tendencies’ increased, scores on ‘negative views towards others and a tendency to objectify’ also increased. The strength of correlation between these two components was weak. ‘Social and emotional difficulties’ (i.e. PAPA-2 F3) did not correlate with ‘dissocial tendencies’ ($r = .19$, $p > .05$) or ‘negative views towards others and a tendency to objectify’ ($r = .17$, $p > .05$).

Mean scores were calculated from items that had a loading of .50 or above and presented in Table 31. Higher scores indicate higher levels of that particular component.

Table 31: Mean scores for the three components underpinning PAPA-2 (nb. Standard deviation in parenthesis).

PAPA-2 subscale	**Mean (SD)**
F1: Dissocial tendencies	19.95 (6.90)
F2: Negative views towards others and a tendency to objectify	24.40 (7.53)
F3: Social and emotional difficulties	12.89 (4.22)

‘Negative views towards others and a tendency to objectify’ appeared to be the highest scoring PAPA-2 component for the sample as a whole (n = 91). This was followed by ‘dissocial tendencies’ and then ‘social and emotional difficulties’.

Validity of PAPA-2

To establish concurrent validity, the PAPA-2 will now be correlated with the PCL:SV and ACL. Strength and direction of relationships between subscales will also be examined. Table 32 displays the correlation coefficients between these variables.

Table 32: Bivariate correlations between PAPA-2 and the PCL:SV, and ACL for the overall sample.

		PAPA-2 (n)		
Measure	**Total**	**F1: Dissocial tendencies**	**F2: Negative views towards others and a tendency to objectify**	**F3: Social and emotional difficulties**
PCL:SV total	.39*** (90)	.39*** (91)	.07 (91)	.26* (91)
F1: Callous, selfish and remorseless use of others	.44*** (90)	.35** (91)	.16 (91)	.26* (91)
F2: Chronically unstable antisocial lifestyle	.30** (90)	.37*** (91)	-.03 (91)	.23* (91)
ACL total	.54*** (87)	.46*** (88)	.28** (88)	.26* (88)
Callousness	.50*** (87)	.27* (88)	.37*** (88)	.33** (88)
Aggression	.37*** (89)	.36*** (90)	.28** (90)	.06 (90)
Manipulativeness	.37*** (89)	.19 (90)	.35** (90)	.01 (90)
Hostility	.51*** (90)	.43*** (91)	.37** (91)	.24* (91)
Deceitfulness	.18 (90)	.19 (91)	-.12 (91)	.37*** (91)
Narcissism	.21* (89)	-.01 (90)	.45*** (90)	-.27* (90)
Irresponsibility	.42*** (89)	.40*** (90)	.16 (90)	.22* (90)
Recklessness	.53*** (90)	.56*** (91)	.30** (91)	-.03 (91)
Impulsivity	.36** (89)	.46*** (90)	.09 (90)	.16 (90)

***** p< .001; ** p< .01; * p< .05**

PAPA-2 and its subscales positively correlated with total scores on the PCL:SV, and scores on factors one (i.e. callous, selfish and remorseless use of others) and two (i.e. chronically unstable antisocial lifestyle) of this measure. An exception to this was 'negative views towards others and a tendency to objectify' (i.e. PAPA-2 F2), which did not correlate with total PCL:SV, factor one or factor two. However, the correlational

analyses revealed that, in general, as scores on PAPA-2 increased, scores on the PCL:SV also increased. This demonstrates concurrent validity of the PAPA-2 with an existing clinical measure of psychopathy (i.e. the PCL:SV). It is also worth noting that correlation coefficients between the variables mentioned here were of weak to moderate strength.

PAPA-2 and its subscales positively correlated with total scores on the ACL. All three components underpinning PAPA-2 also positively correlated with a number of the ACL subscales, thus suggesting that as scores on the PAPA-2 increased, scores on the ACL also increased. One exception to this was the relationship between 'social and emotional difficulties' and ACL 'narcissism', where a negative association was found between the two. In this instance as scores on 'narcissism' increased, scores on 'social and emotional difficulties' decreased. Correlation coefficients between the variables discussed here were of weak to moderate strength.

As reliability and concurrent validity of PAPA-2 has been established, the study will move on and further evaluate PAPA-2 by examining its association with explicit and implicit cognitive processing, thus investigating its construct validity. The three components found to underpin PAPA-2 (i.e. dissocial tendencies; negative view towards others and tendency to objectify; and social and emotional difficulties) will also be analysed to investigate how they relate to cognition in psychopathy.

9.9 Examining the role of explicit and implicit cognition in psychopathy

This section commences by exploring the strength of relationships between psychopathy measured by PAPA-2 and the PCL:SV, and implicit and explicit cognition on the Affect, Cognitive, Lifestyle Assessment (ACL)[82]. Cognition was split into the following characteristics: 'a lack of guilt/remorse and a willingness to exploit and dominate' [explicit]; 'cognitive impulsivity' [explicit] 'making moral judgments' [implicit]; and 'a tendency for hostile responding' [implicit]. These variables will be entered into the analyses proposed here.

[82] To remind readers, the ACL provides for an overall rating of psychopathy but also examination of implicit and explicit affect and cognition.

A series of standard multiple regression analyses will also be performed to determine how much variance explicit and implicit cognition explain in psychopathy measured by the PAPA-2 and PCL:SV psychopathy (both overall and at factor level). Analyses will be completed across samples.

A number of independent samples t-tests will then be conducted examining determining any significant differences between level of psychopathy (high or low) and implicit cognitive processing, specifically moral reasoning and a tendency for hostile responding.

Predictions:

The PAPA will positively associate with a) higher levels of hostile responding; and b) less support for a moral outcome in dilemmas.

Those with higher levels of psychopathy will be less likely to support a moral outcome in dilemmas than individuals with lower levels of psychopathy.

Individuals with higher levels of psychopathy will display higher levels of hostile responding than those with lower levels of psychopathy.

The relationship between explicit and implicit cognition and psychopathy measured by PAPA-2 and the PCL:SV

A number of Pearson *r* bivariate correlations were performed to establish the strength of relationships between cognition (both explicit and implicit) and psychopathy as measured by PAPA-2 and the PCL:SV. It is important to note that analyses were completed separately to reduce the risk of multicollinearity. Table 33 displays the relationship between these variables for PAPA-2 psychopathy. The correlation coefficients for PCL:SV psychopathy are also shown in Table 33.

Table 33: Bivariate correlations between psychopathy measured by PAPA-2 and the PCL:SV and explicit and implicit cognition assessed via the ACL across samples.

	Implicit and explicit cognition (n)			
Measure	**A lack of guilt/remorse and a willingness to dominate/exploit [explicit]**	**Cognitive impulsivity [explicit]**	**Making poor moral judgments [implicit]**	**A tendency for hostile responding [implicit]**
PAPA-2				
Overall	.47*** (90)	.15 (89)	.40*** (90)	.25* (90)
Clinical	.43** (40)	.20 (39)	.45** (40)	.24 (40)
Student	.50*** (50)	.03 (50)	.30* (50)	.24 (50)
F1: Dissocial tendencies	.29** (91)	.19 (90)	.27* (91)	.14 (91)
F2: Negative views for others and a tendency to objectify	.40*** (91)	.01 (90)	.24* (91)	.23* (91)
F3: Social and emotional difficulties	.20 (91)	.12 (90)	.31** (91)	.14 (91)
PCL:SV				
Overall	.69*** (91)	.29** (90)	.63*** (91)	.13 (91)
Clinical	.53*** (41)	.30 (40)	.42** (41)	.10 (41)
Student	.66*** (50)	.17 (50)	.36* (50)	.19 (50)
F1: Selfish, callous and remorseless use of others	.64*** (91)	.23* (90)	.61*** (91)	.17 (91)
F2: Chronic unstable antisocial lifestyle	.64*** (91)	.31** (90)	.56*** (91)	.08 (91)

***** p< .001; ** p< .01; * p< .05**

'A lack of guilt and remorse and a willingness to exploit and dominate' [explicit] displayed moderate positive correlations with PAPA-2 for the overall sample, student and clinical samples. This variable also had weak to moderate positive correlations with 'dissocial tendencies' and 'negative views towards others and a tendency to objectify', but not 'social and emotional difficulties'. Thus, as total PAPA-2 scores and scores on 'dissocial tendencies' and 'negative views towards others and a tendency to objectify' increased, scores on 'a lack of guilt and remorse and a willingness to exploit and

dominate' [explicit] also increased. 'Cognitive impulsivity' [explicit] did not correlate with PAPA-2 psychopathy.

'Making poor moral judgments' [implicit] was positively associated with PAPA-2 psychopathy. This was consistent for both student and clinical samples. This variable also positively correlated with all three PAPA-2 factors, though relationships were weak. Thus, as scores on this variable increased, so did scores on the PAPA-2.

'A tendency for hostile responding' was positively associated with PAPA-2 for the overall sample and factor two. Relationships between variables were weak. Nevertheless, the correlations identified here indicate that as scores on 'making poor moral judgments' [implicit] increased, scores on the PAPA-2 also increased. In terms of 'a tendency for hostile responding' [implicit], this was only the case for 'negative views towards others and a tendency to objectify'.

A lack of guilt and remorse and a willingness to exploit and dominate' [explicit] positively correlated with the PCL:SV across samples and at factor level. Correlations were moderate to strong in strength. Thus, as scores on 'a lack of guilt and remorse and a willingness to exploit and dominate' [explicit] increased, scores on the PCL:SV also increased. This was also the case for 'cognitive impulsivity' [explicit]. However, this variable only demonstrated weak to moderate relationships with PCL:SV for the overall sample and factors one (i.e. callous, selfish and remorseless use of others) and two (i.e. chronic unstable antisocial lifestyle).

'A tendency for hostile responding' [implicit] did not correlate with PCL:SV defined psychopathy. 'Making poor moral judgments' [implicit] however, had moderate to strong relationships with the PCL:SV across samples and at factor level. In this instance, as scores on 'making poor moral judgments increased, scores on PCL:SV also increased.

Thus, it appears that the PCL:SV and PAPA-2 are performing equally across explicit and implicit cognition defined by the ACL. This section will now explore the role of cognitive processing in psychopathy by examining the amount of variance implicit and explicit cognition explain in psychopathy measured by PAPA-2 and the PCL:SV.

Explicit and implicit cognition as predictors of psychopathy defined by PAPA-2 and the PCL:SV

A series of standard multiple regressions were conducted to explore the extent to which implicit and explicit cognition predict psychopathy assessed by the PAPA-2 and PCL:SV across samples. The subscales underpinning both measures were also examined. Analyses were performed separately to decrease the risk of multicollinearity. Tables 34 to 37 display the regression coefficients and standard error B for all analyses.

Table 34: Predicting psychopathy measured by PAPA-2 across samples from explicit and implicit cognition.

	PAPA-2								
	Overall sample			Clinical sample			Student sample		
Predictor	**B (n)**	**SE B**	**β**	**B (n)**	**SE B**	**β**	**B (n)**	**SE B**	**β**
A lack of guilt/remorse and a willingness to exploit/dominate others [explicit]	6.97 (91)	2.51	.36**	4.95 (41)	3.76	.25	12.18 (50)	3.87	.47**
Cognitive impulsivity [explicit]	-.36 (90)	2.21	-.02	.39 (40)	3.36	.02	-2.07 (50)	3.15	-.09
Making poor moral judgments [implicit]	2.33 (91)	2.67	.12	5.53 (41)	4.58	.26	.95 (50)	3.60	.04
A tendency for hostile responding [implicit]	4.03 (91)	2.39	.16	3.76 (41)	3.49	.16	3.68 (50)	3.45	.14

**** p< .01**

Table 35: Predicting the three PAPA-2 subscales from explicit and implicit cognition.

	PAPA-2								
	F1: Dissocial tendencies			F2: Negative views towards others			F3: Social and emotional difficulties		
Predictor (n)	**B**	**SE B**	**β**	**B**	**SE B**	**β**	**B**	**SE B**	**β**
A lack of guilt/remorse and a willingness to exploit/dominate others [explicit] (91)	1.30	.96	.19	3.35	.99	.45**	-.14	.59	-.03
Cognitive impulsivity [explicit] (90)	.78	.85	.10	-.89	.87	-.11	-.02	.52	-.00
Making poor moral judgments [implicit] (91)	.54	1.02	.08	-.54	1.05	-.07	1.35	.63	.32*
A tendency for hostile responding [implicit] (91)	.69	.92	.08	1.77	.94	.19	.39	.56	.07

**** p< .01; * p< .05**

PAPA-2: Overall sample

The predictors explained 25% (R^2 = .25, Adjusted R^2 = .22) of the variance in PAPA-2 psychopathy for the overall sample (F(4, 84) = 7.1, MSE = 2137.0, p< .001). 'A lack of guilt and remorse and a willingness to exploit and dominate others' [explicit] was the only positive predictor (t = 2.78, p< .01). Thus, as scores on this variable increased, scores on PAPA-2 for the overall sample also increased.

PAPA-2: Clinical and student samples

None of the variables significantly predicted PAPA-2 in the clinical sample (for all, t ≥ .12, p> .05). However, for the student sample, the model accounted for 28% (R^2 = .28, Adjusted R^2 = .21) of the variance in PAPA-2 psychopathy (F(4, 45) = 4.3, MSE = 1128.2, p< .01). 'A lack of guilt and remorse and a willingness to exploit and dominate others' [explicit] positively predicted psychopathy (t = 3.14, p< .01). In this instance, as scores on this variable increased, so did scores on PAPA-2 for the students.

PAPA-2 factors: Overall sample

'Dissocial tendencies' was not predicted by cognition. 'Negative view towards others and a tendency to objectify' however, was positively predicted by 'a lack of guilt and remorse and a willingness to exploit and dominate others' [explicit] (t = 3.38, p< .01). The model significantly explained 21% (R^2 = .21, Adjusted R^2 = .17) of the explained variance (F(4, 85) = 5.5, MSE = 260.7, p< .01). As scores on 'negative views towards others and a tendency to objectify' increased, scores on 'a lack of guilt and remorse and a willingness to exploit and dominate others' [explicit] also increased.

'Social and emotional difficulties' was positively predicted by 'making poor moral judgments' [implicit] (t = 2.16, p< .05). However, this model was not significant (F(4, 85) = 2.5, MSE = 41.5, p> .05).

Table 36: Predicting psychopathy measured by the PCL:SV across samples from explicit and implicit cognition.

	PCL:SV								
	Overall sample			Clinical sample			Student sample		
Predictor	**B (n)**	**SE B**	**β**	**B (n)**	**SE B**	**β**	**B (n)**	**SE B**	**B**
A lack of guilt/remorse and a willingness to exploit/dominate others [explicit]	3.41 (91)	.72	.49***	1.86 (41)	.73	.46*	2.43 (50)	.51	.63***
Cognitive impulsivity [explicit]	.49 (90)	.63	.06	.64 (40)	.65	.16	.13 (50)	.42	.04
Making poor moral judgments [implicit]	1.88 (91)	.77	.27*	.23 (41)	.89	.05	.12 (50)	.47	.03
A tendency for hostile responding [implicit]	-.19 (90)	.69	-.02	.10 (41)	.68	.02	.15 (50)	.45	.04

***** p< .001; ** p< .01; * p< .05**

Table 37: Predicting the two PCL:SV factors from explicit and implicit cognition.

	PCL:SV					
	F1: Selfish, callous and remorseless use of others			F2: Chronic unstable antisocial lifestyle		
Predictor (n)	**B**	**SE B**	**β**	**B**	**SE B**	**β**
A lack of guilt/remorse and a willingness to exploit/dominate others [explicit] (91)	1.44	.38	.42***	1.97	.44	.49***
Cognitive impulsivity [explicit] (90)	-.03	.33	-.01	.51	.39	.11
Making poor moral judgments [implicit] (91)	1.12	.40	.32**	.77	.47	.19
A tendency for hostile responding [implicit] (91)	.11	.36	.03	-.30	.42	-.06

***** p< .001; ** p< .01**

PCL:SV: Overall sample

Fifty-two percent of variance in psychopathy defined by the PCL:SV was accounted for by the predictors (R^2 = .52, Adjusted R^2 = .50), F(4, 85) = 23.1, MSE = 573.9, p< .001. 'A lack of guilt and remorse and a willingness to dominate and exploit others' [explicit] and 'making poor moral judgments' [implicit] (for both, t ≥ 2.46, p< .05) positively predicted the construct. Thus, as levels of these two predictors increased, so did overall levels of PCL:SV.

PCL:SV: Clinical and student samples

For the student sample, PCL:SV psychopathy was positively predicted by 'a lack of remorse and guilt and a willingness to exploit and dominate others' [explicit] (t = 4.77, p< .001). The model accounted for 44% (R^2 = .44, Adjusted R^2 = .39) of the variance in PCL:SV psychopathy for this sample (F(4, 45) = 8.7, MSE = 39.7, p< .001).

The findings highlighted here were mirrored in the clinical sample, with 'a lack of guilt and remorse and a willingness to exploit and dominate others' as the sole [positive] predictor (t = 2.56, p< .05). The model explained 31% (R^2 = .31, Adjusted R^2 = .23) of the variance in PCL:SV (F(4, 35) = 3.9, MSE = 54.0, p< .05).

Thus, for both students and patients, as scores on 'a lack of guilt and remorse and a willingness to exploit and dominate' [explicit] increased, so did scores on the PCL:SV.

PCL:SV factors: Overall sample

Factor two (i.e. chronic unstable and antisocial lifestyle) was positively predicted by a 'lack of remorse and guilt and a willingness to exploit and dominate others' [explicit] (t = 4.44, p< .001). The model accounted for 45% (R^2 = .45, Adjusted R^2 = .43) of the variance in PCL:SV factor two (F(4, 85) = 17.5, 165.7, p< .001). In terms of factor one (i.e. selfish, callous and remorseless use of others), this variable was found to be predicted by both 'a lack of guilt and remorse and a willingness to exploit and dominate others' and 'making poor moral judgments' (for both, ≥ t = 2.80, p< .01). These two predictors accounted for 14% of the total explained variance, which was 47% (R^2 = .47,

Adjusted R^2 = .44; F(4, 85) = 18.7, MSE = 126.4, p< .001). In this instance, as scores on these two predictors increased, scores on PCL:SV factor one also increased.

In terms of predicting psychopathy, it appears that implicit and explicit cognition is performing similarly across measures, thus providing further evidence of construct validity for PAPA-2. This chapter will now move on to explore implicit cognitive processing in psychopathy in more depth.

Further exploration of implicit cognitive processing in psychopathy defined by the PAPA-2 and PCL:SV

A series of independent samples t-tests were conducted to determine the effect of level of psychopathy (i.e. high or low) on implicit cognitive processing. Implicit cognitive processing was split into 'moral reasoning' and 'a tendency for hostile responding'.

To remind readers, these analyses will investigate the following predictions:

Those with higher levels of psychopathy will be less likely to support a moral outcome in dilemmas than individuals with lower levels of psychopathy.

Individuals with higher levels of psychopathy will display higher levels of hostile responding than those with lower levels of psychopathy.

Psychopathy and moral reasoning

A median split was conducted on PAPA-2 to separate participants into 'high' and 'low' levels of psychopathy. The median was 107.0 and those scoring above were classified into the 'high' group and those at or below this value, into the 'low' group.

In terms of psychopathy assessed by the PCL:SV, participants scoring the recommended cut-off and above (i.e. a score of 13; Hart et al. 1995), were categorised into the 'high' group. Those scoring below this were assigned to the 'low group'.

Descriptive statistics were calculated for each aspect of the moral reasoning test (i.e. percentage score, number of reasons and time taken) using the 'high' and 'low' splits. Mean scores for level of PAPA-2 and PCL:SV are displayed in Table 38.

Table 38: Descriptive statistics for each aspect of the moral reasoning test for psychopathy assessed by PAPA-2 and the PCL:SV (nb. Standard deviation in parenthesis).

		Moral reasoning [implicit]		
Measure	**Level**	**Total percentage (%)[83]**	**Number of reasons**	**Time taken (seconds)**
PAPA-2	High (n = 44)	142.30 (76.98)	6.52 (2.61)	113.91 (67.93)
	Low (n = 46)	186.65 (66.62)	8.33 (2.95)	115.89 (56.48)
PCL:SV	High (n = 26)	130.27 (72.50)	5.54 (2.69)	93.50 (64.92)
	Low (n = 65)	180.92 (72.65)	8.23 (2.64)	123.41 (58.52)

Results indicated that individuals with 'high' levels of psychopathy defined by the PAPA-2 demonstrated less support for a moral outcome in dilemmas (i.e. they assigned a lower percentage) than those with 'low' levels of psychopathy ($t(88) = -2.93$, $p < .01$). They also produced fewer reasons supporting their decision (i.e. the percentage that they assigned to the scenario) ($t(88) = -3.07$, $p < .01$). There was no difference between level of psychopathy assessed by PAPA-2 and time taken on this activity ($t(87) = -.15$, $p > .05$).

In terms of the PCL:SV, individuals with 'high' levels of psychopathy demonstrated less support for moral outcome in dilemmas ($t(89) = -3.01$, $p < .01$), produced fewer reasons supporting their decision ($t(89) = -4.38$, $p < .001$), and completed the activity faster ($t(88) = -2.13$, $p < .05$) than those with 'low' levels of the disorder.

Psychopathy and a tendency for hostile responding

Using the 'high' and 'low' levels of psychopathy calculated for the previous analyses, descriptive statistics were also computed for hostile and pro-social responding. Data for psychopathy assessed by PAPA-2 and PCL:SV is presented in Table 39.

[83] There were three moral scenarios. Participants assigned a percentage to each (out of 100%). Thus, the maximum percentage that could be scored for this activity was 300%.

Table 39: Descriptive statistics for implicit hostile and pro-social responding for psychopathy assessed by the PCL:SV and PAPA-2 (nb. Standard deviation in parenthesis).

		A tendency for hostile responding [implicit]	
Measure	**Level**	**Total hostile**	**Total pro-social**
PAPA-2	High (n = 44)	3.84 (1.70)	5.66 (1.99)
	Low (n = 46)	3.07 (1.90)	6.36 (1.96)
PCL:SV	High (n = 26)	3.15 (1.80)	6.15 (2.38)
	Low (n = 65)	3.54 (1.85)	6.17 (1.87)

There was a significant difference between 'high' and 'low' levels of psychopathy defined by PAPA-2 on hostile responding ($t(88) = 2.04$, $p < .05$). Individuals with higher levels of psychopathy selected more hostile responses than those with 'low' levels of psychopathy. There was also a significant difference for pro-social responding ($t(88) = -2.34$, $p < .05$), with those scoring 'low' on the PAPA-2 opting for more pro-social responses than individuals scoring 'high' on the measure.

There was no significant difference between 'high' and 'low' levels of psychopathy assessed by the PCL:SV for hostile responding ($t(89) = -.90$, $p > .05$) or pro-social responding ($t(37.95) = -.03$, $p > .05$). This Chapter will now move on to explore implicit and explicit affective processing in psychopathy.

9.10 Examining the role of explicit and implicit affect in psychopathy defined by PAPA-2 and PCL:SV

The strength of relationships between psychopathy (PAPA-2 and PCL:SV) and implicit and explicit affect will be examined. Affect was assessed via the ACL and separated into the following variables: 'Deficits in emotion recognition' [explicit]; 'callousness/lack of empathy' [explicit]; 'emotional impulsivity' [explicit]; 'anger/irritability' [explicit]; 'deficits when identifying emotion' [implicit]; and 'deficits when evaluating/feeling emotion' [implicit].

A number of standard multiple regression analyses will also be performed across samples to examine the proportion of explained variance in psychopathy defined by PAPA-2 and PCL:SV accounted for by explicit and implicit affect.

A number of independent samples t-tests will then be completed investigating whether levels of psychopathy (high or low) has an effect on functional deficits in implicit affective processing, specifically deficits when identifying and evaluating emotion.

Predictions:

The PAPA will positively associate with a) fewer emotional words identified; and b) a lower strength of feeling for own and others' emotion.

Those with higher levels of psychopathy will identify less emotional stimuli than those with lower levels of psychopathy.

Individuals with higher levels of psychopathy will demonstrate a lower strength of feeling for their own and others' emotion than those with lower levels of psychopathy.

The relationship between explicit and implicit affect and psychopathy assessed by PAPA-2 and the PCL:SV

A series of Pearson *r* bivariate correlations were conducted to determine the strength of relationships between affect (both explicit and implicit) and psychopathy measured by PAPA-2 and the PCL:SV. Analyses were completed separately to reduce the possibility of multicollinearity. Table 40 displays the relationship between these variables.

Table 40: Bivariate correlations between psychopathy measured by PAPA-2 and the PCL:SV and explicit and implicit affect assessed via the ACL across samples.

	Implicit and explicit affect (n)					
Measure	**Deficits in emotion recognition [explicit]**	**Callousness/lack of empathy [explicit]**	**Emotional impulsivity [explicit]**	**Anger/irritability [explicit]**	**Deficits when identifying emotion [implicit]**	**Deficits when evaluating/feeling emotion [implicit]**
PAPA-2						
Overall	.26* (90)	.46*** (90)	.38*** (90)	.47*** (90)	.16 (88)	.29** (88)
Clinical	.14 (40)	.48** (40)	.33* (40)	.36* (40)	-.00 (38)	.18 (38)
Student	.33* (50)	.45** (50)	.37** (50)	.52*** (50)	.32* (50)	.42** (50)
F1: Dissocial tendencies	.26* (91)	.25* (91)	.45*** (91)	.43*** (91)	.10 (89)	.12 (89)
F2: Negative views towards others and a tendency to objectify	-.02 (91)	.33** (91)	.17 (91)	.29** (91)	-.02 (89)	.20 (89)
F3: Social and emotional difficulties	.35** (91)	.34** (91)	.15 (91)	.20 (91)	.26* (89)	.27* (89)
PCL:SV						
Overall	.47*** (91)	.75*** (91)	.57*** (91)	.49*** (91)	.33** (89)	.59*** (89)
Clinical	.03 (41)	.55*** (41)	.43** (41)	.39* (41)	.05 (39)	.22 (39)
Student	.47** (50)	.60*** (50)	.37** (50)	.64*** (50)	.37** (50)	.40** (50)
F1: Selfish, callous and remorseless use of others	.37*** (91)	.70*** (91)	.44*** (91)	.44*** (91)	.24* (89)	.51** (89)
F2: Chronic unstable antisocial lifestyle	.49*** (91)	.70*** (91)	.61*** (91)	.47*** (91)	.37*** (89)	.58*** (89)

***** p< .001; ** p< .01; * p< .05**

‘Deficits in emotion recognition’ [explicit] positively correlated with PAPA-2 for overall and student sample. It also positively correlated with factor one, ‘dissocial tendencies’ and factor three, ‘social and emotional difficulties’. Coeffiecients indicated that relationships were of moderate strength. In this instance, as scores on ‘deficits in emotion recognition’ [explicit] increased, psychopathy scores on PAPA-2 for the samples and subscales highlighted here also increased.

‘Callousness/lack of empathy’ [explicit] and ‘anger/irritability’ [explicit] positively correlated with PAPA-2 across sample and at factor level. Relationships were weak to moderate strength and indicated that as levels of PAPA-2 scores increased, so did scores on ‘callousness/lack of empathy’ [explicit] and ‘anger/irritability’ [explicit].

‘Emotional impulsivity’ [explicit] positively and moderately correlated with PAPA-2 across sample and with ‘dissocial tendencies’. Thus, as scores on ‘emotional impulsivity increased, psychopathy scores on the PAPA-2 for these variables also increased.

Implicit affect also demonstrated positive relationships with PAPA-2. ‘Deficits when identifying emotion’ [implicit] and when ‘evaluating/feeling emotion’ [implicit] positively correlated with PAPA-2 for students and ‘social and emotional difficulties’. Positive correlations were also found between ‘deficits when evaluating/feeling emotion’ and PAPA-2 for the overall sample. For all, associations were weak to moderate strength and indicated that as PAPA-2 scores increased for the subscales and samples outlined here, so did scores on implicit affect.

Moving on to the PCL:SV and its association with affective processing. All variables belonging to explicit and implicit affect positively correlated with PCL:SV for overall and student samples. They also positively correlated with both PCL:SV subscales. Correlations were moderate to strong and suggested that as PCL:SV scores increased for the samples and factors mentioned here, explicit and implicit affect also increased.

For the clinical sample, PCL:SV demonstrated positive correlations with explicit affect, with the exception of ‘deficits in emotion recognition’ [explicit]. Implicit affect did not correlate with PCL:SV psychopathy for this sample. Coefficients indicated that correlations were of moderate strength. With the exception of ‘deficits in emotion

recognition' [explicit], as PCL:SV scores increased for patients, explicit affect also increased.

The role of explicit and implicit affective processing in psychopathy will now be examined. Results for PAPA-2 will be presented first, followed by the PCL:SV.

Explicit and implicit affect as predictors of psychopathy assessed by PAPA-2 and the PCL:SV

A series of standard multiple regression analyses were performed to investigate the role of implicit and explicit affect in psychopathy assessed by PAPA-2 and the PCL:SV. Factors underpinning both PAPA-2 and PCL:SV were also included in the analyses. Analyses were performed separately to decrease the risk of multicollinearity. Tables 41 to 44 present the regression coefficients and standard error B for all analyses.

Table 41: Predicting psychopathy defined by PAPA-2 across samples from explicit and implicit affect.

	PAPA-2								
	Overall samples			Clinical samples			Student samples		
Predictor	**B (n)**	**SE B**	**β**	**B (n)**	**SE B**	**β**	**B (n)**	**SE B**	**β**
Emotion recognition [explicit]	.39 (91)	2.26	.02	.63 (41)	3.42	.03	.57 (50)	3.38	.02
Callousness/lack of empathy [explicit]	3.96 (91)	2.48	.22	7.02 (41)	3.94	.37	5.67 (50)	4.09	.18
Emotional impulsivity [explicit]	2.14 (91)	1.20	.12	2.82 (41)	3.53	.15	3.50 (50)	2.39	.18
Anger/irritability [explicit]	5.03 (91)	2.28	.27*	1.36 (41)	4.44	.06	4.89 (50)	2.41	.28*
Identifying emotion [implicit]	.60 (89)	2.52	.03	-1.62 (39)	3.80	-.08	6.67 (50)	3.52	.23
Evaluating emotion [implicit]	.31 (89)	2.52	.02	.64 (39)	3.96	.03	8.32 (50)	3.69	.27*

*** p< .05**

Table 42: Predicting the three factors of PAPA-2 from explicit and implicit affect.

	PAPA-2								
	F1: Dissocial tendencies			F2: Negative view towards others			F3: Social and emotional difficulties		
Predictor (n)	**B**	**SE B**	**β**	**B**	**SE B**	**β**	**B**	**SE B**	**β**
Emotion recognition [explicit] (91)	1.18	.79	.17	-1.86	.92	-.25*	.86	.52	.20
Callousness/lack of empathy [explicit] (91)	-.61	.87	-.10	2.04	1.01	.29*	.95	.57	.24
Emotional impulsivity [explicit] (91)	2.10	.70	.34**	-.28	.82	-.04	-.15	.46	-.04
Anger/irritability [explicit] (91)	1.97	.80	.30*	1.42	.93	.20	-.02	.53	-.01
Identifying emotion [implicit] (89)	.07	.88	.01	-.78	1.03	-.09	.60	.58	.12
Evaluating emotion [implicit] (89)	-.85	.88	-.12	1.14	1.03	.15	-.02	.58	-.01

**** p< .01; * p< .05**

PAPA-2: Overall sample

The model accounted for 29% (R^2 = .29, Adjusted R^2 = .23) of the variance in psychopathy measured by PAPA-2 for the overall sample (F(6, 81) = 5.4, MSE = 1583.6, p< .001). 'Anger/irritability' [explicit] was a positive predictor of psychopathy (t = 2.21, p< .05). As levels of this predictor increased, so did levels of PAPA-2.

PAPA-2: Clinical and student samples

Psychopathy defined by the PAPA-2 for the clinical sample was not predicted by implicit or explicit affect (for all, t ≥ .16, p> .05). In terms of the student sample however, the model (F(6, 43) = 6.9, MSE = 1333.2, p< .001) explained 49% of the variance in PAPA-2 psychopathy (R^2 = .49, Adjusted R^2 = .42). 'Anger/irritability' [explicit] and 'deficits when evaluating emotion' [implicit] (for both, t ≥ 2.03, p< .05) positively predicted PAPA-2. Thus, as scores on these two predictors increased for the student sample, so did psychopathy scores on PAPA-2.

PAPA-2 factors: Overall sample

The predictors explained 29% (R^2 = .29, Adjusted R^2 = .24) of the variance in 'dissocial tendencies' (F(6, 82) = 5.6, MSE = 201.7, p< .001). 'Emotional impulsivity' [explicit] and 'anger/irritability' [explicit] (for both, t ≥ 2.47, p< .05) positively predicted 'dissocial tendencies'. In this instance, as scores on 'emotional impulsivity' [explicit] and 'anger/irritability' [explicit] increased, scores on 'dissocial tendencies' also increased.

'Deficits when recognising emotion' [explicit] negatively predicted 'negative views towards others and a tendency to objectify' (t = -2.02, p< .05), where as 'callousness/lack of empathy' [explicit] was a positive predictor of this component (t = 2.01, p< .05). The predictors accounted for 19% (R^2 = .19, Adjusted R^2 = .13) of the explained variance (F(6, 82) = 3.1, MSE = 154.4, p< .01). As scores on 'callousness/lack of empathy' [explicit] increased, scores on 'negative views towards others and a tendency to objectify' also increased. This was the opposite for 'deficits when recognising emotion' [explicit] where decreased levels of this predictor were

associated with increased levels of ‘negative views towards others and a tendency to objectify’.

‘Social and emotional difficulties’ was not predicted by implicit or explicit affect (for all, $t \geq -.04$, $p > .05$).

Table 43: Predicting psychopathy measured by the PCL:SV across samples from explicit and implicit affect.

	PCL:SV								
	Overall sample			Clinical sample			Student sample		
Predictor	**B (n)**	**SE B**	**β**	**B (n)**	**SE B**	**β**	**B (n)**	**SE B**	**β**
Emotion recognition [explicit]	.45 (91)	.56	.06	-.52 (41)	.63	-.14	.52 (50)	.41	.13
Callousness/lack of empathy [explicit]	3.22 (91)	.62	.50***	1.78 (41)	.73	.47*	1.47 (50)	.50	.32**
Emotional impulsivity [explicit]	1.56 (91)	.50	.25**	.84 (41)	.65	.21	.38 (50)	.29	.13
Anger/irritability [explicit]	.04 (91)	.57	.01	.04 (41)	.82	.01	.87 (50)	.29	.33**
Identifying emotion [implicit]	.51 (89)	.63	.06	-.09 (39)	.70	-.02	.95 (50)	.43	.22*
Evaluating emotion [implicit]	1.07 (89)	.63	.15	.33 (39)	.73	.09	.82 (50)	.45	.18

***** p< .001; ** p< .01; * p< .05**

Table 44: Predicting the two factors of the PCL:SV from explicit and implicit affect.

	PCL:SV					
	F1: Selfish, callous and remorseless use of others			F2: Chronic unstable antisocial lifestyle		
Predictor (n)	**B**	**SE B**	**β**	**B**	**SE B**	**β**
Emotion recognition [explicit] (91)	.03	.33	.01	.43	.33	.11
Callousness/lack of empathy [explicit] (91)	1.79	.36	.56***	1.43	.36	.38***
Emotional impulsivity [explicit] (91)	.35	.29	.11	1.21	.29	.33***
Anger/irritability [explicit] (91)	.07	.33	.02	-.03	.33	-.01
Identifying emotion [implicit] (89)	.02	.37	.01	.50	.37	.11
Evaluating emotion [implicit] (89)	.48	.36	.14	.59	.37	.14

***** p< .001**

PCL:SV: Overall sample

Sixty-six percent (R^2 = .66, Adjusted R^2 = .63) of variance in psychopathy defined by the PCL:SV was explained for by the predictors (F(6, 82) = 26.0, MSE = 476.1, p< .001). 'Callousness/lack of empathy' [explicit] and 'emotional impulsivity' [explicit] positively predicted psychopathy (for both, t ≥ 3.14, p< .01). Thus, as levels of these two predictors increased, level of PAPA-2 for the overall sample also increased.

PCL:SV: Clinical and student samples

For the clinical sample, the predictors accounted for 37% (R^2 = .37, Adjusted R^2 = .25) of the explained variance in PCL:SV psychopathy (F(6, 32) = 3.1, MSE = 41.2, p< .05). 'Callousness/lack of empathy' [explicit] (t = 2.43, p< .05) was a positive predictor for this sample. As scores on 'callousness/lack of empathy' [explicit] increased, so did scores on the PCL:SV.

'Callousness/lack of empathy' [explicit], 'anger/irritability' [explicit] and 'deficits in emotion identification' [implicit] (for all, t ≥ 2.22, p< .05) all positively predicted psychopathy in students. The model accounted for 66% (R^2 = .66, Adjusted R^2 = .62) of the variance in PCL:SV (F(6, 43) = 14.2, MSE = 40.3, p< .001). In this instance, as scores on 'callousness/lack of empathy' [explicit], 'anger/irritability' [explicit] and 'deficits in emotion identification' [implicit] increased, scores on PCL:SV also increased.

PCL:SV factors: Overall sample

'Callousness/lack of empathy' [explicit] (t = 4.99, p< .001) positively predicted 'selfish, callous and remorseless use of others'. The model explained 52% (R^2 = .52, Adjusted R^2 = .49) of variance in PCL:SV factor one (F(6, 82) = 14.9, MSE = 93.0, p< .001). As levels of 'callousness/lack of empathy' [explicit] increased, levels of 'selfish, callous and remorseless use of others' also increased.

In terms of PCL:SV factor two (i.e. chronic unstable antisocial lifestyle), the model accounted for 64% (R^2 = .64, Adjusted R^2 = .61) of the explained variance in psychopathy (F(6, 82) = 24.4, MSE = 155.1, p< .001). 'Callousness/lack of empathy'

and ‘emotional impulsivity’ [explicit] (for both, $t \geq 3.95$, $p < .001$) were positive predictors of ‘chronic unstable antisocial lifestyle’. Thus, as scores on these predictors increased, scores on ‘chronic unstable antisocial lifestyle’ also increased.

Thus, when predicting psychopathy, it appears that implicit and explicit affect is performing differently across measures. This chapter will now move on to explore implicit affective processing in psychopathy in more depth.

Further exploration of implicit affective processing in psychopathy measured by the PAPA-2 and PCL:SV

A series of independent samples t-tests were conducted to identify any significant differences between level of psychopathy and implicit affective processing. In the following analyses, implicit affective processing was assessed via the two tasks of the ACL addressing ‘deficits when identifying emotion’ and ‘deficits when evaluating/feeling emotion’. Analyses for PAPA-2 are presented first, followed by results for PCL:SV psychopathy.

As a reminder, these analyses will investigate the following predictions:

Those with higher levels of psychopathy will identify less emotional stimuli than those with lower levels of psychopathy.

Individuals with higher levels of psychopathy will demonstrate a lower strength of feeling for their own and others’ emotion than those with lower levels of psychopathy.

Psychopathy and deficits when identifying emotion

Using the same median split for the PAPA-2 adopted when exploring explicit and implicit cognition, those scoring above 107.0 were classified into the ‘high’ psychopathy group and those at or below this value, into the ‘low’ group.

Participants scoring 13 or above on the PCL:SV were assigned to the ‘high’ group. Those scoring below this were placed in the ‘low group’.

Descriptive statistics were calculated for each aspect of the identifying emotion task (i.e. number of emotion words correctly identified and time taken) using the 'high' and 'low' splits. Mean scores for level of PAPA-2 and PCL:SV are displayed in Table 45.

Table 45: Descriptive statistics for each aspect of the identifying emotions task for psychopathy assessed by PAPA-2 and the PCL:SV (nb. Standard deviation in parenthesis).

		Deficits when identifying emotion [implicit]	
Measure	**Level**	**Number of emotions correctly identified**	**Time taken (seconds)**
PAPA-2	High (n = 42)	18.90 (2.85)	111.57 (50.90)
	Low (n = 46)	19.37 (2.89)	95.62 (37.04)
PCL:SV	High (n = 24)	18.50 (2.89)	103.67 (40.93)
	Low (n = 65)	19.38 (2.82)	104.42 (47.09)

An independent samples t-test revealed that there was no significant difference between level of psychopathy assessed by the PAPA-2 and the number of emotion words identified ($t(86) = -.76$, $p > .05$), and time taken ($t(85) = 1.68$, $p > .05$). This was also the case for psychopathy defined by the PCL:SV, i.e. emotion words identified ($t(87) = -1.31$, $p > .05$) and time taken ($t(86) = -.07$, $p > .05$).

Psychopathy and deficits when evaluating emotion

Using the 'high' and 'low' levels of psychopathy calculated for the previous analyses, descriptive statistics were also determined for all aspects of the evaluating/feeling emotion task (i.e. rank order[84], time taken, own feelings and others' feelings). Data for psychopathy assessed by PAPA-2 and PCL:SV is presented in Table 46.

[84] A high rank order score (out of a maximum 7) is indicative of effective evaluation of the emotional scenarios.

Table 46: Descriptive statistics for each aspect of the evaluating/feeling emotion task for psychopathy assessed by PAPA-2 and the PCL:SV (nb. Standard deviation in parenthesis).

		Deficits when evaluating/feeling emotion [implicit]			
Measure	**Level**	**Rank order**	**Time taken (seconds)**	**Own feelings**	**Others' feelings**
PAPA-2	High (n = 42)	5.69 (2.01)	231.02 (97.59)	23.00 (7.16)	26.40 (5.82)
	Low (n = 46)	6.35 (1.48)	236.48 (91.26)	27.61 (4.22)	28.63 (3.76)
PCL:SV	High (n = 24)	5.08 (1.91)	243.50 (97.61)	25.20 (6.63)	26.64 (4.94)
	Low (n = 65)	6.40 (1.58)	236.25 (104.02)	25.54 (6.13)	27.95 (4.94)

Independent samples t-tests revealed that individuals in the 'high' psychopathy group on the PAPA-2 significantly rated themselves ($t(67.15) = -3.67$, $p < .001$) and others ($t(87) = -2.17$, $p < .05$) as experiencing less emotion than those in the 'low' psychopathy group. There was no significant difference for rank order ($t(74.97) = -1.74$, $p > .05$) or time taken ($t(86) = -.27$, $p > .05$).

In terms of the PCL:SV, a significant difference between level of psychopathy and rank order was found ($t(87) = -3.30$, $p < .01$), with individuals in the 'high' psychopathy category making more errors than those in the 'low' category. There was no significant difference between levels of psychopathy and the other variables: time taken ($t(87) = .30$, $p > .05$); own feelings ($t(88) = -.23$, $p > .05$); and others' feelings ($t(88) = -1.13$, $p > .05$).

The results section will now conclude by determining the components needed to provide a comprehensive assessment of psychopathy.

9.11 Determining the components required to provide a comprehensive assessment of psychopathy

In order to examine and identify the components required to provide a comprehensive assessment of psychopathy, two standard multiple regression analyses will be conducted. These will be conducted separately to reduce the risk of multicollinearity. The first analysis will examine the different measurement approaches adopted in the

ACL, and the second will focus on self-report. Tables 47 and 48 present the regression coefficients and standard error B for the two analyses.

Table 47: Predicting psychopathy measured by the PCL:SV from implicit and explicit assessment, as well as collateral review and observation.

		PCL:SV	
Predictor	**B (n)**	**SE B**	**β**
Implicit affect	.99 (89)	.25	.22***
Implicit cognition	.38 (91)	.30	.08
Explicit affect	.04 (91)	.18	.02
Explicit cognition	-.47 (90)	.32	-.10
Explicit lifestyle	.22 (90)	.07	.32**
Collateral review	.33 (41)	.04	.57***
Observation	.27 (91)	.13	.11*

***** p< .001; ** p< .01; * p< .05**

The predictors accounted for 93% (R^2 = .93, Adjusted R^2 = .92) of the explained variance psychopathy assessed by the PCL:SV ($F(7, 31) = 63.0$, MSE = 251.4, $p < .001$). Implicit affect, explicit lifestyle, collateral review, and observation (for all, $t \geq 2.07$, $p < .05$) all positively predicted psychopathy. Thus, as scores on these four predictors increased, psychopathy scores also increased.

Table 48: Predicting psychopathy assessed by the PCL:SV from factors underpinning the PAPA-2.

		PCL:SV	
Predictor (n)	**B**	**SE B**	**B**
F1: Dissocial tendencies (91)	.37	.10	.36**
F2: Negative view towards others and a tendency to objectify (91)	-.06	.09	-.06
F3: Social and emotional difficulties (91)	.33	.17	.20*

**** p< .01; * p< .05**

The predictors in the second regression explained 19% (R^2 = .19, Adjusted R^2 = .16) of the variance in psychopathy defined by the PCL:SV ($F(3, 87) = 6.7$, MSE = 279.3, $p < .001$). 'Dissocial tendencies' and 'social and emotional difficulties' positively predicted PCL:SV psychopathy (for both, $t \geq 2.02$, $p < .05$). In this instance, as scores on these two PAPA-2 factors increased, so did overall scores on PCL:SV psychopathy.

9.12 Summary of results

To summarise the main findings outlined here, psychopathy was found to be higher in the clinical sample when compared to the student sample. This was significant for the PCL:SV and ACL, but not PAPA-2. Nevertheless, PAPA-2 positively correlated with the PCL:SV, demonstrating concurrent validity with clinical methods of assessing psychopathy. PAPA-2 also positively correlated with the ACL, thus providing further evidence of validity. Acceptable levels of internal consistency were found for PAPA-2 and the PCL-SV. Reliability was good for the ACL overall, but was less acceptable for the subscales underpinning this measure.

Three factors were extracted from PAPA-2 for the overall sample. Factor one (F1) related to 'dissocial tendencies', factor two (F2) to 'negative views towards others and a tendency to objectify', and factor three (F3) to 'social and emotional difficulties'.

When determining the components required to provide a comprehensive assessment of psychopathy, two multiple regression analyses indicated that implicit affect, explicit lifestyle, collateral review, observation and self-report are important when assessing for the construct. Explicit and implicit cognition were not significant predictors of psychopathy defined by the PCL:SV.

However, correlational analyses revealed explicit and implicit cognition to be positively associated with psychopathy assessed by PAPA-2 and the PCL:SV. Implicit and explicit cognition was also found to have a role in psychopathy, positively predicting the construct. Interestingly, implicit and explicit cognition predicted psychopathy in a similar manner across measures, thus providing evidence of construct validity for PAPA-2.

On further exploration of implicit processing in psychopathy, individuals with higher levels of psychopathy defined by the PAPA-2 supported moral scenarios less (i.e. assigned a lower percentage) and produced fewer reasons for their argument. Those with higher levels of psychopathy also selected more hostile responses than individuals with 'low' levels of psychopathy.

In terms of psychopathy assessed by the PCL:SV, individuals with 'high' levels of psychopathy completed the moral reasoning activity faster, produced fewer reasons and agreed less with the moral scenarios than those scoring 'low' on the measure. There was no significant difference between hostile and pro-social responding and level of psychopathy for the PCL:SV. Despite this, the findings here indicate a clear role for implicit cognition in psychopathy.

Like implicit and explicit cognition, implicit and explicit affect also correlated and predicted PAPA-2 and the PCL:SV across samples. On further exploration of implicit affect in psychopathy, individuals scoring 'low' on the PAPA-2 rated themselves and others as experiencing more emotion than those scoring 'high' on the measure. Those scoring 'low' on the PCL:SV also made fewer errors when ranking emotional scenarios.

The results outlined here will now be discussed in relation to previous findings and psychological theory. Limitations of the study will be acknowledged, followed by the implications for clinical practice and recommendations for future research.

9.13 Discussion

The present study aimed to further evaluate and refine the Psychopathic Processing and Personality Assessment (PAPA-2) using a student and clinical sample. An exploratory factor analysis identified psychopathy assessed by PAPA-2 to be underpinned by three components; 'dissocial tendencies', 'negative views towards others and a tendency to objectify', and 'social and emotional difficulties'. This factor structure was different to that identified in the previous study and models proposed by Hare (1991) and Neumann et al. (2006).

In the previous study, psychopathy defined by the PAPA was underpinned by 'dissocial tendencies' and 'negative views towards others'. Whilst these two factors were captured by the factor analysis in the present study, the component 'social and emotional difficulties' was a new finding and may relate to the differences in the characteristics of the samples studied. For example, study two recruited prisoners and students, whilst the present study focused on high secure psychiatric patients and students. Psychopathy may therefore present differently in specialised populations, with 'social and emotional difficulties' being particularly important in those residing in secure psychiatric settings.

The lack of replication for the two- (e.g. Hare, 1991) and four- (e.g. Neumann et al. 2006) factor models may also relate to the sample adopted in the present study. That is, the present study used a much broader sample, i.e. students and patients, than that employed by Hare (1991) and Neumann et al. (2006), who tended to focus on prisoners.

The differences in factor structure may also stem from the methods used when developing the PAPA. The PAPA employed an expert consultation and review of the literature to aid its development, which arguably allows for a more holistic assessment of psychopathy when compared to existing self-report measures of psychopathy, such as the Levenson Self-Report Psychopathy Scale (LSRP) and the Self-Report Measure of Psychopathy (SRP-III). These two measures were derived from the Psychopathy Checklist-Revised (PCL-R) and inherited its flaws (i.e. assessing psychopathy as a behavioural entity, ignoring fundamental aspects relating to interpersonal, affective and cognitive functioning; Skeem & Cooke, 2010a).

Nevertheless, the three-factor solution derived from PAPA-2 somewhat resembled, but was not identical to the three-factor model delineated by Cooke and Michie (2001). Cooke and Michie (2001) argued that psychopathy was underpinned by interpersonal, affective and lifestyle features. Whilst 'dissocial tendencies' was similar to 'impulsive and irresponsible lifestyle' and 'negative views towards others and a tendency to objectify' to 'arrogant and deceitful interpersonal style', 'social and emotional difficulties' was different to 'deficient affective experience'. That is, 'deficient affective experience' did not capture the 'social difficulties' found to underpin psychopathy assessed by PAPA-2.

This again may relate to the sample adopted, with Cooke and Michie (2001) focusing on prisoners rather than students or psychiatric patients. Nonetheless, the similarity between the two models provides evidence of construct validity for PAPA-2 and aligns the new self-report with original conceptualisations of psychopathy (i.e. psychopathy as abnormal personality; Cleckley, 1982), placing an emphasis on interpersonal and affective functioning rather than criminal behaviour.

Further evidence of [concurrent] validity was found for PAPA-2, with it positively correlating with two other measures of psychopathy (i.e. the Psychopathy Checklist:

Screening Version, PCL:SV; and the Affect, Cognitive and Lifestyle Assessment, ACL). This finding also provided support for the prediction that the PAPA will positively associate with existing psychopathy measures (e.g. the PCL:SV).

Some consistency was found for correlations between PAPA-2 and the ACL subscales. For example, PAPA-2 'dissocial tendencies' demonstrated positive associations with several behavioural subscales of the ACL, including 'aggression', 'hostility', 'irresponsibility', 'recklessness' and 'impulsivity'. 'Negative views towards others and a tendency to objectify' however, exhibited stronger positive correlations with the more personality-based ACL subscales, including 'callousness', 'manipulativeness' and 'narcissism'.

Thus, it appears that the interpersonal subscale of PAPA-2 (i.e. negative views towards others and a tendency to objectify) associated with more personality-based features, and the antisocial component (i.e. dissocial tendencies) with behavioural-based features. This is consistent with the literature (e.g. Cooke & Michie, 1997; 2001; Blackburn, 2007a) and provides evidence of convergent validity for the PAPA-2.

However this was not the case for the two subscales belonging to the PCL:SV, with factor one (i.e. callous, selfish and remorseless use of others) positively correlating with 'dissocial tendencies', but not 'negative views towards others and a tendency to objectify'. The interpersonal aspects of psychopathy are represented by personality-based features (Blackburn, 2007a) and are not expected to associate with a behavioural component.

The findings outlined here may be an artifact of the sample composition, in that low base rates of psychopathy were found for both students and patients. Further research may be required to clarify certain relationships between PAPA-2 and the PCL:SV using a sample comprising of higher levels of psychopathy. Nevertheless, as expected, PCL:SV factor two (i.e. chronic unstable antisocial lifestyle) positively correlated with 'dissocial tendencies', and not 'negative views towards others and a tendency to objectify'.

The present study demonstrated evidence for the internal consistency of PAPA-2, the PCL:SV and ACL across samples. Acceptable levels of internal consistency were also

found for factors underpinning PAPA-2 and the PCL:SV, but not ACL. However, high levels of internal consistency were not expected for the ACL subscales due to the low number of items underpinning each of these.

There was also evidence of discrimination between samples, with those at higher risk of psychopathy (i.e. forensic psychiatric patients, Hare, 1991) exhibiting increased levels of the construct on all three measures than the lower risk student sample. This finding is consistent with de Vogel and de Ruiter (2005) and Strand and Belfrage (2005), and indicates that PAPA-2, the PCL:SV and ACL are able to discriminate effectively across samples. Whilst this was statistically true for the PCL:SV and ACL, there was no *significant* difference between sample and prevalence of psychopathy defined by PAPA-2.

This finding may relate to problems associated with self-report, with participants, particularly those with higher levels of psychopathy, modifying their responses to provide a positive impression of themselves (e.g. Snowden et al. 2004). This is not to say however that self-report measures are not useful in the assessment of psychopathy, it may just be that other methods are also required to prevent deception and detect, in full, more subtle aspects of the construct, including cognitive and affective processing (e.g. Cleckley, 1982; Hiatt & Newman, 2006).

This suggestion is supported by the finding that clinical observation, interview, collateral review, implicit affect and self-report all positively predicted psychopathy defined by the PCL:SV. Thus, demonstrating support for the inclusion of these methods when providing a comprehensive assessment of the construct. Implicit and explicit cognition, and explicit affect did not predict psychopathy. It may be that the ACL did not provide a specific enough measure of implicit cognition that was sufficiently sensitive to detect this aspect of functioning in psychopathy. However, on closer inspection of the data, implicit cognition appeared to predict psychopathy in a more localised manner, with a clear role for 'making poor moral judgments'. The ACL therefore does highlight the importance of incorporating more specific aspects of implicit cognition in the assessment of psychopathy.

This moves the discussion onto the second aim of the present study, which was to explore how implicit and explicit cognitive processing associated with psychopathy

defined through expert consensus (i.e. PAPA-2) and clinical measures (i.e. the PCL:SV). Analyses revealed that explicit cognition; specifically a 'lack of guilt/remorse and a willingness to dominate/exploit' positively correlated with, and predicted PAPA-2 and the PCL:SV across samples. 'Cognitive impulsivity' however, only demonstrated [weak] positive relationships with the PCL:SV. It therefore appears that a clear role for a 'lack of guilt/remorse and a willingness to dominate/exploit' was identified and this is in keeping with clinical conceptualisations of the construct (e.g. Cleckley, 1982; Hare, 1991).

The lack of association between psychopathy and 'cognitive impulsivity' may relate to the ACL's assessment of this variable. The ACL captures 'cognitive impulsivity' through one item only and may not provide a sensitive enough measure. Findings could therefore be an artifact of this limitation as opposed to a confirmed result.

In terms of implicit cognitive processing, 'making poor moral judgments' positively correlated with psychopathy defined by PAPA-2 and the PCL:SV. Evidence was therefore found for the prediction that the new self-report measure, the PAPA, will positively associate with less support for a moral outcome in dilemmas. 'Making poor moral judgments' also positively predicted the 'social and emotional difficulties' component of PAPA-2, overall levels of the PCL:SV, and factor one of the PCL:SV (i.e. selfish, callous and remorseless use of others).

These results suggest that rather than being a global predictor of psychopathy, 'making poor moral judgments' appeared to be a *specific* predictor; predicting components that focus on emotional difficulties, a lack of remorse, and callous use of others. This finding is consistent with Blair et al. (2005), who made a significant link between psychopathic individuals and their inability to consider other's emotional welfare and general well-being when making moral judgments.

Thus, whilst 'making poor moral judgments' was assessed as an implicit cognitive process in the present study, it also appeared to have a clear role in the affective and interpersonal aspects of psychopathy, specifically predicting components capturing these. This fits well with the notion that there is interplay between cognition and affect in psychopathy (e.g. Lorenz & Newman, 2002; Glass & Newman, 2009). However, the

exact nature of this interplay is yet to be determined and this is one limitation of the present study.

On closer inspection of 'making poor moral judgments', participants scoring 'high' on the PAPA-2 demonstrated less support for a moral outcome in dilemmas than those scoring 'low' on the measure. This was also the case for the PCL:SV. It therefore becomes evident that participants with higher levels of psychopathy presented with increased deficits in the more traditional element of moral reasoning (i.e. conventional reasoning). This is consistent with the findings of Blair (1995), Blair et al. (1995), Glenn et al. (2009), Koenigs et al. (2012) and Young et al. (2012), and supports the prediction that those with higher levels of psychopathy will be less likely to support a moral outcome in dilemmas than individuals with lower levels of psychopathy.

Interestingly, participants scoring 'high' on psychopathy also produced fewer [moral] reasons supporting their judgment than those with lower scores. This aspect of the moral reasoning task is arguably less susceptible to socially desirable responding (i.e. due to being less transparent) and therefore provides a more implicit measure than the conventional reasoning element. Although deficits in both conventional reasoning and moral reasoning were identified in those with higher levels of psychopathy, the latter provides further support for the role of implicit processing in the disorder.

The findings outlined here support the application of information processing theories, such as the Response Modulation Hypothesis (Newman, 1998), to account for poor moral judgments in psychopathy. Those participants with higher levels of psychopathy may have been unable to monitor and regulate their own thoughts and behaviour once a dominant response set had been established. In this instance, their ability to engage in 'healthy' conventional and moral reasoning may have been impeded by the goal to complete the task in the quickest time possible.

In support of this, analyses indicated that participants scoring 'high' on the PCL:SV took less time to complete the moral judgment activity than those with 'low' scores. Although descriptive statistics indicated that this was also the case for PAPA-2, results did not reach statistical significance. Nonetheless, these findings indicate that cognition in psychopathy, specifically moral reasoning, is conducive to impulsive, 'automatic'

responding and therefore consistent with more associative systems of processing (e.g. Strack & Deutsch, 2004; Fleischhauer et al. 2013).

Implicit cognitive processing in psychopathy was also examined through a tendency for hostile responding. This was found to positively associate with overall levels of PAPA-2 and factor two of this measure (i.e. negative views towards others and a tendency to objectify). Thus, support was found for the prediction that the PAPA will positively associate with higher levels of hostile responding. Surprisingly, a tendency for hostile responding did not correlate with the PCL:SV, nor did it predict psychopathy across measures or sample.

There was also no difference between level (i.e. high or low) of PCL:SV defined psychopathy and hostile or pro-social responding. As previously noted, this may relate to the small sample size and low base-rate of psychopathy in the present study.

There was a difference however between level of psychopathy as assessed by the PAPA-2 and hostile responding, with participants exhibiting higher levels of psychopathy selecting more hostile responses than those with 'low' levels of the disorder. There was also a significant difference between level of PAPA-2 psychopathy and pro-social responding. Those scoring 'low' on the PAPA-2 opted for more pro-social responses than participants scoring 'high' on the measure. Evidence was therefore found for the prediction that individuals with 'high' levels of psychopathy will display higher levels of hostile responding than those with lower levels of the disorder. This prediction was correct for psychopathy assessed by PAPA-2, but not the PCL:SV.

Findings here, specifically those associated with PAPA-2, are supportive of Huesmann's (1998) theory of information processing and extend the application of this to psychopathy. Consistent with Vitale et al. (2005), results indicate that psychopathic individuals have a tendency to attribute other's behaviour to hostile intent and therefore present with hostile attribution bias. This bias may stem from an inability to effectively utilise all information provided, therefore leading to an over-reliance on self-schemas, which in the case of the psychopath, often portray the world and others as hostile and unpredictable (Cleckley, 1976; Blackburn, 2003). Thus, those with psychopathy are likely to respond in a manner that is unrelated to the situation, yet consistent with their schemas (Huesmann, 1998), exhibiting a tendency for hostile responding.

It therefore becomes increasingly evident that psychopathic individuals have a number of cognitive deficits and biases that interfere with their ability to process information accurately and respond appropriately. Overall findings support a clear role for implicit and explicit cognition in psychopathy, with consistency in cognitive functioning across samples. This provides additional evidence of construct validity for PAPA-2 and emphasises the importance of incorporating implicit and explicit cognition into psychopathy measures. Until recently, cognition has largely been neglected in the assessment of the disorder (Blackburn, 2007a).

Affective processing has also received little attention when compared to the behavioural features of psychopathy (Flor, 2007). Thus, the present study aimed to investigate how implicit and explicit affective processing associated with psychopathy defined through expert consensus (i.e. PAPA-2) and clinical measures (i.e. the PCL:SV).

Explicit affect generally demonstrated positive relationships with PAPA-2 and the PCL:SV. However there were a number of exceptions to this. For example, when examining the clinical sample, deficits in explicit emotion recognition did not significantly associate with psychopathy for either measure. This again may relate to the number of psychiatric patients recruited.

Furthermore, factor three of PAPA-2; 'social and emotional difficulties' demonstrated mixed findings with explicit affect, which is surprising given the content of this component. 'Emotional impulsivity' [explicit] and 'anger/irritability' [explicit] did not associate with 'social and emotional difficulties'. However they did correlate with 'dissocial tendencies', which in part may fit with known aspects of psychopathy, such as poor behavioural control and impulsivity that are likely to be represented by this component (e.g. Hare, 1991). Nevertheless, 'social and emotional difficulties' did positively correlate with the remaining explicit affective variables, thus providing further support for the construct validity of PAPA-2.

Findings for implicit affective processing in psychopathy were also mixed but nonetheless, highlight the importance of attending to affective processing when investigating psychopathy. Whilst psychopathy assessed by the PCL:SV positively correlated with 'deficits when identifying emotion' and 'deficits when

evaluating/feeling emotion', PAPA-2 only demonstrated positive associations with the latter. No association was found between PAPA-2 and 'deficits when identifying emotion' for the sample as a whole. However, PAPA-2 correlated with this variable when examining the clinical sample separately. Support was therefore found for the prediction that the PAPA will positively associate with a lower strength of feeling for own and others' emotion. There was only partial support however for the prediction that the PAPA will positively associate with fewer emotional words identified.

Again, it may be that the ACL did not provide a sensitive enough measure of implicit affective processing and the results may be an artifact of this. This argument is also supported by both implicit affective processing variables failing to predict psychopathy across measures. The exception to this is for the student sample, where a clear role for implicit affective processing in psychopathy was found.

Deficits in implicit affective processing positively correlated with, and predicted psychopathy across measures for students, but not patients. This finding is inconsistent with Lorenz and Newman (2002), Long and Titone (2007), and Glass and Newman (2009) who all suggested that non-incarcerated psychopaths have similar deficits in affect to incarcerated psychopaths.

Additionally, Habel et al. (2002) found strong evidence for impaired emotional-processing in psychopathy, particularly for those with antisocial personality traits. Those with 'emotional detachment' (i.e. PCL-R factor one, the core personality traits of the construct) were the least impaired in their discrimination ability. Arguably, students with 'high' levels of psychopathy would fit into the 'emotional detachment' rather than the 'antisocial personality' category given that they are able to avoid contact with the Criminal Justice System and reside in the community.

Thus, the findings of the present study were inconsistent with this, but nevertheless do suggest that psychopathic individuals in the community (i.e. successful psychopaths) also have deficits in affective processing. It may just be that these manifest differently to affective deficits found in psychopaths residing in secure settings. Further research is therefore required to confirm this using a larger sample and more sensitive measures of implicit affective processing.

Additional exploration of implicit affective processing in psychopathy revealed that individuals categorised into the 'low' psychopathy group for the PAPA-2 rated themselves and others as experiencing more emotion than those in the 'high' group. Individuals scoring 'high' on the PCL:SV made more errors when ranking emotional scenarios, thus suggesting that individuals with psychopathy have impairments when evaluating emotion.

It is worth noting that these were the only statistically significant results for the group analyses exploring the implicit affective processing tasks. However descriptive statistics, though not statistically significant, suggested that individuals with higher levels of psychopathy had other impairments in affective processing (i.e. they took longer to process emotional information). Thus, with an increased sample size more statistically significant results may have been obtained.

Whilst there was no support for the prediction that those with higher levels of psychopathy will identify less emotional stimuli than those with lower levels of psychopathy, evidence was found for the second prediction; individuals with higher levels of psychopathy will demonstrate a lower strength of feeling for their own and others' emotion than those with lower levels of psychopathy.

This finding is consistent with the Dysfunctional Fear Hypothesis (Lykken, 1957) and the Violence Inhibition Mechanism Model (VIM; Blair, 1995), in that those individuals with higher levels of psychopathy presented with an affective processing deficit that would appear to be conducive to a decreased sensitivity to emotion. Psychopathic individuals presented with deficient emotional reactivity that extended to experiencing their own emotion and evaluating others' emotion.

In the Dysfunctional Fear Hypothesis, Lykken (1957) also argued that individuals with psychopathy, specifically primary psychopathy, are characterised by an absence of emotional reactivity that relates to an inability to experience anxiety. However, the present study did not screen for anxiety in the participants sampled. Future research should take this into consideration when exploring implicit affective processing in psychopathy so that this theory can be better applied.

Beck's (1987) theory of emotional disorders can also be used to account for the findings outlined here. Beck (1987) proposed that biased schemas and past learning history are a source of emotional dysfunction. That is, they lead to distorted self-evaluations and biased attributions of causality, which impact on an individual's ability to effectively evaluate and react appropriately to emotional information. Thus, those individuals scoring high on psychopathy in the present study may have cognitive biases that result in an inability to evaluate their own and others' emotion. Their cognitive biases may also influence their ability to evaluate emotional scenarios appropriately.

The application of this theory also highlights the role of cognitive-affective interactions in modulating the manifestation of affective processing in psychopathy. Moreover, it appears that cognitive schemas, and indeed information processing, have a significant influence on emotional experiences in psychopathy, in that they determine how affective cues are evaluated, with this being particular apparent for a psychopath's own emotional experience.

9.14 Limitations of the study

As noted, there was a low base rate of psychopathy in the samples studied. Sample size was also relatively small (n = 91; 50 students and 41 patients). Although this was acceptable for the methods adopted (e.g. interview, collateral review, observation, etc.), the study, and indeed analyses, would have benefitted from a larger pool of participants. The response rate for students was high (i.e. 96%). However this was not the case for the clinical sample, with a response rate of 37% being achieved. The high secure psychiatric sample was a challenging population to engage, and this must be considered when reviewing the findings of the present study.

The low base rate of psychopathy meant that fewer participants were categorised into the 'high' group for the PCL:SV and PAPA-2 when examining the effect of level of psychopathy on implicit cognitive and affective processing. The disproportionately populated groups may have resulted in an underestimation of effect. Future research should therefore recruit a larger sample size with a higher base rate of psychopathy to allow the data to be split into top and bottom quartiles. This method would provide for more meaningful comparisons between levels of psychopathy and implicit cognitive and affective processing.

The present study also aimed to examine how cognitive and affective processing interacts in psychopathy. Whilst cognitive processing demonstrated a clear role in the affective component of PAPA-2 (i.e. social and emotional difficulties), the exact nature of this interplay was not examined. In light of previous findings, the present study can only assume, rather than confirm, that this interplay resulted from a cognitive overload experienced by some participants.

Previous research (e.g. Verona et al. 2012; Baskin-Sommers et al. 2013) has found increased attentional demand and high processing load to create a bottleneck, whereby psychopathic individuals have difficulty processing multiple channels of information simultaneously. With this in mind, there is reason to suspect that this attention bottleneck may be detrimental to affective processing in psychopathy, specifically in relation to emotional reactivity (Baskin-Sommers et al. 2013). Further research is therefore required to confirm this.

9.15 Concluding comments

Overall the results provide promising evidence for the internal reliability and validity of PAPA-2. Similarities between the factors extracted from PAPA-2 and the model identified by Cooke and Michie (2001) align the new measure with original conceptualisations of psychopathy as 'abnormal personality' (e.g. Cleckley, 1982). That is, both models place an emphasis on interpersonal and affective functioning. Whilst the three-factor solution extracted from PAPA-2 did not attend directly to cognition, a clear role for cognitive processing in psychopathy was identified.

Moreover, results were in favour of the notion that psychopathic individuals have a number of cognitive deficits and biases that interfere with their ability to process information effectively and respond appropriately. Findings provide support for implicit and explicit cognition in psychopathy, with consistency in functioning across samples.

Findings also indicate a clear role for both explicit and implicit affective processing in psychopathy, with this being particular evident for the student sample. Analyses indicated that individuals with psychopathy have deficient emotional reactivity, specifically in relation to their experience of emotion. Individuals with higher levels of

psychopathy also appeared to make more errors when ranking emotional scenarios, thus lending further support for impairments when evaluating emotion. Consistent with Beck's (1987) theory, it appears that cognitive biases may influence emotional experiences in psychopathy, in that they determine how emotional information is appraised. Whilst this draws on the cognitive-affective interaction, further research is required to examine the role of attention in the identification and evaluation of emotion in psychopathy.

Thus, it becomes evident that there is a need for implicit and explicit measures of cognition and affect to be included in the assessment of psychopathy. Whilst results support inclusion at a localised level (i.e. tasks that attend to moral judgments and the evaluation of emotion), further research using a larger sample size may indicate the need for a more global presence of cognitive and affective processing in measures of psychopathy. Results also suggest the need for collateral review, observation and interview to reduce the possibility of deception and make the assessment of psychopathy via self-report more reliable.

The thesis will now provide a general discussion of the overall theoretical findings of the research. It will address the four outcomes proposed in Chapter six (*See* p. 126) and highlight the limitations of the thesis. Implications for clinical practice, including the assessment and treatment of those with psychopathy will also be outlined. The general discussion will conclude with proposals for future research.

Chapter 10.
GENERAL DISCUSSION

10.1 Structure of the Chapter

This Chapter provides a discussion of the overall findings of the thesis. The limitations of the research and recommendations for future work will also be discussed, followed by a conclusion bringing the thesis to a close.

10.2 Discussion of the overall findings

To maintain focus, this section has been split into four subsections, which include 'defining the construct', 'evaluating the PAPA and its applicability across samples', 'cognitive processing in psychopathy', and 'affective processing in psychopathy'. A discussion of the findings will be provided relevant to each subsection. The section concludes with a summary of how this thesis provides an original contribution to the academic study of psychopathy.

Defining the construct of psychopathy

Experts agreed that psychopathy could be largely understood through interpersonal factors, behavioural characteristics, deficits in cognition and affect, and developmental factors. They appeared to be influenced by the definition of psychopathy set by the Psychopathy Checklist – Revised (PCL-R; Hare, 1991) and rated items relating to this as most important. This is consistent with Skeem and Cooke (2010a), who noted that the theoretical construct and assessment of psychopathy have merged. It would not be illogical to propose that experts may have rated familiar items more favorably and this would account for the high level of agreement on the PCL-R items.

Experts also rated a number of items addressing cognition and affect as important when understanding psychopathy. They rated items capturing affect as more important than those associated with cognition. This finding is consistent with early conceptualisations of psychopathy that placed more emphasis on affective processing in the disorder (e.g.

Cleckley, 1976). However, as expected, item agreement was lower for both cognition and affect when compared to interpersonal and behavioural features and would suggest that the PCL-R has heavily influenced and hindered research into psychopathy. Cognitive processing was poorly captured in experts' understanding and could indicate a lack of familiarity with the research in this area. It may also relate to the characteristics of the experts sampled.

A small number of experts took part in the survey, of which over 50% were Forensic Psychologists. Forensic Psychologists will have used the PCL-R in their roles, arguably leading to biased responding as this measure lacks items that address cognition and affect in psychopathy. However, those items capturing cognition and affect that reached agreement may be attributed to a small number of experts who were academics and may have an increased understanding into the cognitive and affective processes associated with psychopathy.

Regarding the expert profile of psychopathy, it was agreed that individuals with psychopathy have biased judgments of causality [cognition], possess maladaptive cognitive schemas [cognition] and display low levels of fear [affect]. They also have an impaired emotional learning [affect], a different internal experience of emotion [affect] and are less influenced by emotion [affect].

This profile is consistent with existing research, in that researchers have generally identified individuals with psychopathy to present with biased judgments (e.g. Vitale et al. 2005), have negative cognitive schemas (e.g. Wilks-Riley & Ireland, 2012), have deficient emotional reactivity (e.g. Lykken, 1957), and experience problems when identifying (e.g. Blair et al. 2004; Dawel et al. 2012) and evaluating emotions (e.g. Glass & Newman, 2009; Baskin-Sommers et al. 2013).

Interestingly, the expert profile of psychopathic cognition and affect also overlaps with a number of theories and would indicate that whilst experts have some knowledge of cognition and affect that relates to theory, the current assessment of psychopathy is not allowing for this to be applied. Beck (1987) and Huesmann (1998) for example, recognise that biases in cognitive schema influence information processing and thus give rise to attributions of causality that are inconsistent with the situation. These

attributions relate to abnormal affective experiences and thus account for the psychopath's 'abnormal' internal experience of emotion (Beck, 1987).

The Dysfunctional Fear Hypothesis (Lykken, 1957) and Violence Inhibition Mechanism Model (VIM; Blair, 1995) also relate to the expert consensus of psychopathy, in that they emphasise individuals with psychopathy to have deficient emotional reactivity and consequently experience less arousal to emotion. This would account for their inability to identify emotion and learn from this, which experts highlighted as crucial aspects of affective processing in psychopathy.

It is worth noting that experts in the current study also placed less emphasis on the early developmental experiences proposed by VIM and how these associate with cognition and affect. Nevertheless, the findings from the Delphi survey were captured by both of these theories and therefore allow for a theoretical understanding of the construct that extends to the Psychopathic Processing and Personality Assessment (PAPA).

Evaluating the PAPA and its applicability across samples

A two-component solution was extracted from the PAPA in a sample of prisoners and students. This solution was underpinned by 'dissocial tendencies' and 'negative views towards others', closely resembling the two-factor model of the PCL-R. Findings therefore point to interpersonal difficulties and antisocial behaviour as core features of psychopathy. However, it could be argued that these findings reflect the antisocial nature of the forensic sample rather than the true characteristics of psychopathy per se.

'Dissocial tendencies' and 'negative views towards others' were also found to underpin psychopathy in a sample of high secure psychiatric patients and students. However, a third component was also identified, which captured 'social and emotional difficulties'. The extraction of this component was a novel finding, as this has not been previously identified in research exploring the factor structure of psychopathy (e.g. Hare, 1991; Cooke & Michie, 2001; Neumann et al. 2006; Williams et al. 2007; Skeem & Cooke, 2010a,b). This suggests that research has missed this and it may therefore be incorrect to accept that the disorder consists solely of interpersonal and behavioural features (e.g. Hare, 1991). There may be other components that are yet to be discovered; components that attend to cognitive processing in psychopathy for example.

Psychopathy also appears to present differently across samples, with 'social and emotional difficulties' being important for those detained in secure psychiatric settings. This provides compelling evidence for more specific manifestations and etiologies of psychopathy that are unique to different populations. Whilst this is consistent with psychopathy's heterogeneous past (e.g. Schneider, 1923, cited in Werlinder, Karpman, 1955, cited in Skeem et al. 2003; 1978; Arieti, 1963, cited in Hare, 1970), it disagrees with more recent conceptualisations of the construct as a homogeneous entity (e.g. Harpur et al. 1989; Hare, 1991; Cooke & Michie, 2001). This work therefore supports the need for an assessment of psychopathy that is dynamic and sensitive to differences in psychopathy across samples.

The PAPA was found to be a valid and reliable assessment of psychopathy. It positively correlated with existing psychopathy measures, including the Levenson Self-Report Psychopathy Scale (LSRP; Levenson et al. 1995) and the Psychopathy Checklist-Revised: Screening Version (PCL:SV; Hart et al. 1995). However, it is worth noting that the strength of the correlation between the PAPA and PCL:SV was relatively low. It may be that the PAPA and PCL:SV are measuring different variants of psychopathy and the weak relationship between the two may relate to the focus of each measure. For example, whilst the PAPA adopts a more personality-based approach to psychopathy assessment, the PCL:SV tends to focus on behaviour. This is a known criticism of the PCL:SV as discussed throughout this thesis. Nevertheless, the findings here demonstrate concurrent validity of the PAPA with existing psychopathy measures and this is important, as it indicates that the self-report is fulfilling its purpose as a new measure of psychopathy.

There was also evidence of discrimination between samples on levels of psychopathy, with those at higher risk of the disorder (i.e. forensic psychiatric patients and prisoners, Hare, 1991) presenting with higher scores on the PAPA. This finding is consistent with de Vogel and de Ruiter (2005), Strand and Belfrage (2005), Strachan (1993), Forth et al. (1996), and Huss (2009) and indicates that the PAPA is able to discriminate effectively across samples. Whilst this held for prisoners and students, there was no significant difference between students and psychiatric patients. However when considering means, psychiatric patients had higher levels of psychopathy defined by the PAPA than students.

The lack of discrimination between students and psychiatric patients on the prevalence of psychopathy may be due to the low sample size for both populations. It may also relate to problems associated with self-report, including impression management. This is not to say that self-report measures are not useful in the assessment of psychopathy; it may just be that other methods are also required to reduce response bias. This is supported by the finding that clinical observation, interview, collateral review and implicit affect measured by the Affect, Cognitive and Lifestyle Assessment (ACL; Ireland & Ireland, 2012) all positively predicted psychopathy defined by the PCL:SV. Findings therefore support a mixed methods approach when assessing for the disorder. This is a new development in the assessment of psychopathy, with the ACL being the only measure to offer this.

Cognitive processing in psychopathy

Implicit and explicit cognition was found to be integral aspects of psychopathy across samples. In terms of explicit cognition, self-report psychopathy (i.e. psychopathy assessed by the PAPA and LSRP) positively correlated with positive and negative cognitive schema. Similar relationships were found to those identified by Wilks-Riley and Ireland (2012), providing further evidence of construct validity for the PAPA.

Findings were mixed for positive cognitive schema. Whilst increased levels of 'calm controlled' and 'caring' predicted higher levels of self-report psychopathy, increased 'happy/sociable' and 'easy going' predicted decreased levels. Thus, not all positive schemas are conducive to psychopathy. Nevertheless, these findings broaden the description of cognitive schema, as a clear role for positive cognitive schema was found for psychopathy.

Cognitive schema, specifically Early Maladaptive Schemas (EMS; Young et al. 2003) focus on negative, antisocial characteristics and therefore neglect positive aspects of cognition. Interestingly, individuals scoring 'high' on psychopathy exhibited more positive cognitive schemas than those with 'low' levels of the disorder. Whilst this indicated that cognitive schemas in psychopathy are not solely maladaptive, it also provided support for early conceptualisations of the disorder (e.g. Cleckley, 1982), in

that not all psychopathic individuals are involved in criminality and can also be found residing in the community, i.e. as successful psychopaths (Stover, 2007).

As expected, negative cognitive schema significantly correlated with, and predicted the PAPA and LSRP across samples. This finding is consistent with Blackburn's (2003) Cognitive-Interpersonal Theory of Psychopathy and suggests that psychopaths have a distorted belief system stemming from early developmental challenges and unhelpful interactions with others. Individuals with psychopathy appear to have an upbringing that is characterised by abandonment, distrust and intolerance. It is therefore not unreasonable to propose that this experience would foster an extreme interpersonal style; a style that minimises the opportunity for these beliefs to be disconfirmed (Blackburn, 2003). Thus, it could be argued that negative cognitive schemas relating to the disorder may predispose psychopathic individuals to engage in antisocial behaviour, as traits that are conducive to this, such as a lack of genuine empathic concern, are likely to manifest from such beliefs (e.g. Cleckley, 1982).

Psychopathy in the student sample however, was predicted by more positive cognitive schema than negative cognitive schema. This was not the case for the forensic sample, with this population having more negative cognitive schema predicting the construct. In light of this, it may be that positive cognitive schema in psychopathy act as a protective factor, reducing the likelihood of individuals engaging in offending behaviour.

Nevertheless, analyses revealed that both positive and negative cognitive schema correlated with psychopathy in a similar manner across samples. This in turn supports the view of schemas as fundamental units of personality associated with certain developmental experiences consistent across psychopathology (Beck, 1967; Beck et al. 2004; Wilks-Riley & Ireland, 2012).

Research has tended to explore cognitive schema in personality disorder (e.g. Reeves & Taylor, 2007; Carr & Francis, 2010), neglecting psychopathy. The findings here extend the application of cognitive schema to psychopathy and this is a significant contribution to understandings of the disorder. It confirms the notion that psychopathy, like personality disorder, is underpinned by 'abnormal personality' rather than 'criminal behaviour'.

Explicit cognition defined by the ACL was also found to correlate with, and predict psychopathy defined by the PAPA and the PCL:SV. Interestingly, a 'lack of guilt/remorse and a willingness to dominate and exploit' positively correlated with, and predicted psychopathy across samples, with the exception of psychopathy assessed via PAPA-2 in the clinical sample. Explicit cognition in psychopathy may therefore not be sample-specific, which is consistent with the findings of Newman et al. (1997), Vitale et al. (2007), and Sadeh and Verona (2008).

Nevertheless, this fits well with the findings for implicit cognitive processing in psychopathy, specifically in relation to moral reasoning. That is, it could be speculated that the impulsive 'automatic' responding considered a central feature of psychopathy (e.g. Hare, 1991; 2003) may dominate explicit processes, which are conscious and open to manipulation (Bluemke et al. 2010). Thus, deficits in implicit processing in psychopathy may influence the manifestation of explicit processes and this is evident here, in that poor moral reasoning may unconsciously bring about a lack of guilt and remorse and a willingness to exploit and dominate.

Regarding implicit cognitive processing, as noted, individuals with higher levels of psychopathy were found to exhibit deficits in moral reasoning. They also presented with a tendency for hostile responding. This is consistent with the academic literature, in that psychopaths have been commonly viewed as immoral (Schaich Borg & Sinnott-Armstrong, 2013) and are known to respond to situations inappropriately, often in an aggressive manner (Vitale et al. 2005).

Rather than being a global predictor of psychopathy, implicit cognition tended to predict the disorder at a more specific level. 'Making poor moral judgments' for example, predicted emotional and interpersonal components of psychopathy but not dissocial tendencies. Thus, deficits in moral reasoning appear to play a role in the affective aspect of psychopathy and therefore reinforce the idea of interplay between cognition and affect in psychopathy (e.g. Lorenz & Newman, 2002; Glass & Newman, 2009).

Consistent with the findings of Blair (1995), Blair et al. (1995), Glenn et al. (2009), Koenigs et al. (2012) and Young et al. (2012), analyses found that individuals with higher levels of psychopathy assessed by the PAPA demonstrated less support for a moral outcome in dilemmas than those with lower levels of the disorder. Participants

with higher levels of psychopathy also produced fewer [moral] reasons when supporting their judgment and took less time to do this. Whilst the timing element of the task was only significant for the PCL:SV, descriptive statistics for the PAPA were also in support of this.

Thus, it appears that psychopathy is associated with increased deficits in conventional and moral reasoning. This provides support for the inclusion of implicit testing in the assessment of psychopathy, as the moral reasoning task (i.e. generating moral reasons) was arguably less susceptible to socially desirable responding and therefore provides for a more implicit measure. It also becomes increasingly evident that moral reasoning is the core to cognitive difficulties in psychopathy and this has not been captured well in the literature; arguably due to an over focus on antisocial behaviour. Psychopaths are infamous for their immorality (Schaich Borg & Sinnott-Armstrong, 2013), yet the processes underpinning this have largely been neglected in understandings of the construct.

These findings nevertheless allow for information processing theories, such as the Response Modulation Hypothesis (Newman, 1998) to be applied to psychopathy. Individuals with higher levels of psychopathy may have been unable to regulate and monitor their own thoughts and behaviour once a dominant response set had been established, which in this instance may have been the timing element of the moral reasoning task. It may also mean that when it come to producing their [moral] reasons, psychopaths attend to information that is central to an event, ignoring peripheral information, which would lead to biased judgments of causality and in turn the wrong interpretation of the situation. They are therefore unlikely to form adequate moral reasons as a result of this.

The finding that individuals with higher levels of psychopathy completed the moral reasoning task faster than those with lower levels of the disorder is consistent with the notion that implicit cognition is related to more impulsive, automatic systems of processing and therefore relates to the model proposed by Strack and Deutsch (2004). This suggests that individuals with higher levels of psychopathy have less control over the processes governing their behaviour and consequently, respond with little effort and conscious thought. This would account for the poor behavioural control and high levels of impulsivity observed in psychopaths (e.g. Cleckley, 1982).

Unlike ‘making poor moral judgments’, a tendency for hostile responding did not predict psychopathy defined by the PAPA or PCL:SV. However, individuals with higher levels of psychopathy defined by the PAPA were found to have more of a tendency for hostile responding than those with lower levels of the disorder. This was the opposite for pro-social responding. There were no significant findings in relation to this for the PCL:SV.

A tendency for hostile responding is supportive of Huesmann’s (1998) theory of information processing and extends the application of this theory to the construct of psychopathy. Findings confirm that psychopathic individuals have a network of cognitive scripts that are conducive to aggressive responding. These scripts may be more salient and therefore more accessible for those with the disorder. As cognitive scripts are often acquired through observation and enactive learning during childhood (Huesmann, 1998), the findings here would also suggest that psychopaths encounter early experiences of violence and/or aggression, which is consistent with Frodi et al. (2001).

A tendency for hostile responding also lends support for a hostile attribution bias in psychopathy (e.g. Vitale et al. 2005), in that psychopathic individuals attribute other’s behaviour to hostile intent even when there is no hostility present. Thus, it becomes apparent that psychopaths are over reliant on aggressive scripts, with this leading to problems associated with biased judgments of causality and inappropriate responding. This is arguably maintained through their inability to accurately evaluate the environment (Newman, 1998), and monitor and evaluate the effectiveness of their cognitive scripts.

Thus, the present research supports a clear role for implicit and explicit cognition in psychopathy, with consistency across samples. The findings here reinforce the need for the inclusion of measures addressing implicit and explicit cognition in the assessment of the disorder. Given that cognition has largely been neglected in both the assessment (Blackburn, 2007a) and study of psychopathy (Wilks-Riley & Ireland, 2012), the findings discussed here have significant implications for advances in these areas.

Affective processing in psychopathy

The present research also examined implicit and explicit affective processing in psychopathy across samples. Explicit schemas relating to negative affect demonstrated a clear role in psychopathy that was shared across prisoners and students. Psychopathy was associated with higher levels of negative affect and this fits well with Beck's (1987) Theory of Emotional Disorders.

Beck (1987) argues that cognitive schemas determine how we interpret, experience and react to events, circumstances, and indeed others' emotion. Maladaptive cognitive schemas, such as those found to associate with psychopathy, are likely to have a negative impact on this process and sustain the high levels of negative affect identified here. That is, as others respond in a hostile manner towards the psychopath due to their inappropriate responding governed by cognitive biases; the psychopath is likely to form an unhelpful impression of the world that promotes negative affect. Whilst this provides one explanation of how cognition and affect interact in psychopathy, this requires further investigation as Beck's theory has rarely been applied to the construct. Nevertheless, this thesis has identified a clear role for Beck's theory, with cognitive biases determining the expression of emotion in psychopathy.

Explicit affect assessed by the ACL also exhibited positive relationships with psychopathy. However, findings for implicit affective processing were mixed. Psychopathy assessed by the PCL:SV positively correlated with 'deficits when identifying emotion' and 'deficits when evaluating/feeling emotion'. The PAPA only demonstrated a positive relationship with the latter. No relationship was found between PAPA-2 and 'deficits when identifying emotion' for the sample as a whole. However, PAPA-2 correlated with this variable when examining the clinical sample separately.

The lack of association between the PAPA and 'deficits when identifying emotion' may suggest that the ACL does not provide a sensitive enough measure of implicit affective processing. Alternatively, it may also imply that individuals with psychopathy do not have problems when identifying emotion. Their difficulties may solely relate to experiencing emotion. This is the preferred explanation, especially as evidence for this has been provided by the group analyses exploring implicit affect in psychopathy.

Prior to discussing this, it is worth noting that a clear role was identified for implicit affect in the student sample, with deficits in implicit affective processing positively correlating with, and predicting psychopathy across measures. This finding was surprising and inconsistent with research suggesting that all psychopaths, regardless of whether they are incarcerated, should present with similar deficits in affective processing (e.g. Lorenz & Newman, 2002; Long & Titone, 2007; Glass & Newman, 2009). However, it may just be that the sample size and prevalence of psychopathy was not high enough for analyses to detect a relationship between the disorder and implicit affect in the high secure psychiatric sample.

Further exploration of implicit affective processing in psychopathy revealed that individuals with higher levels of psychopathy defined by the PAPA rated themselves and others as experiencing less emotion than those with lower levels of the disorder. Those scoring 'high' on the PCL:SV also made more errors when ranking emotional scenarios, suggesting that psychopaths may have problems when evaluating emotion. As these were the only statistically significant results for implicit affect in the group analyses, problems experiencing and evaluating emotion may be the core characteristics of affective processing in psychopathy. However this is speculative, as there are other aspects of affective processing in psychopathy that this research did not address, e.g. empathic dysfunction (e.g. Blair, 2009).

Nevertheless, this finding is consistent with both the Dysfunctional Fear Hypothesis (Lykken, 1957) and the Violence Inhibition Mechanism Model (VIM; Blair, 1995), in that psychopathy appears to be conducive to a decreased sensitivity to emotion. Psychopathic individuals presented with deficient emotional reactivity that extended to evaluating emotional situations and when experiencing own and others' emotion.

Beck's (1987) theory of emotional disorders can also be applied to explain the findings here. As noted, Beck (1987) proposed that biased schemas are a source of emotional dysfunction in that they lead to distorted self-evaluations and biased attributions of causality, which ultimately impact on an individual's ability to effectively evaluate and react appropriately to emotional information. Results therefore suggest that individuals with psychopathy may have cognitive biases that result in an inability to evaluate their emotion appropriately.

Thus, the application of this theory emphasises the significance of cognitive-affective interactions in modulating the manifestation of affective processing in psychopathy. Moreover, it appears that cognitive schemas, and indeed information processing challenges, play an important role in the emotional experiences of those with psychopathy. That is, cognitive biases appear to determine how affective cues are evaluated, with this being particular apparent for the psychopath's own emotional experience.

Summary

This discussion highlights that attempts to develop new psychopathy measures have been compromised by the dominance of the PCL-R in the field. The emphasis on psychopathy as an entity consisting largely of interpersonal and behavioural features remains evident in experts' understanding of the disorder. It is this understanding that has been limited by a lack of research into other aspects of psychopathy deemed to be important, such as cognitive and affective processing (e.g. Cleckley, 1982). However, it is suspected that as more research is being conducted in these areas (e.g. Blair, 2009; Ireland & Wilks-Riley, 2012; Baskin-Sommers et al. 2013), the expert opinion of psychopathy is likely to change. Until then, measure development should take into consideration the significant findings of this thesis, as it provides an outline as to what should be included in a comprehensive assessment of psychopathy.

In terms of measurement, this thesis offers a new self-report measure of psychopathy, the Psychopathic Processing and Personality Assessment (PAPA), and unlike existing psychopathy self-reports (e.g. the LSRP), it has not been derived from the PCL-R and inherited its flaws (e.g. Lilienfeld & Fowler, 2006). The PAPA was developed from an expert Delphi survey and literature review, thus allowing for a consensus approach to assessment that is sensitive to the core features of psychopathy identified in the literature (i.e. cognition and affect). This method has not been previously adopted in the development of a psychopathy measure and therefore highlights the originality of the present research.

In addition to this, the PAPA was found to perform well across samples, achieving acceptable levels of reliability and validity. However, this thesis recognises that self-report measures are not without their limitations and are open to challenges, such as

response bias. It has been proposed nevertheless, that the PAPA should be used alongside other measures, such as the ACL, which offer a range of methods to assess for psychopathy, including implicit and explicit testing, observation, interview and collateral review. This approach has not yet been adopted in the assessment of psychopathy and therefore offers a step forward in the measurement and assessment of the disorder. It is also worth noting that the PAPA has been aligned with the [proposed] changes to the Diagnostic and Statistical Manual of Mental Disorders – version five (APA, 2013; DSM-V), allowing for a current assessment.

The present research also provides a novel insight into the factor structure of psychopathy that may help when resolving the ongoing debate surrounding the components underpinning the disorder. This thesis supports a factor structure that is different across populations. A number of researchers (e.g. Hare, 1991, 2003; Cooke & Michie, 2001; Neumann et al. 2006) are known to view psychopathy as a homogeneous entity, thus attempting to apply the same factor structure to all populations. However, the present research indicates that this may not be appropriate and points to the notion that psychopathy is sample-specific, with a factor structure unique to each sample.

A specific role for cognitive processing was found for psychopathy, with moral reasoning presenting as the core characteristic. This indicates that specific aspects of cognition (e.g. moral reasoning) need to be integrated more into theories addressing functioning in psychopathy. At present, moral reasoning in psychopathy is explained through the Response Modulation Hypothesis (Newman, 1998), thus attributing deficits in moral reasoning solely to attention abnormalities. However, the Response Modulation Hypothesis does not attend to moral reasoning per se.

A tendency for hostile responding also provided further support for the application of the Response Modulation Hypothesis and indeed, Huesmann's (1998) theory of information processing to psychopathy. In light of these findings, this thesis proposes that psychopathy may in fact be a *disorder of attention* (Blair, 2013) and that all deficits associated with the construct may stem from attention abnormalities. Whilst this is purely speculative, the psychopath's inability to attend to all aspects of information lends itself to difficulties when monitoring their own behavior leading to inappropriate responding.

This speculation also extends to affective processing in psychopathy, with attention moderating the interaction between cognition and the psychopath's experience of emotion. That is, difficulty when balancing the demands of goal-directed processing and secondary processing creates a bias, or cognitive 'bottle-neck' (Baskin-Sommers et al. 2013), where those individuals with psychopathy become less responsive to emotion unless it is central to their focus of attention (Blair, 2013). This provides one possible explanation for the deficits identified when evaluating emotion. However, psychopathic individuals did not appear to have problems when *identifying* emotion and this may be due to affective information being in their primary focus of attention during this activity. They are therefore able to focus on the affective information and identify it.

Deficits in information processing stemming from attention abnormalities also give rise to maladaptive cognitive schemas that influence how psychopathic individuals evaluate emotion. This integrates the role of attention with Beck's (1987) theory to account for the deficient emotional reactivity found in psychopathy. Psychopathy does indeed appear to be a disorder of attention, but this is not captured well in psychological theory. Whilst the Response Modulation Hypothesis provides an account of attention abnormalities in psychopathy, it does not explicitly state how this relates to other deficits, such as emotion reactivity, moral reasoning and a tendency for hostile responding. Though it is important to note that the latter is captured well in Huesmann's (1998) model of information processing.

A new theory, or a revision of the Response Modulation Hypothesis, is required to reflect the findings of this thesis. Arguably, this would make the Dysfunctional Fear Hypothesis (Lykken, 1957) and VIM (Blair, 1995) redundant. However, any revisions should consider the early socialisation aspect of VIM, as this appears to be crucial in the development of maladaptive cognitive schemas, which arguably perpetuate, and possibly causes the psychopath's deficits (e.g. Beck, 1987).

Theory also needs to consider the role of implicit processing. Processing in psychopathy manifests at both an impulsive automatic level (i.e. implicit), as well as a controlled conscious level (i.e. explicit). This thesis acknowledges that implicit and explicit processing co-exist (e.g. Fleischhauer et al. 2013). However, the present research proposes that functioning in psychopathy is mainly characterised by less controlled and more automatic processing systems; and it is these systems that determine how explicit

cognition and affect manifest in the disorder. That is, implicit processing dominates all aspects of the psychopath's presentation, particularly those characteristics that lend themselves to impulsive responding. Whilst this is speculative, this thesis is one of the first pieces of research to examine cognition and affect in psychopathy at an implicit level, thus providing a comparison for future research.

Implicit measures are therefore required in the assessment of psychopathy to capture processing at this level. Whilst the PAPA allows for an 'explicit' examination of cognitive and affective processing in psychopathy; adopting the ACL will also enable an investigation into the mechanisms underpinning characteristics of psychopathy associated with more automatic responding (e.g. antisocial behaviour). The unique findings of this thesis therefore have significant implications for clinical practice.

10.3 Implications for clinical practice

Experts' understanding of psychopathy appears to be influenced by the PCL-R definition. That is, their understanding relates to the interpersonal and behavioural features of psychopathy (e.g. Flor, 2007), and not that of cognition and affect. As previously noted, cognitive and affective processing are important aspects of psychopathy and experts should be aware of this. Those experts who assess and treat individuals with psychopathy should receive specialist training that focuses on cognitive and affective functioning and how these two processes influence the manifestation of psychopathic traits. This will increase practitioner's awareness of cognition and affect in psychopathy and help resolve the ongoing debate as to whether psychopathy is personality or behaviour-based. Indeed, this thesis is consistent with early conceptualisations of psychopathy as 'abnormal personality' rather than 'criminal behaviour' (e.g. Cleckley, 1982).

Findings are also in favour of a change to the assessment of psychopathy, with an emphasis on the inclusion of explicit and implicit cognition and affect. The current assessment of psychopathy, the PCL-R, lacks items that attend to these two processes (Fowler & Lilienfeld, 2013) and can therefore be criticised for not providing a 'true' assessment of psychopathy. Researchers (e.g. Cooke et al. 2004) are beginning to recognise the importance of including measures of cognition and affect in the assessment of psychopathy. However, this has mainly been considered at an *explicit*

level (e.g. the Comprehensive Assessment of Psychopathic Personality; CAPP) and is therefore problematic, as explicit measures are limited to what an individual is consciously aware of.

The present research supports the inclusion of cognitive and affective processing in psychopathy at both an explicit *and* implicit level. Whilst explicit measures are open to impression management and deception (Bluemke et al. 2010), implicit measures avoid these biases and are therefore more suited for assessing psychopathy. The inclusion of implicit measures will allow for an examination of 'automatic' unconscious processing that is not captured by explicit measures (Ireland, 2011; Ireland & Adams, in press). However this is not to say that explicit measures do not have a place in the assessment of psychopathy.

The importance of assessing psychopathic processing at both an explicit and implicit level is accounted for by the Reflective-Impulsive Model (Strack & Deutsch, 2004), which states that both systems interact with one another to predict certain types of behaviour. Thus, the newly developed ACL (Ireland & Ireland, 2012) offers a promising approach for assessing psychopathy as it includes explicit and implicit measures of cognition and affect, as well as utilising other methods, such as collateral review, interview, and observation to capture the disorder. This thesis found support for the inclusion of these methods when providing a comprehensive assessment of psychopathy.

The development of the PAPA offers an original contribution to the study of psychopathy, in that it is the first self-report measure to provide a consensus definition of the disorder and attend explicitly to cognition and affect. Whilst the PAPA was found to be a valid and reliable measure of psychopathy, it is suspected to encounter difficulty when detecting more subtle aspects of psychopathic processing; processing that requires assessment at an implicit level. The thesis therefore proposes that the assessment of psychopathy should combine the ACL with the PAPA to allow for an holistic assessment, one that is sensitive to cognitive and affective processing and provides measurement that is in line with the DSM-V criteria for 'psychopathic personality'. As noted, both the PAPA and ACL were developed in accordance to the [proposed] changes to DSM.

Findings also revealed that cognitive schemas in psychopathy are not purely maladaptive and may contain positive, more adaptive aspects. This was a surprising finding, as psychopathy has often been defined through negative or antisocial personality traits (e.g. Hare, 1991). Nevertheless, the notion that psychopathy is associated with positive cognitive schema, and indeed positive characteristics, supports evidence for 'successful psychopathy' (e.g. Cleckley, 1976; Schneider, 1923, cited in Werlinder, 1978) and that the disorder is not always associated with negative and antisocial traits.

This has significant implications for clinical practice, specifically in terms of case formulation and treatment. The inclusion of positive cognitive schema enables an optimistic-based approach to treatment (e.g. Seligman, 2002), which highlights the client's strengths as opposed to weaknesses when tackling core beliefs that influence their day-to-day presentation (Wilks-Riley & Ireland, 2012).

Treatment for psychopathy should also consider the localised cognitive and affective deficits identified, namely poor moral reasoning, a tendency for hostile responding and abnormal emotional reactivity. Therapists may also benefit from considering the interaction between cognitive and affective processing in psychopathy, as this may be key to tackling the deficits in processing exhibited by many psychopathic individuals.

Thus, by treating the attentional abnormalities thought to be responsible for the interplay between cognition and affect (e.g. Lorenz & Newman, 2002; Glass & Newman, 2009), alongside tackling existing maladaptive schemas, individuals with psychopathy may be able to attend to, interpret and evaluate a situation correctly leading to more appropriate responding. However as Huesmann (1998) suggests, cognitive schemas are entrenched and modifying these structures is likely to take considerable time and effort. Change is dependent on the client's motivation and readiness (Polaschek, Anstiss & Wilson, 2010). The present research did not examine attentional abnormalities in psychopathy and this is to be considered for future research.

10.4 Limitations of the research

Limitations are unavoidable for research of this nature and this section of the discussion will attempt to summarise some of the core challenges. For all types of research,

recruiting participants on a voluntary basis brings about the possibility of self-selection bias (Deitchman, Kennedy & Beckham, 1991). That is, participants with higher social conformity (i.e. higher levels of agreeableness) and an investigative personality style may be more likely to participate than those with an anti-authoritarian or antisocial and enterprising personality (Norton, Booth & Webster, 1976; Porter & Whitcomb, 2005).

Self-selection bias may therefore potentially apply to all samples in this thesis. However, the researcher directly approached participants personally, with the exception of prisoners in study two and students in study three, and this may have encouraged those with an anti-authoritarian or enterprising personality style to engage (Bowling, 2005). Though it must be noted that at no point were participants coerced or forced to take part. Self-selection bias is likely to be a common limitation when researching prisoners or forensic psychiatric patients due to the personality traits often associated with these individuals (i.e. low levels of agreeableness; Becerra-García, García-León, Muera-Martínez & Egan, 2013).

Sample size was also a limitation. Whilst this was acceptable for the methods adopted (e.g. detailed interviews), a higher number of participants would allow for greater accuracy in the analyses and for more meaningful comparisons to be made between students, prisoners and high secure psychiatric patients. This was especially the case for the factor analyses. The small sample size meant that these were purely exploratory and the components extracted were interpreted with caution. Nevertheless, prisoners and high secure psychiatric patients are unique populations and their complex presentation means that it is not always possible to engage them in research.

Self-report has been used as a method of data collection throughout this thesis. This form of measurement has been associated with impression management and deception (Lilienfeld & Fowler, 2006), and consequently gives rise to biased responding. Whilst this may be the case, other researchers have argued for the utility of self-report in the assessment of psychopathy, with Ray et al. (2013) concluding that psychopaths are often willing to admit to many of their undesirable traits and behaviours. Although this is somewhat dependent on insight and indeed individual differences, the present research found self-report (i.e. the PAPA) to be a valid and reliable measure of psychopathy.

When developing the PAPA, the present research did not subject the measure to test-retest reliability. Test-retest reliability is often required to examine a measure's consistency over time (Oppenheim, 2000; Segal & Coolidge, 2004). It assumes that the construct being measured is stable. Test-retest reliability is thus crucial when evaluating a measure of psychopathy, especially as the personality traits underpinning the construct appear to be persistent across the lifespan (e.g. Shaw & Porter, 2012). Future work is required to determine whether this type of reliability applies to the PAPA.

Furthermore, the validity and reliability of the PAPA was not directly examined in women. Although study two recruited a sample of students, of which approximately half were women, this sample was not split by sex during data analysis. This decision was made to maintain focus, as the author did not obtain access to a female prison sample. Whilst the thesis did not aim to examine psychopathy and psychopathic processing in women, the author is aware that research has found a sex difference in psychopathy (e.g. Forouzan & Cooke, 2005; Logan & Weizmann-Henelius, 2012). Future research should therefore examine cognitive and affective processing in psychopathy in women and at the same time, establish whether the PAPA's validity and reliability extend to this sample.

There are also a number of limitations associated with this thesis' exploration of implicit and explicit cognitive and affective processing in psychopathy. For example, other studies examining the application of psychological theory addressing cognition and affect in psychopathy, including the Dysfunctional Fear Hypothesis (Lykken, 1957), the Response Modulation Hypothesis (Newman, 1998), and the Behavioural Inhibition System (BIS; Gray, 1970), separate the disorder into primary and secondary subtypes depending on the psychopath's experience of anxiety. The present research did not screen for anxiety in the participants sampled making it difficult to apply these theories in full to the results. This is a clear direction for future research.

Investigations of implicit cognitive and affective processing in psychopathy were limited to moral reasoning, hostile and pro-social responding, and the identification and evaluation of emotion. Research has proposed those individuals with the disorder to also exhibit deficits in other aspects of functioning, including instrumental learning (i.e. learning to commit specific behavioural responses in order to gain a reward or avoid punishment; Blair et al. 2005), language (e.g. Hiatt et al. 2002), empathy (Blair, 2009),

and when regulating their own behaviour (e.g. Newman, 1998). Thus, there is scope for researchers to extend this thesis and clarify how deficits in other areas of functioning apply to the construct; refining the assessment of psychopathy accordingly.

In addition to this, the present research did not explore the role of attention in psychopathy. Previous research (e.g. Lorenz & Newman, 2002; Glass & Newman, 2009; Verona et al. 2012; Baskin-Sommers et al. 2013) has found attention to mediate the interplay between cognition and affect in psychopathy. An interaction between these two processes was found and it could be speculated that this was due to attentional abnormalities in psychopathy. Again, further research is warranted to clarify this.

Despite the limitations identified here, results suggest that implicit and explicit cognitive and affective processing are integral features of psychopathy and should therefore be incorporated into its assessment. Nevertheless, there are clear directions for future research and these will be discussed in the ensuing section.

10.5 Directions for future research

It is important to examine whether the consensus definition of psychopathy extends to women. Applicability of the current clinical definition of psychopathy (i.e. the PCL-R) has been questioned, as women have been found to perform the same as men only when psychopathy presents at a severe degree or they have a history of antisocial behaviour (Logan & Weizmann-Henelius, 2012). Thus, the current measurement of psychopathy may not adequately capture the manifestation of the disorder in women (Logan & Weizmann-Henelius, 2012). It would therefore be beneficial to examine whether the PAPA, and indeed the ACL, provide a more accurate assessment of psychopathy in this population.

Applying the PAPA and ACL to women will also allow for examination into cognitive and affective processing and whether this is different to that found in men. Previous research has identified psychopathic processing to be similar [though not identical] across sex (Verona & Vitale, 2006), with this becoming increasingly evident in more severe presentations of psychopathy (e.g. PCL-R score of ≥ 25). However, these studies have not examined cognition and affect at an implicit level.

A clear role for positive and negative cognitive schema in psychopathy was found for prisoners and students. This thesis did not examine whether these cognitive structures also occur in psychopathy among psychiatric patients [or women]. Psychiatric patients are a unique population, in that their complex presentation and psychopathology would be indicative of an abnormal developmental upbringing (Beck, 1967; Beck et al. 2004); an upbringing that would arguably give rise to different cognitive schemas to those found in other populations.

Future work should examine the role of cognitive schema in psychopathy in other populations, including women and psychiatric patients. This work is crucial as there is a significant lack of research examining cognitive schema in psychopathy (Wilks-Riley & Ireland, 2012). Cognitive schemas form the fundamental units of personality (Beck et al. 2004) and are therefore paramount when understanding abnormal personality pathology, such as that of psychopathy.

It may also be advantageous to examine the stability of cognitive schemas in psychopathy through cross-sectional or longitudinal research. Attending to the attachment styles of those with the disorder would allow for any change to be monitored. Research could also examine the process of mentalisation (Fonagy & Allison, 2014), which focuses on an individual's ability to understand their mental state and that of others, and how this applies to overt behaviour. This would help to determine the process by which cognitive schemas become maladaptive or adaptive, as well as providing a clear understanding of how they associate with personality challenges, such as those found in psychopathy (Wilks-Riley & Ireland, 2012). Whilst the present research did not investigate the causal effects (if any) of cognitive and affective processing on psychopathic personality and behaviour, longitudinal research, in combination with experimental methods, could also be used to examine this.

Implicit cognitive and affective processing was explored through tasks addressing moral reasoning, behavioural responding (i.e. hostile or pro-social) and emotional reactivity (including the identification and evaluation of emotion). Further research could adopt a larger sample size and examine the psychopath's language abilities and neuropsychological functioning. This would allow for an understanding into how performance in these two areas impacts on functioning in other domains, such as

affective processing. It would also enable assessments of psychopathy, such as the ACL, to widen their approach when measuring psychopathic cognition.

Deficits have been found in language and neuropsychological functioning for psychopathic individuals (e.g. Hiatt et al. 2002; Pham et al. 2003). However, the role of attention in these processes, specifically neuropsychological functioning, is yet to be understood (Hiatt & Newman, 2006). Previous research has found a clear role for attention in the interaction between cognition and affect in psychopathy (e.g. Lorenz & Newman, 2002; Glass & Newman, 2009; Baskin-Sommers et al. 2013). Further work is thus encouraged to continue to examine this interplay, allowing for the results outlined in this thesis to be better applied to attention abnormalities in psychopathy. In light of this discussion, the assessment of psychopathy may also benefit from an implicit measure of attention that is sensitive enough to detect attention abnormalities. However, further research is required to confirm this.

The present research also points to the inclusion of different methods to assess for psychopathy. However, this is one of the first studies to test this and additional work is required to further refine and develop the ACL, so that it provides a comprehensive assessment of psychopathy that is applicable to all samples and can detect individual differences. It may also be useful to incorporate the work of Seligman (2002) and include more positive, adaptive approaches in the assessment of psychopathy.

10.6 Final conclusion

Arguably, affective and cognitive processing have been neglected from the more recent measurements of psychopathy, with a focus instead on interpersonal and behavioural aspects (e.g. the PCL-R). Nevertheless, this thesis highlights the importance of these two processes in psychopathy, with a specific role for each of these across samples.

Moral reasoning appears to be a core characteristic of cognitive functioning in psychopathy. This calls for a review of existing theory addressing cognition in the disorder, as moral reasoning has been poorly represented in these. A tendency for hostile responding also extends the application of information processing theories to psychopathy, with a particular emphasis on the role of attention.

Abnormalities in attention could also account for the cognitive-affective interaction in psychopathy and may, in part, explain the lack of sensitivity to emotion. Affective processing in psychopathy may therefore manifest from cognitive biases that are influenced by attentional processes; biases that form during childhood and persist on into adulthood as maladaptive cognitive schemas. Adaptive cognitive schemas however, serve as a protective factor inhibiting the inappropriate behaviour (e.g. offending) often associated with psychopathy.

A clear role for implicit processing in psychopathy was identified. Cognitive and affective functioning in psychopathy may therefore be determined by less controlled and more automatic processing systems; especially as it has been proposed that implicit processing in the disorder determines how explicit cognition and affect manifest. Implicit processing may therefore account for aspects of the psychopath's presentation that are characterised by impulsive responding (e.g. antisocial behaviour).

In terms of measurement, the PAPA was found to be a reliable and valid measure of psychopathy across samples. It was also sensitive to explicit cognitive and affective processing. Factor analysis of this measure revealed that psychopathy may not be a homogeneous disorder and instead may be underpinned by components unique to each population.

Nevertheless, findings point to the inclusion of a combination of different methods, such as observation, collateral review, interview, and implicit testing, when providing a comprehensive assessment of psychopathy. Assessing psychopathy using mixed methods arguably limits response bias and allows for the more 'automatic', unconscious processes underpinning the disorder to be examined.

REFERENCES

Adegbehingbe, S. M., Paul-Ebhohimhen, V., & Marais, D. (2006). Development of an AFASS assessment and screening tool towards the prevention of mother-to-child HIV transmission (PMTCT) in sub-Saharan Africa – a Delphi survey. *BMC Public Health, 12,* 402.

Aharoni, E., Sinnott-Armstrong, W., & Kiehl, K. A. (2012). Can psychopathic offenders discern moral wrongs? A new look at the moral/conventional distinction. *Journal of Abnormal Psychology, 121,* 484-497.

American Psychiatric Association. (1952). *Diagnostic and statistical manual of mental disorders.* Washington: Author.

American Psychiatric Association. (1968). *Diagnostic and statistical manual of mental disorders* (2nd ed.). Washington: Author.

American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (3rd ed.). Washington: Author.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington: Author.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington: Author.

American Psychological Association. (1996). The MacArthur violence risk assessment study. *American Psychology Law Society News, 16,* 1-4.

Amodio, D. M., & Ratner, K. G. (2011). A memory systems model of implicit social cognition. *Current Directions in Psychological Science, 20,* 143-148.

Anderson, A. K., & Phelps, E. A. (2001). Lesions of the human amygdala impair enhanced perception of emotionally salient events. *Nature, 411,* 305-309.

Anderson, N. E., & Stanford, M. S. (2012). Demonstrating emotional processing differences in psychopathy using affective ERP modulation. *Psychophysiology, 49,* 792-806.

Andrade, J. T. (2008). The inclusion of antisocial behavior in the construct of psychopathy: A review of the research. *Aggression and Violent Behavior, 13,* 328-335.

Back, M. D., Schmukle, S. C., & Egloff, B. (2009). Predicting actual behavior from the explicit and implicit self-concept of personality. *Journal of Personality and Social Psychology, 97,* 533-548.

Bados, A., Gómez-Benito, J., & Balaguer, G. (2010). The State-Trait Anxiety Inventory, Trait Version: Does it really measure anxiety? *Journal of Personality Assessment, 92,* 560-567.

Bagley, A. D., Abramowitz, C. S., & Kosson, D. S. (2009). Vocal affect recognition and psychopathy: Converging findings across traditional and cluster analytic approaches to assessing the construct. *Journal of Abnormal Psychology, 118,* 388-398.

Banse, R., & Greenwald, A. G. (2007). Personality and implicit social cognition research: Past, present and future. *European Journal of Personality, 21,* 371-382.

Baskin-Sommers, A., Curtin, J. J., Li, W., & Newman, J. (2012). Psychopathy-related differences in selective attention are captured by an early event-related potential. *Personality Disorders: Theory, Research, and Treatment, 3,* 370-378.

Baskin-Sommers, A. R., Curtin, J. J., & Newman, J. P. (2013). Emotion-modulated startle in psychopathy: Clarifying familiar effects. *Journal of Abnormal Psychology, 122,* 458-468.

Baskin-Sommers, A. R., & Newman, J. P. (2012). Cognition-emotion interactions in psychopathy: Implications for theory and practice. In H. Häkkänen-Nyholm, & J. Nyholm (Eds.), *Psychopathy and the law* (pp. 79-98). Chichester, West Sussex: John Wiley and Sons.

Baxter, M. G., & Murray, E. A. (2002). The amygdala and reward. *Nature Reviews Neuroscience, 3,* 563-573.

Becerra-García, J. A., García-León, A., Muera-Martínez, J. A., & Egan, V. (2013). A controlled study of the big five personality dimensions in sex offenders, non-sex offenders and non-offenders: Relationships with offending behaviour and childhood abuse. *Journal of Forensic Psychiatry and Psychology, 24,* 233-246.

Beck, A. T. (1967). *Depression: Causes and treatment.* Philadelphia: University of Pennsylvania Press.

Beck, A. T. (1987). Cognitive models of depression. *Journal of Cognitive Psychotherapy, 1,* 5-37.

Beck, A. T., Freeman, A., & Davis, D. D. (2004). *Cognitive therapy of personality disorders.* London: The Guildford Press.

Benning, S. D., Patrick, C. J., Hicks, B. M., Blonigen, D. M., & Krueger, R. F. (2003). Factor structure of the Psychopathic Personality Inventory: Validity and implications for clinical assessment. *Psychological Assessment, 15,* 340-350.

Benning, S. D., Patrick, C. J., Salekin, R. T., & Leistico, A. R. (2005). Convergent and discriminant validity of psychopathy factors assessed via self-report: A comparison of three instruments. *Assessment, 12,* 270-289.

Berardino, S. D., Meloy, J. R., Sherman, M., & Jacobs, D. (2005). Validation of the Psychopathic Personality Inventory on a female sample of inmates. *Behavioural Sciences and the Law, 23,* 819-836.

Blackburn, R. (2003). Psychopathy and the contribution of personality to violence. In T. Millon, E. Simonsen, M. Birket-Smith, & R. D. Davis (Eds.), *Psychopathy: Antisocial, criminal, and violent behavior* (pp. 50-68). New York: The Guildford Press.

Blackburn, R. (2006). Other theoretical models of psychopathy. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 35-57). London: The Guildford Press.

Blackburn, R. (2007a). Personality disorder and antisocial deviance: Comments on the debate on the structure of the Psychopathy Checklist-Revised. *Journal of Personality Disorders, 21,* 142-159.

Blackburn, R. (2007b). Personality disorder and psychopathy: Conceptual and empirical integration. *Psychology, Crime, and Law, 13,* 7-18.

Blackburn, R., Logan, C., Donnelly, J. P., & Renwick, S. D. (2008). Identifying psychopathic subtypes: Combining an empirical personality classification of offenders with the Psychopathy Checklist-Revised. *Journal of Personality Disorders, 22,* 604-622.

Blagov, P. S., Patrick, C. J., Lilienfeld, S. O., Powers, A. D., Phifer, J. E., Venables, N., Hudak, M., Herres, D. J., Lieb, K., Garvin Leigh, S. C., & Cooper, G. (2011). Personality constellations in incarcerated psychopathic men. *Personality Disorders: Theory, Research and Treatment, 2,* 293-315.

Blair, R. J. R. (1995). A cognitive developmental approach to morality: Investigating the psychopath. *Cognition, 57,* 1-29.

Blair, R. J. R. (1999). Responsiveness to distress cues in the child with psychopathic tendencies. *Personality and Individual Differences, 27,* 135-145.

Blair, R. J. R. (2003). Neurobiological basis of psychopathy. *British Journal of Psychiatry, 182,* 5-7.

Blair, R. J. R. (2005). Responding to the emotions of others: Dissociating forms of empathy through the study of typical and psychiatric populations. *Consciousness and Cognition, 14,* 698-718.

Blair, R. J. R. (2009). Empathic dysfunction in psychopathic individuals. In T. F. D. Farrow, & P. W. R. Woodruff (Eds.), *Empathy in mental illness* (pp. 3-16). Cambridge: Cambridge University Press.

Blair, R. J. R. (2013). Psychopathy: Cognitive and neural dysfunction. *Dialogues in Clinical Neuroscience, 15,* 181-190.

Blair, R. J. R., Jones, L., Clark, F., & Smith, M. (1995). Is the psychopath "morally insane"? *Personality and Individual Differences, 19,* 741-752.

Blair, R. J. R., Jones, L., Clark, F., & Smith, M. (1997). The psychopathic individual: A lack of responsiveness to distress cues? *Psychophysiology, 34,* 192-198.

Blair, J., Mitchell, D., & Blair, K. (2005). The psychopath: Emotion and the brain. Oxford: Blackwell Publishing.

Blair, R. J. R., Mitchell, D. G. V., Peschardt, K. S., Colledge, E., Leonard, R. A., Shine, J. H., Murray, L. K., & Perrett, D. I. (2004). Reduced sensitivity to others' fearful expressions in psychopathic individuals. *Personality and Individual Differences, 37,* 1111-1122.

Blair, R. J. R., Mitchell, D. G. V., Richell, R. A., Kelly, S., Leonard, A., Newman, C., & Scott, S. K. (2002). Turning a deaf ear to fear: Impaired recognition of vocal affect in psychopathic individuals. *Journal of Abnormal Psychology, 111,* 682-686.

Block, J. (1961). *The Q-Sort method in personality assessment and psychiatric research.* Illinois: Charles Thomas Publisher.

Blonigen, D. M., Carlson, R. F., Krueger, R. F., & Patrick, C. J. (2003). A twin study of self-reported psychopathic personality traits. *Personality and Individual Differences, 35,* 179-197.

Bluemke, M., Friedrich, M., & Zumbach, J. (2010). The influence of violent and non-violent computer games on implicit measures of aggressiveness. *Aggressive Behavior, 36,* 1-13.

Bodholdt, R. H., Richards, H. R., & Gacono, C. B. (2000). Assessing psychopathy in Adults: The Psychopathy Checklist-Revised and Screening Version. In C. B. Gacono (Ed.), *The clinical and forensic assessment of psychopathy* (pp. 55-86). London: Lawrence Erlbaum Associates.

Boldt, C., Velstra, I., Brach, M., Linseisen, E., & Cieza, A. (2013). Nurses' intervention goal categories for persons with spinal cord injury based on the international classification of functioning, disability and health: An international delphi survey. *Journal of Advanced Nursing, 69,* 1109-1124.

Bower, G. H. (1981). Mood and memory. *American Psychologist, 36,* 129-148.

Bowling, A. (2005). Mode of questionnaire administration can have serious effects on data quality. *Journal of Public Health, 27,* 281-291.

Bowling, A. (2009). *Research methods in health: Investigating health and health services* (3rd ed.). Maidenhead: Open University Press.

Braun, V., & Clarke, V. (2006). Using the thematic analysis in psychology. *Qualitative Research in Psychology, 3,* 77-101.

Brinkley, C. A., Diamond, P. M., Magaletta, P. R., & Heigel, C. P. (2008). Cross-validation of Levenson's psychopathy scale in a sample of federal female inmates. *Assessment, 15,* 464-482.

Brinkley, C. A., Schmitt, W. A., Smith, S. S., & Newman, J. P. (2001). Construct validation of a self-report psychopathy scale: does Levenson's self-report psychopathy scale measure the same constructs as Hare's psychopathy checklist-revised? *Personality and Individual Differences, 31,* 1021-1038.

Briñol, P., Petty, R. E., & Wheeler, S. C. (2006). Discrepancies between explicit and implicit self-concepts: Consequences for information processing. *Journal of Personality and Social Psychology, 91,* 154-170.

Brook, M., Brieman, C. L., & Kosson, D. S. (2013). Emotion processing in Psychopathy Checklist – assessed psychopathy: A review of the literature. *Clinical Psychology Review, 33,* 979-995.

Brook, M., & Kosson, D. S. (2013). Impaired cognitive empathy in criminal psychopathy: Evidence from a laboratory measure of empathic accuracy. *Journal of Abnormal Personality, 122,* 156-166.

Carr, S. N., & Francis, A. J. P. (2010). Early maladaptive schemas and personality disorder symptoms: An examination in non-clinical sample. *Psychology and Psychotherapy: Theory, Research and Practice, 83,* 333-349.

Castillo, H. (2003). *Personality disorder: Temperament or trauma?* London: Jessica Kingsley Publishers.

Cima, M., Tonnaer, F., & Hauser, M. D. (2010). Psychopaths know right from wrong but don't care. *Scan, 5,* 59-67.

Claes, L., Vertommen, S., Soenens, B., Eyskens, A., Rens, E., & Vertommen, H. (2009). Validation of the Psychopathic Personality Inventory among psychiatric patients: Sociodemographic, cognitive, and personality correlates. *Journal of Personality Disorders, 23,* 477-493.

Cleckley, H. (1976). *The mask of sanity* (5th ed.). St. Louis, Missouri: The C. V. Mosby Company.

Cleckley, H. (1982). *The mask of sanity* (rev ed.). St. Louis, Missouri: The C. V. Mosby Company.

Coid, J., & Min, Y. (2008). The distribution of psychopathy among a household population: categorical or dimensional? *Social Psychiatry and Psychiatric Epidemiology, 43,* 773-781.

Cooke, D. J. (1998). Cross-cultural aspects of psychopathy. In T. Millon (Ed.), *Psychopathy: Antisocial, criminal, and violent behaviors* (pp. 260-276). New York: Guildford.

Cooke, D. J., Hart, S. D., Logan, C., & Michie, C. (2004). *Comprehensive Assessment of Psychopathic Personality – Institutional Rating Scale (CAPP-IRS).* Unpublished Manual.

Cooke, D. J., & Michie, C. (1997). An item response theory analysis of the Hare psychopathy checklist – revised. *Psychological Assessment, 9,* 3-14.

Cooke, D. J., & Michie, C. (2001). Refining the construct of psychopathy: Towards a hierarchical model. *Psychological Assessment, 13,* 171-188.

Cooke, D. J., Michie, C., Hart, S. D., & Hare, R. D. (1999). Evaluating the Screening Version of the Hare Psychopathy Checklist-Revised (PCL:SV): An item response theory analysis. *Psychological Assessment, 11,* 3-13.

Copestake, S., Gray, N. S., & Snowden, R. J. (2011). A comparison of a self-report measure of psychopathy with the psychopathy checklist-revised in a UK sample of offenders. *The Journal of Forensic Psychiatry and Psychology, 22,* 169-182.

Costa, P. T., & McCrae, R. R. (1992). Normal Personality Assessment in Clinical Practice: The NEO Personality Inventory. *Psychological Assessment, 4,* 5-13.

Cunningham, M. D., & Reidy, T. J. (1998). Antisocial personality disorder and psychopathy: Diagnostic dilemmas in classifying patterns of antisocial behaviour in sentencing evaluations. *Behavioral Sciences and the Law, 16,* 333-351.

Cushman, F. (2008). Crime and punishment: Distinguishing the roles of causal and intentional analyses in moral judgment. *Cognition, 108,* 353-380.

Dadds, M. R., Hawes, D. J., Frost, A. D. J., Vassallo, S., Bunn, P., Hunter, K., & Merz, S. (2009). Learning to 'talk the talk': The relationship of psychopathic traits to deficits in empathy across childhood. *Journal of Child Psychology and Psychiatry, 50,* 599-606.

Damasio, A. (1994). *Descartes' error: Emotion, reason, and the human brain.* New York: Putnam.

Dawel, A., O'Kearney, R., McKone, E., & Palermo, R. (2012). Not just fear and sadness: Meta-analytic evidence of pervasive emotion recognition deficits for facial and vocal expressions in psychopathy. *Neuroscience and Biobehavioral Reviews, 36,* 2288-2304.

Decuyper, M., De Pauw, S., De Fruyt, F., De Bolle, M., & De Clercq, B. (2009). A meta-analysis of psychopathy-, antisocial pd- and FFM associations. *European Journal of Personality, 23,* 531-565.

Deitchman, M. A., Kennedy, W. A., & Beckham, J. C. (1991). Self-selection factors in the participation of mental health professionals in competency for execution evaluations. *Law and Human Behavior, 15,* 287-303.

Derefinko, K. J., & Lynam, D. R. (2007). Using the FFM to conceptualize psychopathy: A test using a drug abusing sample. *Journal Of Personality Disorders, 21,* 638-656.

Desimone, R., & Duncan, J. (1995). Neural mechanisms of selective visual attention. *Annual Review of Neuroscience, 18,* 193-222.

de Vogel, V., & de Ruiter, C. (2005). The HCR-20 in personality disordered female offenders: A comparison with a matched sample of males. *Clinical Psychology and Psychotherapy, 12,* 226-240.

Dolan, M. (2004). Psychopathic personality in young people. *Advances in Psychiatric Treatment, 10,* 466-473.

Dolan, M., & Fullam, R. (2004). Theory of mind and mentalizing ability in anti-social personality disorders with and without psychopathy. *Psychological Medicine, 34,* 1093-1102.

Domes, G., Hollerbach, P., Vohs, K., Mokros, A., & Habermeyer, E. (2013). Emotional empathy and psychopathy in offenders: An experimental study. *Journal of Personality Disorders, 27,* 67-84.

Doninger, N. A., & Kosson, D. S. (2001). Interpersonal construct systems among psychopaths. *Personality and Individual Differences, 30,* 1263-1281.

Drislane, L. E., Patrick, C. J., & Arsal, G. (2013). Clarifying the content coverage of differing psychopathy inventories through reference to the Triarchic Psychopathy Measure. *Psychological Assessment, December 9,* 1-13.

Dvorak-Bertsch, J. D., Curtin, J. J., Rubinstein, T. J., & Newman, J. P. (2009). Psychopathic traits moderate the interaction between cognitive and affective processing. *Psychophysiology, 46,* 913-921.

Edens, J. F., & McDermott, B. E. (2010). Examining the construct validity of the Psychopathic Personality Inventory–Revised: Preferential correlates of fearless dominance and self-centered impulsivity. *Psychological Assessment*, *22*, 32-42.

Edens, J. F., Poythress, N. G., Lilienfeld, S. O., Patrick, C. J., & Test, A. (2008). Further evidence of the divergent correlates of the Psychopathic Personality Inventory factors: Prediction of institutional misconduct among male prisoners. *Psychological Assessment, 20,* 86-91.

Ekman, P., & Friesen, W. V. (1976). *Pictures of facial affect.* Palo Alto: Consulting Psychologists Press.

Eriksen, B. A., & Eriksen, C. W. (1974). Effects of noise letters upon the identification of target letter in a nonsearch task. *Perception and Psychophysics, 16,* 143-149.

Erikson, E. H. (1950). *Childhood and society*. New York: Norton.

Eysenck, J. J. (1967). *Biological basis of personality.* Springfield: Thomas.

Few, L. R., Miller, J. D., & Lynam, D. R. (2013). An examination of the factor structure of the Elemental Psychopathy Assessment. *Personality Disorders: Theory, Research, and Treatment, April,* 1-7.

Fleischhauer, M., Strobel, A., Enge, S., & Strobel, A. (2013). Assessing implicit cognitive motivation: Developing and testing an implicit association test to measure need for cognition. *European Journal of Personality, 27,* 15-29.

Flor, H. (2007). Cognitive correlates. In A. R. Felthous., & H. Sass (Eds.), *The international handbook on psychopathic disorder and the law, volume one* (pp. 103-116). Chichester: John Wiley and Sons.

Fonagy, P., & Allison, E. (2014). The role of mentalizing and epistemic trust in the therapeutic relationship. *Psychotherapy, April 28,* 1-9.

Forouzan, E., & Cooke, D. J. (2005). Figuring out *la femme fatale:* Conceptual and assessment issues concerning psychopathy in females. *Behavioural Sciences and the Law, 23,* 765-778.

Forrest, G. G. (1996). *Chemical dependency and antisocial personality disorder: Psychotherapy and assessment* strategies. New York: The Haworth Press.

Forth, A. E., Bo, S., & Kongerslev, M. (2013). Assessment of psychopathy: The Hare Psychopathy Checklist measures. In K. A. Kiehl., & W. P. Sinnott-Armstrong

(Eds.), *Handbook of psychopathy and law* (pp. 5-33). Oxford: Oxford University Press.

Forth, A. E., Brown, S. L., Hart, S. D., & Hare, R. D. (1996). The assessment of psychopathy in male and female noncriminals: Reliability and validity. *Personality and Individual Differences, 20,* 531-543.

Forth, A. E., Kosson, D. S., & Hare, R. D. (2003). *The Psychopathy Checklist: Youth Version manual.* Toronto: Multi-Health Systems.

Fowler, K. A., & Lilienfeld, S. O. (2013). Alternatives to the Psychopathy Checklist-Revised. In K. A. Kiehl., & W. P. Sinnott-Armstrong (Eds.), *Handbook of psychopathy and law* (pp. 34-60). Oxford: Oxford University Press.

Fowles, D. C., & Dindo, L. (2006). A dual-deficit model of psychopathy. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 14-34). London: The Guildford Press.

Frick, P. J., & Marsee, M. A. (2006). Psychopathy and developmental pathways to antisocial behavior in youths. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 353-374). London: The Guildford Press.

Frodi, A., Dernevik, M., Sepa, A., Philipson, J., & Bragesjö, M. (2001). Current attachment representations of incarcerated offenders varying in degree of psychopathy. *Attachment and Human Development, 3*, 269-283.

Gernsbacher, M. A., & Faust, M. E. (1991). The mechanism of suppression: A component of general comprehension skill. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 17,* 245-262.

Glass, S. J., & Newman, J. P. (2006). Recognition of facial affect in psychopathic offenders. *Journal of Abnormal Psychology, 115,* 815-820.

Glass, S. J., & Newman, J. P. (2009). Emotion processing in the criminal psychopath: The role of attention in emotion-facilitated memory. *Journal of Abnormal Psychology, 118,* 229-234.

Glenn, A. L., Iyer, R., Graham, J., Koleva, S., & Haidt, J. (2009). Are all types of morality compromised in psychopathy? *Journal of Personality Disorders, 23,* 384-398.

Gray, J. A. (1970). The psychophysiological basis of intraversion-extraversion. *Behavior Research and Therapy, 8,* 249-266.

Gray, J. A. (1987). *The psychology of fear and stress* (2nd ed.). Cambridge: Cambridge University Press.

Greene, J. D., Sommerville, R. B., Nystrom, L. E., Darley, J. M., & Cohen, J. D. (2001). An fMRI investigation of emotional engagement in moral judgment. *Science, 293*, 2105-2108.

Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The Implicit Association Test. *Journal of Personality and Social Psychology, 74*, 1464-1480.

Gurley, J. R. (2009). A history of changes to the criminal personality in the DSM. *History of Psychology, 12*, 285-304.

Guy, L. S., & Douglas, K. S. (2006). Examining the utility of the PCL:SV as a screening measure using competing factor models of psychopathy. *Psychological Assessment, 18*, 225-230.

Guy, L. S., Edens, J. F., Anthony, C., & Douglas, K. S. (2005). Does psychopathy predict institutional misconduct among adults? A meta-analytic investigation. *Journal of Consulting and Clinical Psychology, 73*, 1056-1064.

Habel, U., Kühn, E., Salloum, J. B., Devos, H., & Schneider, F. (2002). Emotional processing in psychopathic personality. *Aggressive Behavior, 28*, 394-400.

Hansen, A., Johnsen, B., Thornton, D., Waage, L., & Thayer, J. F. (2007). Facets of psychopathy, heart rate variability and cognitive function. *Journal of Personality Disorders, 21*, 568-582.

Hare, R. D. (1970). *Psychopathy: Theory and research.* London: John Wiley and Sons.

Hare, R. D. (1980). A research scale for the assessment of psychopathy in criminal populations. *Personality and Individual Differences, 1,* 111-119.

Hare, R. D. (1985). A comparison of procedures for the assessment of psychopathy. *Journal of Consulting and Clinical Psychology, 53,* 7-16.

Hare, R. D. (1991). *The Hare Psychopathy Checklist-Revised.* Toronto, Ontario: Multi-Health Systems.

Hare, R. D. (2003). *The Hare Psychopathy Checklist-Revised, 2nd edition.* Toronto, Ontario: Multi-Health Systems.

Hare, R. D., Clark, D., Grann, M., & Thornton, D. (2000). Psychopathy and predictive validity of the PCL-R: An international perspective. *Behavioral Sciences and the Law, 18*, 623-645.

Hare, R. D., Harpur, T. J., & Hemphill, J. F. (1989). Scoring pamphlet for the Self-Report Psychopathy Scale: SRP-II. Unpublished document, Simon Fraser University, Vancouver, Canada.

Hare, R. D., Hart, S. D., & Harpur, T. J. (1991). Psychopathy and the DSM-IV criteria for antisocial personality disorder. *Journal of Abnormal Psychology, 100,* 391-398.

Hare, R. D., & Neumann, C. S. (2006). The PCL-R assessment of psychopathy: Development, structural properties, and new directions. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 58-90). London: The Guildford Press.

Hare, R. D., & Neumann, C. S. (2009). Psychopathy: Assessment and forensic implications. *The Canadian Journal of Psychiatry, 54,* 791-802.

Hare, R. D., & Neumann, C. S. (2010). The role of antisociality in the psychopathy construct: Comment on Skeem and Cooke (2010). *Psychological Assessment, 22,* 446-454.

Harpur, T. J., Hakstian, A. R., Hare, R. D. (1988). Factor structure of the psychopathy checklist. *Journal of Consulting and Clinical Psychology, 56,* 741-747.

Harpur, T. J., Hare, R. D., & Hakstian, A. R. (1989). Two-factor conceptualization of psychopathy: Construct validity and assessment implications. *Psychological Assessment, 1,* 6-17.

Harris, G. T., & Rice, M. E. (2006). Treatment of psychopathy: A review of empirical findings. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 555-572). London: The Guildford Press.

Hart, S., Cox, D., & Hare, R. D. (1995). *Manual for the Psychopathy Checklist: Screening Version (PCL:SV).* Toronto: Multi-Health Systems.

Hastings, M. E., Tangney, J. P., & Stuewig, J. (2008). Psychopathy and identification of facial expressions of emotion. *Personality and Individual Differences, 44,* 1474-1483.

Hemphill, J. F., & Hart, S. D. (2003). Forensic and clinical issues in the assessment of psychopathy. In I. Weiner., J. A. Schinka., & V. F. Velicer (Eds.), *Handbook of Psychology: Forensic Psychology* (pp. 87-108). New Jersey: John Wiley and Sons.

Hervé, H. (2007). Psychopathy across the ages: A history of the Hare psychopath. In H. Hervé, & J. C. Yuille (Eds.), *The psychopath: Theory, research, and practice* (pp. 31-56). New Jersey: Lawrence Erlbaum Associates.

Huesmann, R. L. (1998). An information processing model for the development of aggression. *Aggressive Behavior, 14,* 13-24.

Hiatt, K. D., Lorenz, A. R., & Newman, J. P. (2002). Assessment of emotion and language processing in psychopathic offenders: Results from a dichotic listening task. *Personality and Individual Differences, 32,* 1255-1268.

Hiatt, K. D., & Newman, J. P. (2006). Understanding psychopathy: The cognitive side. In C. J. Patrick (Ed.), *Handbook of Psychopathy* (pp. 334-352). London: The Guildford Press.

Hicks, B. M., Vaidyanathan, U., & Patrick, C. J. (2010). Validating female psychopathy subtypes: Differences in personality, antisocial and violent behavior, substance abuse, trauma, and mental health. *Personality Disorders: Theory, Research and Treatment, 1,* 38-57.

Hildebrand, M., & de Ruiter, C. (2004). PCL-R psychopathy and its relation to DSM-IV axis I and II disorders in a sample of male forensic psychiatric patients in the Netherlands. *International Journal of Law and Psychiatry, 27,* 233-248.

Hill, C. D., Neumann, C. S., & Rogers, R. (2004). Confirmatory factor analysis of the Psychopathy Checklist: Screening Version in offenders with axis I disorders. *Psychological Assessment, 16,* 90-95.

Hoaken, P. N. S., Shaughnessy, V. K., & Pihl, R. O. (2003). Executive Cognitive Functioning and Aggrssion: Is it an Issue of Impulsivity? *Aggressive Behavior, 29,* 15-30.

Hoff, H. A., Rypdal, K., Mykletun, A., & Cooke, D. J. (2012). A prototypicality validation of the Comprehensive Assessment of Psychopathic Personality model (CAPP). *Journal of Personality Disorders, 26,* 414-427.

Howard, R., & McCullagh, P. (2007). Neuroaffective processing in criminal psychopaths: Brain event-related potentials reveal task-specific anomalies. *Journal of Personality Disorders, 21,* 322-339.

Huchzermeier, C., Geiger, F., Bruß, E., Godt, N., Köhler, D., Hinrichs, G., & Aldenhoff, J. B. (2007). The relationship between DSM-IV cluster B personality disorders and psychopathy according to Hare's criteria: Clarification and resolution of previous contradictions. *Behavioral Sciences and the Law, 25,* 901-911.

Hurwitz, S., & Christiansen, K. O. (1983). *Criminology: The new and completely revised edition of the standard Scandinavian study.* America: George Allen and Unwin.

Husain, O. (1995). Is the Rorschach of psychopaths the same on both sides of the Atlantic? *Rorschachiana, 20,* 134-147.

Huss, M. T. (2009). *Forensic Psychology: Research, clinical practice, and applications*. Chichester, West Sussex: John Wiley and Sons.

Ireland, J. L. (2011). Violence assessment and intervention. In G. Davey (Ed.), *Applied psychology* (pp. 291-316). West Sussex, UK: Wiley.

Ireland, J. L., & Adams, C. (submitted). Implicit aggression among young male prisoners: Association with dispositional and current aggression.

Ireland, J. L., & Birch, P. (2013). Emotionally abusive behavior in young couples: Exploring a role for implicit aggression. *Violence and Victims, 28,* 656-669.

Ireland, J. L., & Ireland, C. A. (2012). *Affect, Cognitive, and Lifestyle Assessment (ACL)*. The International Organisation for Forensic Practitioners (TIOFP).

Ireland, J. L., Ireland, C. A., Lewis, M., Miller, C., & Keeley, S. (submitted). Affective, Cognitive and Lifestyle (ACL): Initial development of an implicit and explicit approach to assess psychopathy.

Iria, C., Barbosa, F., & Paixão, R. (2012). The identification of negative emotions through a go/no-go task: Comparative research in criminal and non-criminal psychopaths. *European Psychologist, 17,* 291-299.

Jackson, R. L., Rogers, R., Neumann, C. S., & Lambert, P. L. (2002). Psychopathy in female offenders: An investigation of its underlying dimensions. *Criminal Justice and Behavior, 29,* 692-704.

Johansson, P., Andershed, H., Kerr, M., & Lavander, S. (2002). On the operationalization of psychopathy: Further support for a three-faceted personality orientated model. *Acta Psychiatrica Scandanvica, 106*, 81-85.

Jones, A. P., Happé, F. G. E., Gilbert, F., Burnett, S., & Viding, E. (2010). Feeling, caring, knowing: Different types of empathy deficits in boys with psychopathic tendencies and autism spectrum disorder. *Journal of Child Psychology and Psychiatry, 51,* 1188-1197.

Jutai, J. W., & Hare, R. D. (1983). Psychopathy and selective attention during performance of a complex perceptual motor-task. *Psychophysiology, 20,* 146-151.

Kennealy, P. J., Skeem, J. L., Walters, G. D., & Camp, J. (2010). Do core interpersonal and affective traits of PCL-R psychopathy interact with antisocial behavior and disinhibition to predict violence? *Psychological Assessment, 22,* 569-580.

Kingston, A. H., Morgan, A. J., Jorm, A. F., Hall, K., Hart, L. M., Kelly, C. M., & Lubman, D. I. (2011). Helping someone with problem drug use: A Delphi consensus study of consumers, carers, and clinicians. *BMC Psychiatry, 11,* 1-7.

Kirchberger, I., Cieza, A., & Stucki, G. (2008). Validation of the comprehension ICF core set for rheumatoid arthritis: The perspective of psychologists. *Psychology and Health, 23,* 639-659.

Koenigs, M., Kruepke, M., Zeier, J., & Newman, J. P. (2012). Utilitarian moral judgment in psychopathy. *Scan, 7,* 708-714.

Kohlberg, L. (1958). *The development of modes of moral thinking and choice in the years ten to sixteen* [dissertation]. University of Chicago.

Kohlberg, L., & Hersh, R. H. (1977). Moral development: A review of the theory. *Theory into Practice, 16,* 53-59.

Kosson, D. S., Lorenz, A. R., & Newman, J. P. (2006). Effects of comorbid psychopathy on criminal offending and emotion processing in male offenders with antisocial personality disorder. *Journal of Abnormal Psychology, 115,* 798-806.

Kosson, S. D., Smith, S. S., & Newman, J. P. (1990). Evaluating the construct validity of psychopathy in black and white male inmates: Three preliminary studies. *Journal of Abnormal Psychology, 99,* 250-259.

Kosson, D. S., Stuerwald, B. L., Forth, A. E., & Kirkhart, K. J. (1997). A new method for assessing the interpersonal behaviour of psychopaths: Preliminary validation studies. *Psychological Assessment, 9,* 89-101.

Kosson, D. S., Suchy, Y., Libby, J., & Mayer, A. R. (2002). Facial affect recognition in criminal psychopaths. *Emotion, 2,* 398-411.

Kreis, M. K. F., & Cooke, D. J. (2011). Capturing the psychopathic female: A prototypicality analysis of the Comprehensive Assessment of Psychopathic Personality (CAPP) across gender. *Behavioural Sciences and the Law, 29,* 634-648.

Kreis, M. K. F., Cooke, D. J., Michie, C., Hoff, H. A., & Logan, C. (2012). The Comprehensive Assessment of Psychopathic Personality (CAPP): Current validation using prototypical analysis. *Journal of Personality Disorders, 26,* 402-413.

Krueger, R. F., Derringer, J., Markon, K. E., Watson, D., & Skodol, A. E. (2012). Initial construction of a maladaptive personality trait model and inventory for DSM-5. *Psychological Medicine, 42,* 1879-1890.

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics, 33,* 159-174.

Lawrence, K. A., Allen, J. S., & Chanen, A. M. (2011). A study of maladaptive schemas and borderline personality disorder in young people. *Cognitive Therapy and Research, 35,* 30-39.

Lee, C. (2007). The judicial response to psychopathic criminals: Utilitarianism over retribution. *Law and Psychology Review, 31,* 125-136.

Lee, Z., & Salekin, R. T. (2010). Psychopathy in a noninstitutional sample: Differences in primary and secondary subtypes. *Personality Disorders: Theory, Research and Treatment, 1,* 153-169.

Lester, W. S., Salekin, R. T., & Sellbom, M. (2013). The SRP-II as a rich source of data on the psychopathic personality. *Psychological Assessment, 25,* 32-46.

Levenson, M. R., Kiehl, K. A., & Fitzpatrick, C. M. (1995). Assessing psychopathic attributes in a noninstitutionalized population. *Journal of Personality and Social Psychology, 68,* 151-158.

Lilienfeld, S. O. (1994). Conceptual problems in the assessment of psychopathy. *Clinical Psychology Review, 14,* 17-38.

Lilienfeld, S. O. (1998). Methodological advances and developments in the assessment of psychopathy. *Behaviour Research and Therapy, 36,* 99-125.

Lilienfeld, S. O., & Andrews, B. P. (1996). Development and preliminary validation of a self-report measure of psychopathic personality traits in noncriminal populations. *Journal of Personality Assessment, 66,* 488-524.

Lilienfeld, S. O., & Fowler, K. A. (2006). The self-report assessment of psychopathy. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 107-132). London: The Guildford Press.

Lind, G. (1978). How does one measure moral judgment? Problems and alternative ways of measuring a complex construct. In G. Portele (Ed.), *Socialization und Moral* (pp. 171-201). Weinhelm: Beltz.

Lindberg, N., Laajasalo, T., Holi, M., Putkonen, H., Weizmann-Henelius, G., & Häkkänen-Nyholm, H. (2009). Psychopathic traits and offender characteristics - a nationwide consecutive sample of homicidal male adolescents. *BMC Psychiatry, 9,* 1-11.

Link, N. F., Scherer, S. E., & Byrne, P. N. (1977). Moral judgment and moral conduct in the psychopath. *Canadian Psychiatric Association Journal, 22,* 341-346.

Logan, C., & Weizmann-Henelius, G. (2012). Psychopathy in women: Presentation, assessment, and management. In H. Häkkänen-Nyholm, & J. Nyholm (Eds.),

Psychopathy and law: A practitioner's guide (pp. 99-126). Chichester, West Sussex: John Wiley and Sons.

Long, L., & Titone, D. A. (2007). Psychopathy and verbal emotion processing in non-incarcerated males. *Cognition and Emotion, 21,* 119-145.

Lorenz, A. R., & Newman, J. P. (2002). Deficient response modulation and emotion processing in low-anxious Caucasian psychopathic offenders: Results from a lexical decision task. *Emotion, 2,* 91-104.

Lopez, J. E., Orrell, M., Morgan, L., & Warner, J. (2010). Empowerment in older psychiatric inpatients: Development of the Empowerment Questionnaire for Inpatients (EQuIP). *American Journal of Geriatric Psychiatry, 18,* 21-32.

Loviscky, G. E., Trevino, L. K., & Jacobs, R. R. (2007). Assessing managers' ethical decision-making: An objective measure of managerial moral judgment. *Journal of Business Ethics, 73,* 263-285.

Lykken, D. T. (1957). A study of anxiety in the sociopathic personality. *Journal of Abnormal and Social Psychology, 55,* 6-10.

Lykken, D. T. (1995). *The antisocial personalities.* Mahwah, New Jersey: Erlbaum.

Lynam, D. R., & Derefinko, K. (2006). Psychopathy and personality. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 133-155). London: The Guildford Press.

Lynam, D. R., Gaughan, E. T., Miller, J. D., Miller, D. J., Mullins-Sweatt, S., & Widiger, T. A. (2011a). Assessing the basic traits associated with psychopathy: Developmental and validation of the elemental psychopathy assessment. *Psychological Assessment, 23,* 108-124.

Lynam, D. R., Miller, D. J., Widiger, T. A., Gaughan, E. T., Miller, J. D., & Mullins-Sweatt, S. (2011b). Assessing the basic traits associated with psychopathy: Development and validation of the Elemental Psychopathy Assessment. *Psychological Assessment, 23,* 108-124.

Lynam, D. R., Whiteside, S., & Jones, S. (1999). Self-reported psychopathy: A validation study. *Journal of Personality Assessment, 73,* 110-132.

Lynam, D. R., & Widiger, T. A. (2007). Using a general model of personality to identify the basic elements of psychopathy. *Journal of Personality Disorders, 21,* 160-178.

Mahmut, M. K., Menictas, C., Stevenson, R. J., & Homewood, J. (2011). Validating the factor structure of the Self-Report Psychopathy Scale in a community sample. *Psychological Assessment, 23,* 670-678.

Marcus, D. K., Fulton, J. J., & Edens, J. F. (2013). The two-factor model of psychopathic personality: Evidence from the Psychopathic Personality Inventory. *Personality Disorders: Theory, Research, and Treatment, 4*, 67-76.

Marcus, D. K., John, S. L., & Edens, J. F. (2004). A taxometric analysis of psychopathic personality. *Journal of Abnormal Psychology, 113*, 626-635.

Maron, B. E., & Sellbom, M. (2011). An examination of gender-moderated test bias on the Levenson Self-Report Psychopathy Scale. *Journal of Personality Assessment, 93*, 235-243.

Maxwell, B., & Le Sage, L. (2009). Are psychopaths morally sensitive? *Journal of Moral Education, 38,* 75-91.

Mayer, A. R., Kosson, D. S., & Bedrick, E. J. (2006). Neuropsychological implications of selective attentional functioning in psychopathic offenders. *Neuropsychology, 20*, 614-624.

McCord, W., & McCord, J. (1964). *The psychopath: An essay on the criminal mind.* New York: Van Nostrand.

McKinley, J. C., & Hathaway, S. R. (1944). The Minnesota Multiphasic Personality Inventory: V. Hysteria, hypomania and psychopathic deviate. *Journal of Applied Psychology, 28,* 153-174.

Melpignano, M., & Collins, M. E. (2003). Infusing youth development principles in child welfare practice: Use of a Delphi survey to inform training. *Child and Youth Care Forum, 32,* 159-173.

Meloy, J. R. (1988). *The psychopathic mind: Origins, dynamics, and treatment.* Northvale, New Jersey: Jason Aronson.

Mental Health Act. (1983). *Admission for treatment.* Retrieved 15 June 2013. http://www.legislation.gov.uk/ukpga/1983/20/pdfs/ukpga_19830020_en.pdf.

Mental Health Act. (2007). *Amendments to Mental Health Act 1983.* Retrieved 15 June 2013. http://www.legislation.gov.uk/ukpga/2007/12/pdfs/ukpga_20070012_en.pdf.

Miller, J. D., Hyatt, C. S., Rausher, S., Maples, J. L., & Zeichner, A. (2014). A test of the construct validity of the Elemental Psychopathy Assessment scores in a community sample of adults. *Psychological Assessment, February 17,* 1-8.

Miller, J. D., Lynam, D. R., Widiger, T. A., & Leukefeld, C. (2001). Personality Disorders as Extreme Variants of Common Personality Dimensions: Can the Five-Factor Model Adequately Represent Psychopathy? *Journal of Personality, 69,* 253-276.

Millon, T. (1987). *Millon Clinical Multiaxial Inventory (MCMI-II) Manual.* Minneapolis: National Computer Systems.

Millon, T., Simonsen, E., & Birket-Smith, M. (2003). Historical conceptions of psychopathy in the United States and Europe. In T. Millon., E. Simonsen., M. Birket-Smith., & R. D. Davis (Eds.), *Psychopathy: Antisocial, criminal, and violent behavior* (pp. 3-31). New York: Guildford Press.

Miranda, R. R., MacKillop, J., Meyerson, L. A., Justus, A., & Lovallo, W. R. (2009). Influence of antisocial and psychopathic traits on decision-making biases in alcoholics. *Alcoholism: Clinical and Experimental Research*, *33*, 817-825.

Mitchell, D. G. V., Richell, R. A., Leonard, A., & Blair, J. R. (2006). Emotion at the expense of cognition: Individuals outperform controls on an operant response task. *Journal of Abnormal Psychology, 115,* 559-566.

Moltó, J., Poy, R., & Torrubia, R. (2000). Standardization of the Hare psychopathy checklist-revised in a Spanish prison sample. *Journal of Personality Disorders, 14,* 84-96.

Montagne, B., Van Honk, J., Kessels, R. P. C., Frigerio, E., Burt, M., Van Zandvoort, M. J. E., Perrett, D. I., & De Haan, E. H. F. (2005). Reduced efficiency in recognising fear in subjects scoring high on psychopathic personality characteristics. *Personality and Individual Differences, 38,* 5-11.

Neal, T. M. S., & Sellbom, M. (2012). Examining the factor structure of the Hare Self-Report Psychopathy Scale. *Journal of Personality Assessment, 94,* 244-253.

Neumann, C. S., & Hare, R. D. (2008). Psychopathic traits in a large community sample: Links to violence, alcohol use, and intelligence. *Journal of Consulting and Clinical Psychology, 76,* 893-899.

Neumann, C. S., Hare, R. D., & Johansson, P. T. (2013a). The Psychopathy Checklist-Revised (PCL-R), low anxiety, and fearlessness: A structural equation modelling analysis. *Personality Disorders: Theory, Research, and Treatment, 4,* 129-137.

Neumann, C. S., Hare, R. D., & Newman, J. P. (2007). The super-ordinate nature of the Psychopathy Checklist-Revised. *Journal of Personality Disorders, 21,* 102-117.

Neumann, C. S., Kosson, D. S., Forth, A. E., & Hare, R. D. (2006). Factor structure of the Hare Psychopathy Checklist: Youth Version (PCL:YV) in incarcerated adolescents. *Psychological Assessment, 2,* 142-154.

Neumann, C. S., Malterer, M. B., & Newman, J. P. (2008). Factor structure of the Psychopathic Personality Inventory (PPI): Findings from a large incarcerated sample. *Psychological Assessment, 20,* 169-174.

Neumann, C. S., Uzieblo, K., Crombez, G., & Hare, R. D. (2013b). Understanding the Psychopathic Personality Inventory (PPI) in terms of the unidimensionality, orthogonality, and construct validity of PPI-I and PPI-II. *Personality Disorders: Theory, Research, and Treatment, 4,* 77-79.

Newman, J. P. (1998). Psychopathic behaviour: An information processing perspective. In D. J. Cooke, A. E. Forth, & R. D. Hare (Eds.), *Psychopathy: Theory, research and implications for society* (pp. 81-104). Dordrecht: Kluwer.

Newman, J. P., & Kosson, D. S. (1986). Passive avoidance learning in psychopathic and nonpsychopathic offenders. *Journal of Abnormal Psychology, 95,* 252-256.

Newman, J. P., MacCoon, D. G., Vaughn, L. J., & Sadeh, N. (2005). Validating a distinction between primary and secondary psychopathy with measures of Gray's BIS and BAS constructs. *Journal of Abnormal Psychology, 114,* 319-323.

Newman, J. P., Patterson, C. M., Howland, E. W., & Nichols, S. L. (1990). Passive avoidance in psychopaths: The effects of reward. *Personality and Individual Differences, 11,* 1101-1114.

Newman, J. P., Schmitt, W. A., & Voss, W. D. (1997). The impact of motivationally neutral cues on psychopathic individuals: Assessing the generality of the Response Modulation Hypothesis. *Journal of Abnormal Psychology, 106,* 563-575.

Nicholls, T. L., Ogloff, J. R., Brink, J., & Spidel, A. (2005). Psychopathy in women: A review of its clinical usefulness for assessing risk for aggression and criminality. *Behavioural Sciences and the Law, 23,* 779-802.

Norton, R. S., Booth, R. F., & Webster, E. G. (1976). Correlates and implications of continued participation in a longitudinal survey. *The Journal of Psychology, 93,* 61-69.

O'Brien, B. S., & Frick, P. J. (1996). Reward dominance: Associations with anxiety, conduct problems, and psychopathy in children. *Journal of Abnormal Child Psychology, 24,* 223-240.

Ogloff, J. R. P. (2006). Psychopathy/antisocial personality disorder conundrum. *Australian and New Zealand Journal of Psychiatry, 40,* 519-528.

O'Kane, A., Fawcett, D., & Blackburn, R. (1996). Psychopathy and moral reasoning: Comparison of the two classifications. *Personality and Individual Differences, 20,* 505-514.

Oppenheim, A. N. (2000). *Questionnaire design, interviewing and attitude measurement.* London: Bloomsbury Publishing.

Parkinson, C., Sinnott-Armstrong, W., Koralus, P. E., Mendelovici, A., McGeer, V., & Wheatley, T. (2011). Is morality unified? Evidence that distinct neural systems underlie moral judgments of harm, dishonesty, and disgust. *Journal of Cognitive Neuroscience, 23,* 3162-3180.

Patrick, C. J. (2010). *Triarchic Psychopathy Measure (TriPM).*

Patrick, C. J., Bradley, M. M., & Lang, P. J. (1993). Emotion in the criminal psychopath: Fear image processing. *Journal of Abnormal Psychology, 103,* 523-534.

Patrick, C. J., Edens, J. F., Poythress, N. G., Lilienfeld, S. O., & Benning, S. D. (2006). Construct validity of the Psychopathic Personality Inventory two-factor model with offenders. *Psychological Assessment, 18,* 204-208.

Patrick, C. J., Fowles, D. C., & Krueger, R. F. (2009). Triarchic conceptualization of psychopathy: Developmental origins of disinhibition, boldness, and meanness. *Development and Psychopathology, 21,* 913-938.

Patterson, C. M., & Newman, J. P. (1993). Reflectivity and learning from aversive events: Towards a psychological mechanism for the syndromes of disinhibition. *Psychological Review, 100,* 716-736.

Paulhus, D. L., Neumann, C. S., & Hare, R. D. (in press). *Self-report Psychopathy Scale: SRP-3*. Toronto, Canada: Multi-Health Systems.

Pereira, N., Huband, N., & Duggan, C. (2008). Psychopathy and personality. An investigation of the relationship between the NEO-Five Factor Inventory (NEO-FFI) and the Psychopathy Checklist-Revised (PCL-R) in a hospitalized sample of male offenders with personality disorder. *Criminal Behaviour and Mental Health, 18,* 216-223.

Pham, T. H., Vanderstukken, O., Philippot, P., Vanderlinden, M. (2003). Selective attention and executive functions deficits among criminal psychopaths. *Aggressive Behavior, 29,* 393-405.

Polaschek, D. L. L., Anstiss, B., & Wilson, M. (2010). The assessment of offending-related stage of change in offenders: Psychometric validation of the URICA with male prisoners. *Psychology, Crime and Law, 16,* 305-325.

Porter, S. R., & Whitcomb, M. E. (2005). Non-response in student surveys: The role of demographics, engagement and personality. *Research in Higher Education, 46,* 127-152.

Poy, R., Segarra, P., Esteller, A., López, R., & Moltó, J. (2014). FFM description of the triarchic conceptualisation of psychopathy in men and women. *Psychological Assessment, October 7,* 1-8.

Poythress, N. G., Edens, J. F., & Lilienfeld, S. O. (1998). Criterion-related validity of the Psychopathic Personality Inventory in a Prison Sample. *Psychological Assessment, 10,* 426-430.

Poythress, N. G., & Skeem, J. L. (2006). Disaggregating psychopathy. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 172-192). London: The Guildford Press.

Pujol, J., Batalla, I., Contreras-Rodriquez, O., Harrson, B. J., Pera, V., Hernández-Ribas, R., Real, E., Bosa, L., Soriano-Mas, C., Deus, J., López-Solò, M., Pifarré, J., Menchón, J. M., & Cardoner, N. (2012). Breakdown in the brain network subserving moral judgment in criminal psychopathy. *Scan, 7,* 917-923.

Randall, J. R., Rowe, B. H., Dong, K. A., Nock, M. K., & Colman, I. (2013). Assessment of self-harm risk using implicit thoughts. *Psychological Assessment, 25,* 714-721.

Rattray, J., & Jones, M. C. (2007). Essential elements of questionnaire design and development. *Journal of Clinical Nursing, 16,* 234-243.

Ray, J. V., Hall, J., Rivera-Hudson, N., Poythress, N. G., Lilienfeld, S. O., & Morano, M. (2013). The relation between self-reported psychopathic traits and distorted response styles: A meta-analytic review. *Personality Disorders: Theory, Research, and Treatment, 4,* 1-14.

Ray, J. V., Poythress, N. G., Weir, J. M., & Rickelm, A. (2009). Relationships between psychopathy and impulsivity in the domain of self-reported personality features. *Personality and Individual Differences, 46,* 83-87.

Reeves, M., & Taylor, J. (2007). Specific relationships between core beliefs and personality disorder symptoms in a non-clinical sample. *Clinical Psychology and Psychotherapy, 14,* 96-104.

Reich, R. R., Below, M. C., & Goldman, M. S. (2010). Explicit and implicit measures of expectancy and related alcohol cognitions: A meta-analytic comparison. *Psychology of Addictive Behaviors, 24,* 13-25.

Reise, S. P., & Oliver, C. J. (1994). Development of a California Q-set indicator of primary psychopathy. *Journal of Personality Assessment, 62,* 130-144.

Rest, J., Cooper, D., Coder, R., Masanz, J., & Anderson, D. (1974). Judging the important issues in moral dilemmas – An objective measure of development. *Developmental Psychology, 10,* 491-501.

Riso, L. P., Froman, S. E., Rauuf, M., Gable, P., Maddux, R. E., Turini-Santorelli, N., Penna, S., Blandino, J. A., Jacobs, C. H., & Cherry, M. (2006). The long-term stability of early maladaptive schemas. *Cognitive Therapy and Research, 30,* 515-529.

Roberts, A., & Coid, J. (2007). Psychopathy and offending behaviour: Findings from the national survey of prisoners in England and Wales. *Journal of Forensic Psychiatry and Psychology, 18,* 23-43.

Rogers, T. B., Kuiper, N. A., & Kirker, W. S. (1977). Self-reference and the encoding of personal information. *Journal of Personality and Social Psychology, 35,* 677-688.

Rogstad, J. E., & Rogers, R. (2008). Gender differences in contributions of emotion to psychopathy and antisocial personality disorder. *Clinical Psychology Review, 28,* 1472-1484.

Ruiz, M. A., Pincus, A. L., & Schinka, J. A. (2008). Externalizing pathology and the Five-Factor Model: A meta-analysis of personality traits associated with antisocial personality disorder, substance use disorder, and their co-occurrence. *Journal of Personality Disorders, 22,* 365-388.

Sadeh, N., & Verona, E. (2008). Psychopathic personality traits associated with abnormal selective attention and impaired cognitive control. *Neuropsychology, 22,* 669-680.

Sadeh, N., Verona, E., Javdani, S., & Olson, L. (2009). Examining psychopathic tendencies in adolescence from the perspective of personality theory. *Aggressive Behavior, 35,* 399-407.

Salekin, R. T., Rogers, R., & Sewell, K. W. (1997). Construct validity of psychopathy in a female offender sample: A multitrait-multimethod evaluation. *Journal of Abnormal Psychology, 106,* 576-585.

Salekin, R. T., Rogers, R., Ustad, K. L., & Sewell, K. W. (1998). Psychopathy and recidivism among female inmates. *Law and Human Behavior, 22,* 109-128.

Sass, H., & Felthous, A. R. (2007). History and conceptual development of psychopathic disorders. In A. R. Felthous, & H. Sass (Eds.), *International handbook of psychopathic disorders and the law: Volume 1* (pp. 9-30). Chichester, West Sussex: John Wiley and Sons.

Schaich Borg, J., & Sinnott-Armstrong, W. P. (2013). Do psychopaths make moral judgments? In K. A. Kiehl, & W. P. Sinnott-Armstrong (Eds.), *Handbook on psychopathy and law* (pp. 107-130). Oxford: Oxford University Press.

Segal, Z. V. (1988). Appraisal of the self-schema construct in cognitive models of depression. *Psychological Bulletin, 103,* 147-162.

Segal, D. L., & Coolidge, F. L. (2004). Objective assessment of personality and psychopathology: An overview. In M. Herson (Ed.), *Comprehensive handbook of psychological assessment, personality assessment* (pp. 3-14). New Jersey: John Wiley and Sons.

Seibert, L., Miller, J. D., Few, L. R., Zeichner, A., & Lynam, D. R. (2011). An examination of the structure of self-report psychopathy measures and their relations with general traits and externalizing behaviors. *Personality Disorders: Theory, Research and Treatment, 2,* 193-208.

Seligman, M. E. P. (2002). Positive psychology, positive prevention, and positive therapy. In C. R. Snyder, & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 3-9). New York: Oxford University Press.

Sellbom, M. (2011). Elaborating on the construct validity of the Levenson self-report psychopathy scale in incarcerated and non-incarcerated samples. *Law and Human Behavior, 35,* 440-451.

Serin, R. C. (1991). Psychopathy and violence in criminals. *Journal of Interpersonal Violence, 6,* 423-431.

Sevecke, K., Pukrop, R., Kosson, D. S., & Krischer, M. K. (2009). Factor structure of the Hare Psychopathy Checklist: Youth Version in German female and male detainees and community adolescents. *Psychological Assessment, 21,* 45-56.

Shaw, J., & Porter, S. (2012). Forever a psychopath? Psychopathy and the criminal career trajectory. In H. Häkkänen-Nyholm, & J. Nyholm (Eds.), *Psychopathy and law: A practitioner's guide* (pp. 201-222). Chichester, West Sussex: John Wiley and Sons.

Shoemaker, D. W. (2011). Psychopathy, responsibility, and the moral/conventional distinction. *The Southern Journal of Philosophy, 49,* 99-124.

Skeem, J. L., & Cooke, D. J. (2010a). Is criminal behavior a central component of psychopathy? Conceptual directions for resolving the debate. *Psychological Assessment, 22,* 433-445.

Skeem, J. L., & Cooke, D. J. (2010b). One measure does not a construct make: Directions toward reinvigorating psychopathy research – reply to Hare and Neumann (2010). *Psychological Assessment, 22*, 455-459.

Skeem, J. L., Mulvey, E. P., & Grisso, T. (2003). Applicability of traditional and revised models of psychopathy to the Psychopathy Checklist: Screening Version. *Psychological Assessment, 15*, 41-55.

Skeem, J. L., Poythress, N., Edens, J. F., Lilienfeld, S. O., & Cale, E. M. (2003). Psychopathic personality or personalities? Exploring potential variants of psychopathy and their implications for risk assessment. *Aggression and Violent Behavior, 8*, 513-546.

Skjutar, A., Christensson, K., & Müllersdorf, M. (2009). Exploring indicators for pain rehabilitation: A Delphi study using a multidisciplinary expert panel. *Musculoskeletal Care, 7*, 227-242.

Smith, S. S., Arnett, P. A., & Newman, J. P. (1992). Neuropsychological differentiation of psychopathic and nonpsychopathic criminal offenders. *Personality and Individual Differences, 13*, 1233-1245.

Smith, S., Edens, J. F., & Vaughn, M. G. (2011). Assessing the external correlates of alternative factor models of the Psychopathic Personality Inventory-Short Form across three samples. *Journal of Personality Assessment, 93*, 244-256.

Snowden, R. J., Gray, N., Smith, J., Morris, M., & MacCulloch, M. J. (2004). Implicit affective associations to violence in psychopathic murders. *The Journal of Forensic Psychiatry and Psychology, 15*, 620-641.

Stacy, A. W., & Wiers, R. W. (2010). Implicit cognition and addiction: A tool for explaining paradoxical behaviour. *Annual Review of Clinical Psychology, 6*, 551-575.

Steuerwald, B. L., & Kosson, D. S. (2000). Emotional experiences of the psychopath. In C. B. Gacono (Ed.), *The clinical and forensic assessment of psychopathy* (pp. 111-136). London: Lawrence Erlbaum.

Stevens, G. W., Deuling, J. K., & Armenakis, A. A. (2012). Successful psychopaths: Are they unethical decision-makers and why? *Journal of Business Ethics, 105*, 139-149.

Stover, A. R. (2007). *A critical analysis of the historical and conceptual evolution of psychopathy*. Unpublished doctoral dissertation, The Chicago School of Professional Psychology, Chicago.

Strachan, C. E. (1993). *The assessment of psychopathy in female offenders.* Unpublished doctoral dissertation. University of British Columbia. Vancouver.

Strack, F., & Deutsch, R. (2004). Reflective and impulsive determinants of social behaviour. *Personality and Social Psychology Review, 8,* 220-247.

Strand, S., & Belfrage, B. (2005). Gender differences in psychopathy in a Swedish offender sample. *Behavioural Sciences and the Law, 23,* 837-850.

Strickland, C. M., Drislane, L. E., Lucy, M., Krueger, R. F., & Patrick, C. J. (2013). Characterizing psychopathy using DSM-5 personality traits. *Assessment, 20,* 327-338.

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). New Jersey: Pearson.

Taylor, P. J. (1997). Forensic psychiatry. In R. Murray, P. Hill, & P. McGuffin (Eds.), *The essentials of postgraduate psychiatry* (3rd ed.) (pp. 563-602). Cambridge: Cambridge University Press.

Tengström, A., Grann, M., Längström, N., & Kullgren, G. (2000). Psychopathy (PCL-R) as a predictor of violent recidivism among criminal offenders with schizophrenia. *Law and Human Behavior, 24,* 45-58.

Tetley, A., Jinks, M., Huband, N., Howells, K., & McMurran, M. (2012). Barriers to and facilitators of treatment engagement for clients with personality disorder: A Delphi survey. *Personality and Mental Health, 6,* 97-110.

Thornquist, M. H., & Zuckerman, M. (1995). Psychopathy, passive avoidance learning and basic dimensions of personality. *Personality and Individual Differences, 19,* 525-534.

Toch, H. (1998). Psychopathy or antisocial personality in forensic settings. In T. Millon., E. Simonsen., M. Birket-Smith., & R. D. Davis (Eds.), *Psychopathy: Antisocial, criminal, and violent behavior* (pp. 144-160). New York: Guildford Press.

Trasler, G. (1978). Relations between psychopathy and persistent criminality-methodological and theoretical issues. In R. D. Hare, & D. Schalling (Eds.), *Psychopathic behaviour: Approaches to research* (pp. 273-298). New York: Wiley.

Tsuchiya, N., & Adolphs, R. (2007). Emotion and consciousness. *Trends in Cognitive Science, 11,* 158-167.

Turiel, E. (1983). *The development of social knowledge: Morality and convention.* Cambridge: Cambridge University Press.

Verona, E., Patrick, C. J., & Joiner, T. E. (2001). Psychopathy, antisocial personality, and suicide risk. *Journal of Abnormal Psychology, 110*, 462.

Verona, E., & Vitale, J. (2006). Psychopathy in women: Assessment, manifestations, and etiology. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 415-436). London: The Guildford Press.

Verona, E., Sprague, J., & Sadeh, N. (2012). Inhibitory control and negative emotional processing in psychopathy and antisocial personality disorder. *Journal of Abnormal Psychology, 121,* 498-510.

Verschuere, B., Crombez, G., De Clercq, A., & Koster, E. W. (2005). Psychopathic traits and autonomic responding to concealed information in a prison sample. *Psychophysiology, 42,* 239-245.

Viding, E. (2004). Annotation: Understanding the development of psychopathy. *Journal of Child Psychology and Psychiatry, 45*, 1329-1337.

Vitacco, M. J., & Kosson, D. S. (2010). Understanding psychopathy through an evaluation of interpersonal behaviour: Testing the factor structure of the interpersonal measure of psychopathy in a large sample of jail detainees. *Psychological Assessment, 22*, 638-649.

Vitacco, M. J., Lishner, D. A., & Neumann, C. S. (2012). Assessment. In H. Häkkänen-Nyholm, & J. Nyholm (Eds.), *Psychopathy and law: A practitioner's guide* (pp. 19-32). Chichester, West Sussex: John Wiley and Sons.

Vitacco, M. J., Neumann, C. S., & Jackson, R. L. (2005). Testing a four-factor model of psychopathy and its association with ethnicity, gender, intelligence, and violence. *Journal of Consulting and Clinical Psychology, 73*, 466-476.

Vitale, J. E., Brinkley, C. A., Hiatt, K. D., & Newman, J. P. (2007). Abnormal selective attention in psychopathic female offenders. *Neuropsychology, 21*, 301-312.

Vitale, J. E., Newman, J. P., Serin, R. C., & Bolt, D. M. (2005). Hostile attributions in incarcerated adult male offenders: An exploration of diverse pathways. *Aggressive Behavior, 31*, 99-115.

Vosmer, S., Hackett, S., & Callanan, M. (2009). "Normal" and "inappropriate" childhood sexual behaviours: Findings from a Delphi study of professionals in the United Kingdom. *Journal of Sexual Aggression, 15*, 275-288.

Walters, G. D. (2012). Psychopathy and crime: Testing the incremental validity of PCL-R measures psychopathy as a predictor of general and violent recidivism. *Law and Human Behavior, 36*, 404-412.

Walters, G. D., Gray, N. S., Jackson, R. L., Sewell, K. W., Rogers, R., Taylor, J., & Snowden, R. J. (2007). A taxometric analysis of the Psychopathy Checklist: Screening Version (PCL:SV): Further evidence of dimensionality. *Psychological Assessment, 19,* 330-339.

Widiger, T. A., & Lynam, D. R. (1998). Psychopathy and the Five-Factor Model of Personality. In T. Millon, E. Simonsen, M. Birket-Smith, & R. D. Davis (Eds.), *Psychopathy: Antisocial, Criminal and Violent Behavior* (pp. 171-187). New York: Guildford.

Wallace, J. F., Schmitt, W. A., Vitale, J. E., & Newman, J. P. (2000). Experimental investigations of information-processing deficiencies in psychopaths: Implications for diagnosis and treatment. In C. B. Gacono (Ed.), *The clinical and forensic assessment of psychopathy* (pp. 87-110). London: Lawrence Erlbaum.

Walsh, Z., Allen, L. C., & Kosson, D. S. (2007). Beyond social deviance: Substance use disorders and the dimensions of psychopathy. *Journal of Personality Disorders, 21*, 273-288.

Walters, G. D., Brinkley, C. A., Magaletta, P. R., & Diamond, P. M. (2008). Taxometric analysis of the Levenson Self-Report Psychopathy Scale. *Journal of Personality Assessment*, *90*, 491-498.

Warren, G. C., & Clarbour, J. (2009). Relationship between psychopathy and indirect aggression use in a noncriminal population. *Aggressive Behavior*, *35*, 408-421.

Watt, B. D., & Brooks, N. S. (2012). Self-report psychopathy in an Australian community sample. *Psychiatry, Psychology and Law, 19,* 389-401.

Wells, A. (1997). *Cognitive therapy of anxiety disorders: A practice manual and conceptual guide*. Chichester: John Wiley and Sons.

Werlinder, H. (1978). *Psychopathy: A history of the concepts. Analysis of the origin and development of a family of concepts in psychopathology.* Stockholm: Almqvist and Wiksell International.

Widiger, T. A., Cadoret, R., Hare, R., Robins, L., Rutherford, M., Zanarini, M., Alterman, A., Apple, M., Corbitt, E., Forth, A., Hart, S., Kultermann, J., Woody, G., & Frances, A. (1996). DSM-IV antisocial personality disorder field trial. *Journal of Abnormal Personality, 105,* 3-16.

Wildi, L. M., Hensel, A., Wertli, M., Michel, B. A., & Steurer, J. (2013). Relevant baseline characteristics for describing patients with knee osteoarthritis: Results from a Delphi survey. *BMC Musculoskeletal Disorders, 14,* 369.

Wilks-Riley, F., & Ireland, J. L. (2012). Cognition and psychopathy: Identifying negative and positive schemas in general and forensic samples. *The Journal of Forensic Psychiatry and Psychology, 23,* 466-484.

Williams, K. M., & Paulhus, D. L. (2004). Factor structure of the Self-Report Psychopathy Scale (SRP-II) in non-forensic samples.

Williams, K. M., Paulhus, D. L., & Hare, R. D. (2007). Capturing the four-factor structure of psychopathy in college students via self-report. *Journal of Personality Assessment, 88,* 205-219.

Williamson, S., Harpur, T. J., & Hare, R. D. (1991). Abnormal processing of affective words by psychopathic individuals. *Psychophysiology, 28,* 260-273.

Wilson, L., Miller, J. D., Zeichner, A., Lynam, D. R., & Widiger, T. A. (2011). An examination of the validity of the Elemental Psychopathy Assessment: Relations with other psychopathy measures, aggression, and externalizing behaviour. *Journal of Psychopathology and Behavioural Assessment, 33,* 315-322.

Wilson, T. D., Lindsley, S., & Schooler, T. Y. (2000). A model of dual attitudes. *Psychological Review, 107,* 101-126.

Wogan, M., & Mackenzie, M. (2007). An inmate classification system based on PCL: SV factor scores in a sample of prison inmates. *Journal of Offender Rehabilitation, 44,* 25-42.

Wootton, J. M., Frick, P. J., Shelton, K. K., Silverthorn, P. (1997). Ineffective parenting and childhood conduct problems: The moderating role of callous-unemotional traits. *Journal of Consulting and Clinical Psychology, 65,* 292-300.

Wright, E. M. (2009). The measurement of psychopathy: Dimensional and taxometric approaches. *International Journal of Offender Therapy and Comparative Criminology, 53,* 464-481.

Young, J. E., Klosko, J. S., & Weishaar, M. E. (2003). *Schema therapy: A practitioner's guide*. London: The Guildford Press.

Young, L., Koenigs, M., Kruepke, M., & Newman, J. P. (2012). Psychopathy increases perceived moral permissibility of accidents. *Journal of Abnormal Psychology, 121,* 659-667.

Zeier, J. D., Maxwell, J. S., & Newman, J. P. (2009). Attention moderates the processing of inhibitory information in primary psychopathy. *Journal of Abnormal Psychology, 118,* 554-563.

Zolondek, S., Lilienfeld, S. O., Patrick, C. J., & Fowler, K. A. (2006). The interpersonal measure of psychopathy: Construct and incremental validity in male prisoners. *Assessment, 13,* 470-482.

Appendix 1.

PSYCHOMETRIC QUALITIES OF THE PSYCHOPATHY CHECKLIST AND ITS REVISION

Table 49: Psychometric qualities of the Psychopathy Checklist-Revised (PCL-R)[85].

Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
Hare (1991) [PCL-R version 1]	n = 1,192 offenders & 440 forensic psychiatric patients	Exploratory factor analyses yielded two correlated factors: Factor one (F1; Interpersonal/affective) and Factor two (F2; Social deviance)	Not stated	Male offenders (α = .87); Male forensic psychiatric patients (α = .85)
Cooke & Michie (1997) [PCL:SV]	n = 2,067 offenders and forensic psychiatric patients	Identified two correlated but distinct factors: F1 (Selfish, callous and remorseless use of others) and F2 (Chronically unstable and antisocial lifestyle)	Not stated	Total PCL-R (α = .80)
Cooke & Michie (2001) [PCL-R version 1]	As above	The two-factor model previously mentioned could not be sustained (CFI = .78, GFI = .86; RMSEA = .10). Proposed a three-factor model underpinned by deceitful interpersonal style, deficient affective experience, and impulsive and irresponsible behavioural style (CFI = .97, GFI = .94, RMSEA = .07)	Not stated	Total PCL-R (α = .77)
Johansson et al. (2002) [PCL-R version 1]	n = 293 offenders	Exploratory factor analysis produced three factors: an interpersonal factor, an affective factor, and a behavioural/	Not stated	Not stated

(Continued)

[85] All values in parentheses, with the exception of cronbach's alpha and standardised beta, are significant (p< .05) correlation coefficients (r) interpreted as follows: > .60: strong positive correlation; < -.60: strong negative correlation; .30 to .59: moderate positive correlation; -.30 to -.59: moderate negative correlation; < .30 to 0: weak positive correlation; > -.30 to 0: weak negative correlation.

Table 49: Continued.

Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
		lifestyle factor (GFI = .98, AGFI = .98, RMSEA = .06). Confirmatory factor analysis showed that this model had a significantly closer fit than the original two-factor model (GFI = .98, AGFI = .97, RMSEA = .08)		
Hill et al. (2004) [PCL:SV]	n = 149 forensic psychiatric patients	Confirmatory factor analysis tested two-, three-, and four-factor models. All models provided a good fit. The four-factor model provided the best overall fit (CFI = .96, RCFI = .96, RMSEA = .08). All four-factors correlated aggression: F1 (Interpersonal; .43); F2 (Affective; .27); F3 (Lifestyle; .29); and F4 (Antisocial; .53)	Not stated	Not stated
Vitacco et al. (2005) [PCL:SV]	n = 840 civil psychiatric patients	Confirmatory factor indicated that the four-factor model provided a good fit (CFI = .93, SRMR = .05, RMSEA = .08). Similar results were found for Cooke and Michie's (2001) three-factor model (CFI = .93, SRMR = .05, RMSEA = .09). All factors correlated with IQ: F1 (-.08); F2 (-.24); F3 (-.34); F4 (-.21)	Not stated	Not stated
Neumann et al. (2006) [PCL:SV]	n = 505 offenders [adolescents]	Confirmatory factor analysis found all factor models, except the two-factor model, to	Not stated	Not stated

(Continued)

Table 49: Continued.

Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
		provide a good fit (two-factor: RMSEA =.10, SRMR = .08, TLI = .92, CFI = .84; three-factor: RMSEA =.07, SRMR = .06, TLI = .95, CFI = .91; four-factor: RMSEA =.07, SRMR = .06, TLI = .95, CFI = .84). Results indicated that the four-factor model reflected a central feature of a coherent higher order psychopathy factor. This higher order factor accounted for variance in F1 (interpersonal; R^2 = .44), F2 (affective; R^2 = .86), F3 (lifestyle, R^2 = .93), and F4 (antisocial, R^2 = .62)		
Sevecke et al. (2009) [PCL:SV]	n = 314 adolescent offenders & 193 students	Confirmatory factor analyses tested the factor models. The three-factor model (i.e. interpersonal, affective & lifestyle) provided an excellent fit in adolescent offenders (CFI = .96, TLI = .96, RMSEA = .09). The four-factor model was deemed unacceptable due to correlations between lifestyle and antisocial factors exceeding 1.0. This was also the case for students.	Not stated	Cronbach's alpha for total PCL:SV ranged between .83 and .91 for students, and .74 and .87 for offenders

(Continued)

Table 49: Continued.

Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
		The three-factor model was less validated in students (CFI = .99, TLI = .99, RMSEA .07). The two-factor model provided an adequate fit (CFI = .98, TLI = .99, RMSEA = .07). For the offender sample, externalising behaviours significantly correlated with interpersonal (.22) and lifestyle (.20). Number of violent offenses also correlated with the affective score (.18) in offenders		For students, F1 ranged between .75 and .88, F2, .68 and .75, and F3, .62 and .73. Offenders ranged between .71 and .76 for F1, .63 and .71 for F2, and .61 and .63 for F3
Neumann et al. (2013a) [PCL-R version two]	n = 1,031 offenders	Confirmatory factor analysis indicated excellent fit for the four-factor model (TLI = .97, RMSEA = .06). All factor loadings and correlations were significant. Low anxiety correlated with all four factors (.40 to .60)	Not stated	Total PCL-R (α = .92). The four factors all exceeded alphas of .82

Appendix 2.

PSYCHOMETRIC QUALITIES OF THE SELF-REPORT MEASURES OF PSYCHOPATHY

Table 50: Psychometric qualities of the self-report measures of psychopathy[86].

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
LSRP	Levenson et al. (1995)	n = 487, Students	Factor analysis revealed a two-factor solution; Primary and Secondary psychopathy. *Primary Psychopathy* Related to disinhibition (.34), boredom susceptibility (.39), harm avoidance (-.17) and stress reaction (.09) *Secondary Psychopathy* Related to disinhibition (.16), boredom susceptibility (.27), stress reaction (.41) and antisocial action (.29)	Not stated	Primary psychopathy (α = .82); Secondary psychopathy (α = .63)
LSRP	Lynam et al. (1999)	n = 1958, Students	Confirmatory factor analysis identified two-factors; Primary psychopathy and Secondary psychopathy *Primary Psychopathy* Related to agreeableness (-.41),	Not stated	Primary psychopathy (α = .84); Secondary psychopathy (α = .68)

(Continued)

[86] All values in parentheses, with the exception of cronbach's alpha and standardised beta, are significant (p< .05) correlation coefficients (r) interpreted as follows: > .60: strong positive correlation; < -.60: strong negative correlation; .30 to .59: moderate positive correlation; -.30 to -.59: moderate negative correlation; < .30 to 0: weak positive correlation; > -.30 to 0: weak negative correlation.

Table 50: Continued.

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
			conscientiousness (-.20), extraversion (-.08), alcohol use (.25), illegal drug use (lifetime, .25; past year, .24) and serious antisocial behaviour (lifetime, .32; past year, .28) *Secondary Psychopathy* Associated with agreeableness (-.42), conscientiousness (-.59), neuroticism (.37), extraversion (-.15), alcohol use (.22), illegal drug use (lifetime, .25; past year, .25) and serious criminal behaviour (lifetime, .20; past year, .18)		
LSRP	Brinkley et al. (2001)	n = 549, Prisoners	Confirmatory factor analysis provided an adequate fit for the two-factor model identified in previous research (e.g. Levenson et al. 1995; Lynam et al. 1999) *Overall LSRP* Related to violent criminal activity (.24) and substance abuse (.18)	Overall LSRP was associated with total PCL-R (.35); LSRP primary psychopathy with PCL-R F1 (.30); and LSRP secondary psychopathy with PCL-R F2 (.36)	Overall LSRP (α = .85); Primary psychopathy (α = .83); Secondary psychopathy (α = .69)

(Continued)

Table 50: Continued.

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
			Primary Psychopathy Correlated with violent criminal activity (.25) *Secondary Psychopathy* Associated with violent criminal activity (.28) and substance abuse (.14)		
LSRP	Sellbom (2011)	n = 573, Prisoners; n = 482, Students	Confirmatory factor analysis identified the LSRP to be underpinned by a three-factor model: Egocentricity; Callous; and Antisocial *Overall LSRP* Related to Machiavellian egocentricity (.77), narcissism (.26), coldheartedness (.26), emotional empathy (-.06), antisocial behaviour (.44), carefree nonplanfulness (.51), rebellious nonconformity (.48), impulsivity (.40), disinhibition (.51), alcoholism (.30), addiction (.42), anger (.44), fearfulness (.29), thrill and adventure seeking (.04) and emotional distress (-.32)	LSRP correlated with the PPI (.68)	Egocentricity (α= .83); Callous (α = .61); Antisocial (α = .62);

(Continued)

Table 50: Continued

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
			Egocentricity Correlated mainly with egocentricity (.71) and narcissism (.35) *Callous* Related to coldheartedness (.34), emotional empathy (-.07) and Machiavellian egocentricity (.48) *Antisocial* Associated with offending (.48), carefree nonplanfulness (.55), rebellious nonconformity (.41), impulsivity (.40), disinhibition (.32), alcoholism (.30), addiction (.44) and anger (.52)		
SRP	Hare (1985)	n = 274, Prisoners	Principal component analysis found the SRP to be underpinned by a two factor model similar to that identified in the PCL (Items underpinning each factor were not provided)	Correlated with the PCL (.38)	Overall SRP (α = .80)
SRP-II	Williams & Paulhus (2004)	Study 1; n = 289, Students	Principal component analysis revealed two factors. F1 (Manipulative	Not stated	Overall SRP-II (α = .84). When reverting

(Continued)

Table 50: Continued.

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
			trouble making) included the personality and behavioural features of the PCL-R. F2 (Emotional stability) composed of items relating to low anxiety and confidence Total SRP-II correlated with extraversion (.38), agreeableness (-.30), conscientiousness (-.15), emotional stability (.34), openness (.25), perspective taking (-.09), fantasy seeking (-.04), empathic concern (.10) and personal distress (-.17)		back to the original subscales of the PCL, the SRP-II the alpha for the personality factor was .56 and .78 for the behavioural factor
		Study 2; n = 356, Students	Total SRP-II correlated with bullying (.35), serious crime (.19), drugs (.35), minor crime (.34), anti-authority (.20), and total delinquency (.47)	Not stated	Not stated
SRP-II	Benning et al. (2005)	n = 326, Students	Exploratory and confirmatory factor analysis found a two-factor solution optimal. This consistent with Wallace and Paulhus (2004)	SRP-II F1 correlated with PPI factor one (.50). SRP-II F2 correlated with PPI (.68)	SRP-II F1 (α = .47); SRP-II F2 (α = .77)

(Continued)

Table 50: Continued.

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
			SRP-II (F1) Correlated with neuroticism (-.52), dominance (.39) and conscientiousness (.23). *SRP-II (F2)* Related to dominance (.38) and love (-.40).		
SRP-II	Williams et al. (2007)	Study 1; n = 269, Students	Principal component analysis revealed a four-factor model: Interpersonal manipulation (IPM); Criminal tendencies (CT); Erratic lifestyle (ELS); and Callous affect (CA). Correlations among these were positive and ranged between .20 and .33	Not stated	Not stated
		Study 2; n = 274, Students	*Overall SRP-II* Associated with extraversion (.05), agreeableness (-.46), conscientiousness (-.23), neuroticism (-.05) and openness (.05)	Correlated with LSRP (.53) and PPI (.60)	Alpha reliabilities for the four subscales range from .67 to .91. Overall SRP-II (α = .88)

(Continued)

Table 50: Continued.

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
			Subscales of SRP-II Related to type of misconduct (i.e. bullying, drug abuse, driving, misconduct, crime, anti-authority and overall misconduct). All types of misconduct correlated positively with the four subscales: CT (range .06 to .27); ELS (range .23 to .52); IPM (range .13 to .36); and CA (range .01 to .39)		
SRP-II	Lester et al. (2013)	n = 1257, Students	Factor analyses identified a four-factor model: IPM; CT; ELS; and CA *Overall SRP-II* Correlated with neuroticism (-.10), conscientiousness (-.34), extraversion (-.25), agreeableness (-.66), shame (-.25), detachment (.35), guilt (-.42), externalization of blame (.29), emotional self-awareness (-.24), self-actualisation (-.28), empathy (-.38), interpersonal relationships (-.25), social responsibility (-.56) and impulse control (-.51)	Not stated	Not stated

(Continued)

Table 50: Continued.

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
SRP-III	Paulhus et al (in press)	n range = 300 to 1500, Students and Prisoners	Four factors identified: IPM; CA; ELS; and ABS (Antisocial behaviour). (Authors provide no further data for these factors)	Not stated	Overall SRP-III (α = .81); IPM (α = .81); CA (α = .79); ELS (α = .74); ASM (α = .82)
SRP-III	Mahmut et al. (2011)	n = 500, Community	Exploratory and confirmatory factor analyses revealed a four-factor model consistent with that of Williams et al. (2007) *Overall SRP-III* Participants scoring high on the SRP-III (i.e. higher levels of psychopathy) had significantly lower levels of empathy compared to those scoring low on the measure: t(45) = 4.30, p< .05. SRP-III negatively correlated with empathy (-.52) Those with higher SRP-III scores made significantly more poorer decisions on the IOWA gambling task than those scoring low on the measure: t(40, 82) = 2.81, p< .001	Not stated	Overall SRP-III (α = .86); IPM (α = .72); CA (α = .65); ELS (α = .76); CT (α = .75)

(Continued)

Table 50: Continued.

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
			Logistic regression revealed the four-factor model, when compared to a three-factor model, to be better at classifying those scoring high and low on the SRP-III		
SRP-III	Neal & Sellbom (2012)	n = 602, Students	Factor analysis confirmed a four factor structure (e.g. Williams et al. 2007) *IPM* Predicted a range of characteristics including impatient urgency (β = .40), honesty (β = .35), alienation (β = .34), and blame externalisation (β = .30). Also associated with antisocial processes (β = .44), thought dysfunction (β = .22) and negative emotion (β = .33) *CA* Predicted a range of externalising characteristics (e.g. empathy, β = -.53; physical aggression, β = .24; and problematic impulsivity, β = -.18), callous-unemotional traits (β = .43) and	Not stated	Overall SRP-III (α = .92); IPM (α = .82); CA (α = .78); ELS (α = .79); CT (α = .75)

(Continued)

Table 50: Continued.

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
			social avoidance (β = .18) *ELS* Mainly predicted externalising characteristics, including alcohol problems (β = .43), irresponsibility (β = .46), problematic impulsivity (β = .43), and reactive aggression (β = .28) *CT* Predicted a range of externalising characteristics, including alcohol (β = .18) and drug (β = .37) problems, irresponsibility (β = .35), rebelliousness (β = .15), fraud (β = .28) and theft (β = .48). Also associated with disconstraint (β = .27), behavioural dysfunction (β = .33) and proactive aggression (β = .34)		
SRP-III	Watt & Brooks (2012)	n = 382, Community	*IPM* Predicted empathic concern (β = -.19), fantasy (β = .25), perspective taking (β = -.16), social desirability (β = -.36),	Not stated	Not stated

(Continued)

Table 50: Continued.

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
			reactive violent thoughts (β = .24) and instrumental violent thoughts (β = .23) *CA* Predicted empathic concern (β = -.57), fantasy (β = -.34), perspective taking (β = -.37), personal distress (β = -.18), reactive violent thoughts (β = .21) and instrumental violent thoughts (β = .23) ELS Predicted empathic concern (β = .18), alcohol misuse (β = .33) and social desirability (β = -.16) CT Predicted alcohol misuse (β = .17) and instrumental violent thoughts (β = .14)		
PPI	Lilienfeld & Andrews (1996)	Study 1; round 1, n = 241; round 2, n = 253; round 3, n = 610. Students	Factor analyses indicated eight subscales: Machiavellian egocentricity; Social potency; Coldheartedness; Carefree nonplanfulness; Fearlessness; Blame externalising; Impulsive	Not stated	PPI total score in all samples ranged from .90 to .93 (α). Cronbach's alpha for the eight subscales

(Continued)

Table 50: Continued.

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
			nonconformity; and Stress immunity		ranged from .70 to .90
		Study 2; n = 71, Students	Total PPI correlated with ASPD (.59), narcissistic personality disorder (.35), Cleckley's psychopathy (.60), trustworthiness (-.39), accuracy of reporting (-.30), drug abuse (.25), major depression (.19), positive emotionality (.35), negative emotionality (-.50), social potency (.29), aggression (.43), harm avoidance (-.41), control vs. impulsivity (-.38), traditionalism (-.34), drinking frequency and intensity (.26)	Total PPI correlated with the SRP-R (.91)	Not stated
PPI	Poythress et al. (1998)	n = 50, Prisoners	Not stated	Total PPI associated with the PCL-R (.54)	Not stated
PPI	Benning et al. (2003)	n = 353, Community	Factor analysis revealed a two-factor model: PPI-I (Fearless dominance) and PPI-II (Self-centered impulsivity). All subscales loaded onto the two factors with the exception of coldheartedness. PPI-I: Impulsive-	Not stated	Total PPI (α = .95); Subscales range from .82 to .94

(Continued)

Table 50: Continued.

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
			nonconformity; Blame externalization; Machiavellian egocentricity; Carefree nonplanfulness PPI-II: Stress immunity; Stress potency; Fearlessness *PPI-I* Correlated with adult antisocial behaviour (.15), educational level (.14), high school rank (.14), well-being (.39), social potency (.49), achievement (.21), social closeness (.29), alienation (-.15) and harm avoidance (-.31) *PPI-II* Related to adult antisocial behaviour (.27), childhood antisocial behaviour (.34), alcohol abuse-dependence (.18), age at first drink (.17), educational level (-.18), high school class rank (-.24), income (-.22), well-being (-.20), achievement (-.16), social closeness		

(Continued)

Table 50: Continued.

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
			(-.18), stress reaction (.27), alienation (.49), aggression (.42), traditionalism (-.22) and absorption (.22)		
PPI	Berardino et al. (2005)	n = 105, Prisoners	Total PPI correlated with deceitfulness (.49), impulsivity (.24), aggressiveness (.33), recklessness (.28), irresponsibility (.24), [lack of] remorse (.30), depression (-.25), psychopathic deviate (.23), masculinity-femininity (.38), schizophrenia (.24), hypomania (.52)	Total PPI correlated with total PCL-R (.58); PPI-I correlated with PCL-R F1 (.38); and PPI-II correlated with PCL-R F2 (.49) In terms of the PCL-R three factor model: PPI-I with F1 (.36); F2 (.28); and F3 (.19). PPI-II with F1 (.22); F2 (.30); and F3 (.46). Total PPI with F1 (.40); F2 (.42); and F3 (.46)	Total PPI (α = .89)
PPI	Patrick et al. (2006)	Study 1; n = 96, Prisoners	Total PPI correlated with empathy (-.45), aggression (.60) and borderline personality disorder (.45)	Not stated	Not stated

(Continued)

Table 50: Continued.

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
		Study 2; n = 89, Prisoners	*Total PPI* Related to antisocial features (.67), aggression (.68), dominance (.38), borderline features (.39), drug problems (.29) and suicidal ideation (.33) *PPI-I* Correlated with dominance (.50), anxiety (-.37), anxiety-related disorders (-.23), somatic complaints (-.23) and alcohol problems (-.22) *PPI-II* Related to antisocial features (.71), aggression (.62), borderline features (.54), anxiety (.49), anxiety-related disorders (.43), somatic complaints (.43), alcohol problems (.28), drug problems (.36) and suicidal ideation (.40)	Not stated	Not stated
PPI	Edens et al. (2008)	n = 131, Prisoners	Any infractions correlated with total PPI (.33), PPI-I (.28) and PPI-II (.29). Nonaggressive infractions also related	Not stated	Not stated

(Continued)

Table 50: Continued.

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
			to total PPI (.36), PPI-I (.34) and PPI-II (.34). Aggressive infractions did not correlate with the PPI.		
PPI	Neumann et al. (2008)	n = 1224, Prisoners	Factor analyses revealed a three-factor model: F1, Impulsive nonconformity, Blame externalization, Machiavellian egocentricity and fearlessness; F2, Stress immunity and Stress potency; and F3, Coldheartedness and Carefree nonplanfulness	Not stated	Total PPI (α = .91). Cronbach's alpha for the subscales ranged from .73 to .87
PPI	Claes et al. (2009)	n = 399, Psychiatric Inpatients	Traditional two-factor model, i.e. PPI-I and PPI-II, provided a good fit. Total PPI correlated with verbal aggression (.23), anger (.21), dysfunctional impulsiveness (-.40), functional impulsiveness (.45), authority problems (.19), social imperturbability (.26), amorality (.18), psychomotor acceleration (.17), imperturbability (.18) and ego inflation (.13)	Not stated	Eight PPI subscales ranged from .76 to .89 (α). Total PPI (α = .92)

(Continued)

Table 50: Continued.

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
PPI-R	Copestake et al. (2011)	n = 52, Prisoners	Not stated	Total PPI-R correlated with PCL-R (.54)	Total PPI-R (α = .93); PPI-I (α = .87); PPI-II (α=.95); Coldheartedness (α = .85). Cronbach's alpha for the eight subscales ranged from .78 to .92
PPI	Marcus et al. (2013)	Meta-analysis; n = 14517 from 45 studies	*PPI-I* Related to negative emotionality (-.35) and constraint (forensic, .23; nonforensic, -.14) *PPI-II* Related to positive emotionality (forensic, .10; nonforensic, -.09), negative emotionality (.30) and constraint (-.44)	*PPI-I* Correlated with PCL-R F1 (.21), PCL-R F2 (.15), SRP F1 (.53), FRP F2 (.40) and LSRP primary scale (.17) *PPI-II* Correlated with PCL-R F1 (.20), PCL-R F2 (.41), SRP F2 (.67), LSRP primary scale (.50) and LSRP secondary scale (.65)	Not stated

(Continued)

Table 50: Continued.

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
EPA	Lynam et al. (2011)	Study 1; n = 907, Students	Joint factor analysis with the NEO personality inventory revealed that the 18 EPA subscales were all captured by the Five Factor Model (FFM). Sixteen of the 18 subscales had loadings greater than .40 on their 'home' domains.	Not stated	Cronbach's alpha for the 18 subscales ranged from .63 to .85.
		Study 2; n = 77, Prisoners	EPA subscales related to a number of externalising behaviours, including alcohol use (anger, urgency, distrust, manipulation, self-centeredness, opposition, arrogance and rashness; range .31 to .42), substance use (thrill seeking; .37) and antisocial behaviour (anger, thrill-seeking, manipulation, self-centeredness, opposition, callousness; range .32 to .53), and disciplinary infractions (anger, dominance, manipulation, self-centeredness, opposition, callousness and disobliged; range .29 to .44)	EPA correlated with SRP-III (.81), LSRP (.78) and PPI-R (.83)	Cronbach's alpha for the 18 subscales ranged from .44 to .87. Overall EPA (α = .95)
EPA	Wilson et al. (2011)	n = 116, Students	Total EPA associated with reactive (.28) and proactive (.45) aggression,	EPA associated with PPI-R (.78), LSRP	Total EPA (α = .94). Cronbach's alpha for

(Continued)

Table 50: Continued.

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
			antisocial behaviour (.42), alcohol use (.34) and substance use (.26)	(.57) and SRP-III (.77)	the 18 subscales ranged from .64 to .89
EPA	Few et al. (2013)	Study 1; n = 907, Students	Factor analysis reveled a four-factor model: Antagonism (F1); Emotional stability (F2); Disinhibition (F3); and Narcissism (F4). This was replicated in study two	Not stated	Cronbach's alpha ranged from .63 to .88
		Study 2; n = 787, Students	*Antagonism (F1)* Related to substance use (.21), antisocial behaviour (.33) and gambling (.30) *Emotional Stability (F2)* Associated with gambling (.18) *Disinhibition (F3)* Related to substance use (.33), antisocial behaviour (.34) and gambling (.21)	*Antagonism* Related to nine out of 10 self-report psychopathy scales, with correlations ranging from .50 (SRP-III ELS) to .75 (SRP-III CA). PPI-R FD was the exception (-.15) *Emotional Stability* Related to PPI-R FD (.67), PPI-R C (.24),	Cronbach's alpha ranged from .64 to .87

(Continued)

Table 50: Continued.

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
			Narcissism (F4) Associated with substance use (.21), antisocial behaviour (.28) and gambling (.23)	LSRP Secondary (-.29), and PPI-R ScI (-.15) *Disinhibition* Associated with all 10 subscales of self-report psychopathy. Correlations ranged from .21 (PPI-R FD) to .76 (PPI-R ScI) *Narcissism* Related to all 10 subscales, with correlations ranging from .28 (SRP-III ASB) to .62 (PPI-R FD)	
TriPM	Patrick (2010)	Study 1; n = 148, Prisoners	Not stated	All three scales correlated with the PCL-R: Boldness (.20);	Not stated

(Continued)

Table 50: Continued.

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
				Meanness (.29); and Disinhibition (.32). Total TriPM related to the PCL-R (.53)	
		Study 2; n = 94, Students	Not stated	Total TriPM correlated with the PPI (.79), SRP-III (.76) and the LSRP (.44)	Not stated
TriPM	Drislane et al. (2013)	n = 618, Students	Total TriPM associated with social potency (.34), harm avoidance (-.34), aggression (.47), control (-.43), antagonism (.55), lack of trust (.24), lack of straightforwardness (.55), lack of altruism (.37), lack of compliance (.49), lack of modesty (.30), and lack of tenderness (.29)	Total TriPM related to the PPI (.78), the SRP-III (.69) and LSRP (.57)	Not stated
TriPM	Poy et al. (2013)	n = 349, Students	*Boldness* Predicted by neuroticism (β = -.53), extraversion (β = .32), openness (β = .26) and agreeableness (β = -.34)	Not stated	Boldness (α = .82); Meanness (α = .85); Disinhibition (α = .84)

(Continued)

Table 50: Continued.

Measure	Author(s) and Year	Sample	Construct Validity	Concurrent Validity	Internal Consistency
			Meanness Predicted by agreeableness (β = -.63) *Disinhibition* Predicted by neuroticism (β = .30), agreeableness (β = -.35) and conscientiousness (β = -.30)		

Appendix 3.

MATERIALS USED IN STUDY ONE

INFORMATION SHEET: Please retain this sheet for your information

Assessing clinical psychopathy: Using an expert Delphi study to examine the areas of importance for a clinical psychopathy measure.

Invitation
You have been invited to take part in a Delphi study to try and gain a consensus on the underlying facets of clinical psychopathy, including the role of cognitive and affective processing. Your input will help develop the foundations of for a new measure of clinical psychopathy. This research forms the first part of a PhD research degree and has been ethically approved by the UCLAN ethics committee.

You have been invited to participate in the Delphi study based on the following selection criteria: 1) If a review of the relevant academic literature has identified you as having authored more than one good impact publication on the topic of psychopathy, and/or 2) if you have been identified as having experience in assessing for clinical psychopathy.

What is a Delphi?
A Delphi technique is nothing more than a survey that a participant completes more than once with the ensuing survey accounting for early responses. So for example, you will be given a questionnaire to complete and then later, a revised version that has accounted for your comments. You will be given around three such questionnaires each becoming smaller.

How to take part
Please read the following information and decide whether you wish to take part. Participation is purely voluntary. If you do wish to participate in the Delphi please email 'yes' to the principal researcher's email address (located at the end of this information sheet) by February 26th 2011. Alternatively if you decide not to participate please ignore this invitation. Thank you for taking the time to read the information sheet.

What will I have to do?
You will be asked to participate in approximately three Delphi rounds. More or less rounds may be required until a consensus of around 80% is achieved. For each round you will be emailed a link. This will grant you access to the survey. For each question you will either have to rate the item or write a short response. Once you have completed the survey you will be required to submit it back to the principal researcher online. It is estimated that each round will take approximately 30 minutes to complete.

Consent and withdrawal
Emailing 'yes' to the principal researcher will indicate that you consent to be included in the Delphi study. With regards to withdrawal, you have up to 48 hours after submitting your responses to withdraw from the study. To withdraw you must email the principal researcher informing him that you wish to withdraw. No reason is required. Unfortunately, after 48 hours it will be impossible to withdraw your submitted responses, as they will have been merged with the other participants' data.

Anonymity
Only the principal researcher will have access to your name and email address. No other members of the research team or other experts will know who is on the expert panel. Your information will remain anonymous. If the examiners or research supervisors

request to see the raw data, the data will be anonymised beforehand. Upon completion of the study your email address will be deleted.

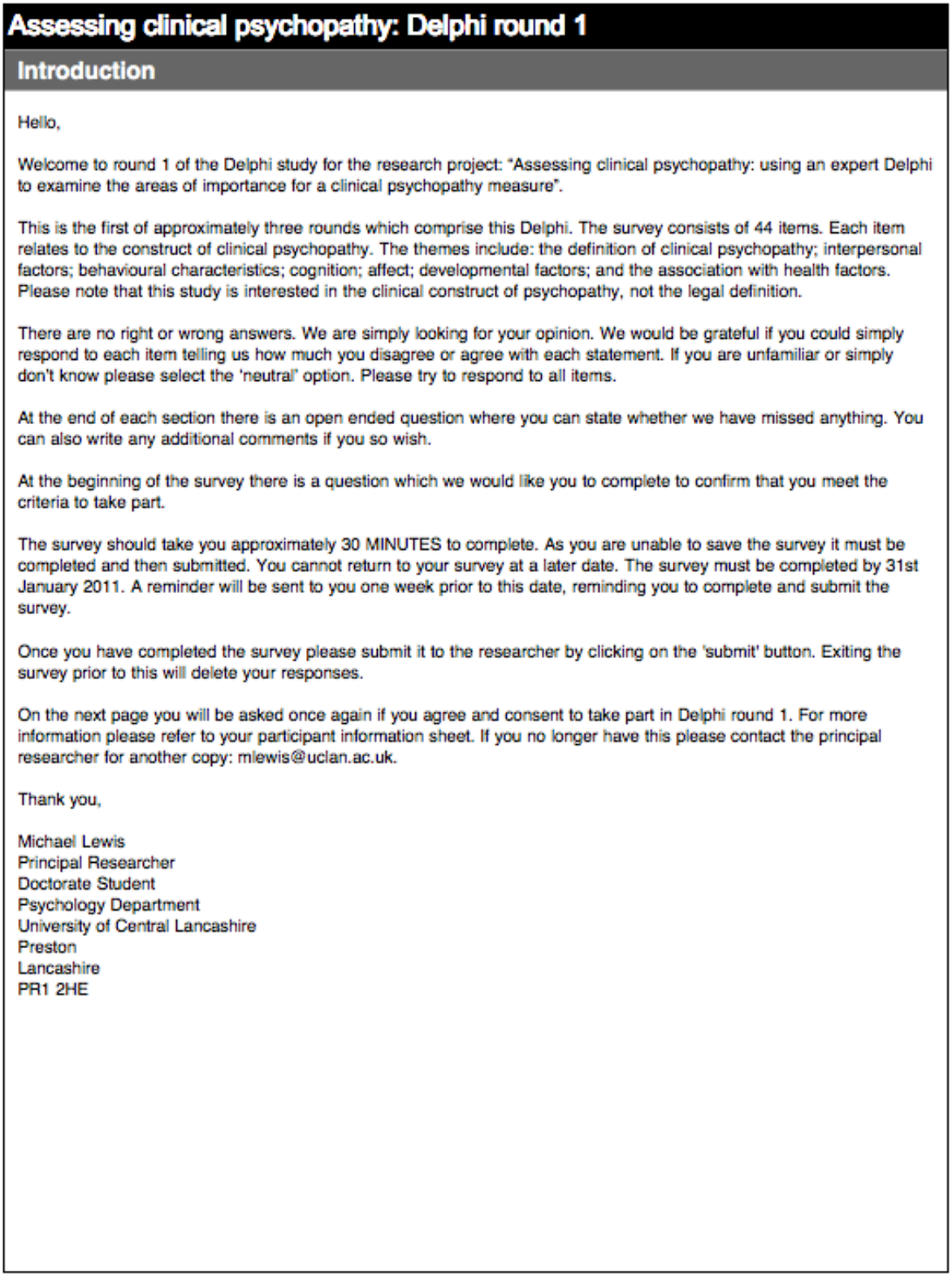
Raw data will be securely stored for up to five years following the completion of the research. After this period it will be destroyed. Any publication of the data in a professional journal or at a conference will report group data only and will not single out your individual responses.

Feedback

As part of your involvement in the Delphi study you will receive a final copy of the developed measure. You will also be sent a debrief sheet at the end of the study.

Contact Information

Principal Researcher:	Michael Lewis, Department of Psychology, Darwin Building, University of Central Lancashire, Preston, PR1 2HE, mlewis@uclan.ac.uk
Director of Studies:	Professor Jane L. Ireland, Department of Psychology, Darwin Building, University of Central Lancashire, Preston, PR1 2HE, jlireland1@uclan.ac.uk
Second Supervisor:	Professor Janice Abbott, Department of Psychology, Darwin Building, University of Central Lancashire, Preston, PR1 2HE, jabbott@uclan.ac.uk



Assessing clinical psychopathy: Delphi round 1

Introduction

Hello,

Welcome to round 1 of the Delphi study for the research project: "Assessing clinical psychopathy: using an expert Delphi to examine the areas of importance for a clinical psychopathy measure".

This is the first of approximately three rounds which comprise this Delphi. The survey consists of 44 items. Each item relates to the construct of clinical psychopathy. The themes include: the definition of clinical psychopathy; interpersonal factors; behavioural characteristics; cognition; affect; developmental factors; and the association with health factors. Please note that this study is interested in the clinical construct of psychopathy, not the legal definition.

There are no right or wrong answers. We are simply looking for your opinion. We would be grateful if you could simply respond to each item telling us how much you disagree or agree with each statement. If you are unfamiliar or simply don't know please select the 'neutral' option. Please try to respond to all items.

At the end of each section there is an open ended question where you can state whether we have missed anything. You can also write any additional comments if you so wish.

At the beginning of the survey there is a question which we would like you to complete to confirm that you meet the criteria to take part.

The survey should take you approximately 30 MINUTES to complete. As you are unable to save the survey it must be completed and then submitted. You cannot return to your survey at a later date. The survey must be completed by 31st January 2011. A reminder will be sent to you one week prior to this date, reminding you to complete and submit the survey.

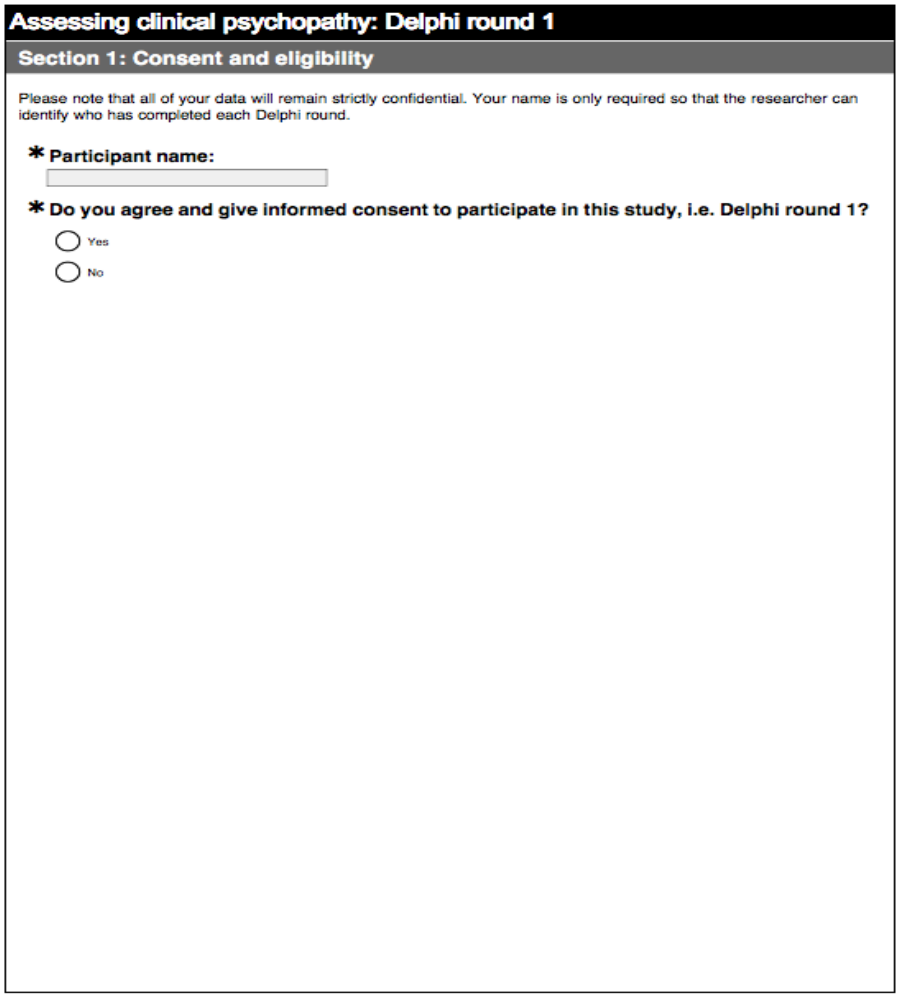
Once you have completed the survey please submit it to the researcher by clicking on the 'submit' button. Exiting the survey prior to this will delete your responses.

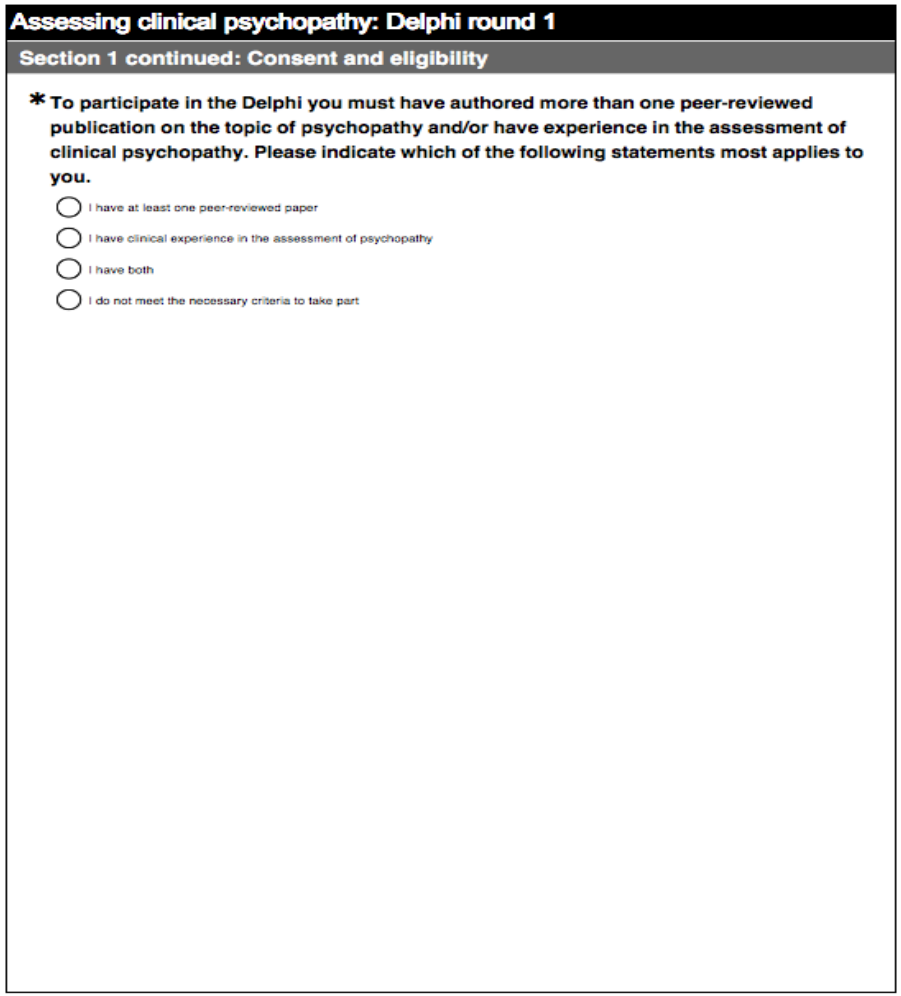
On the next page you will be asked once again if you agree and consent to take part in Delphi round 1. For more information please refer to your participant information sheet. If you no longer have this please contact the principal researcher for another copy: mlewis@uclan.ac.uk.

Thank you,

Michael Lewis
Principal Researcher
Doctorate Student
Psychology Department
University of Central Lancashire
Preston
Lancashire
PR1 2HE

Figure 6: Round one.





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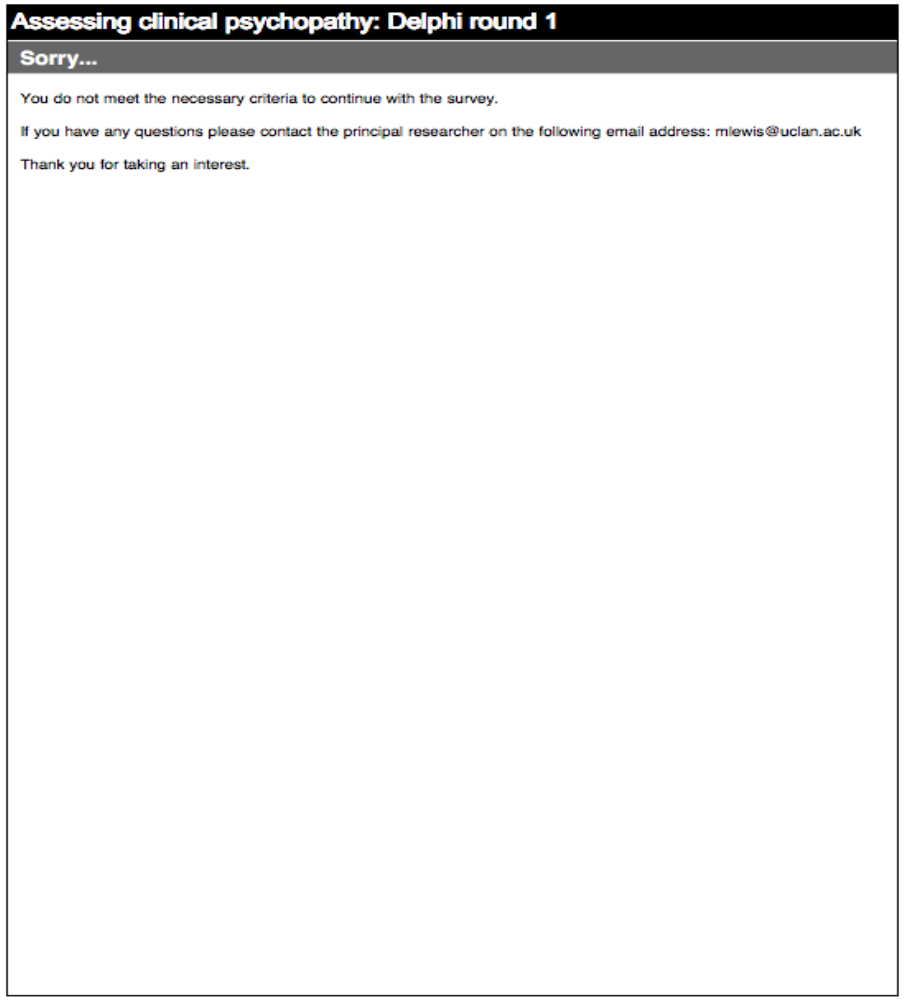

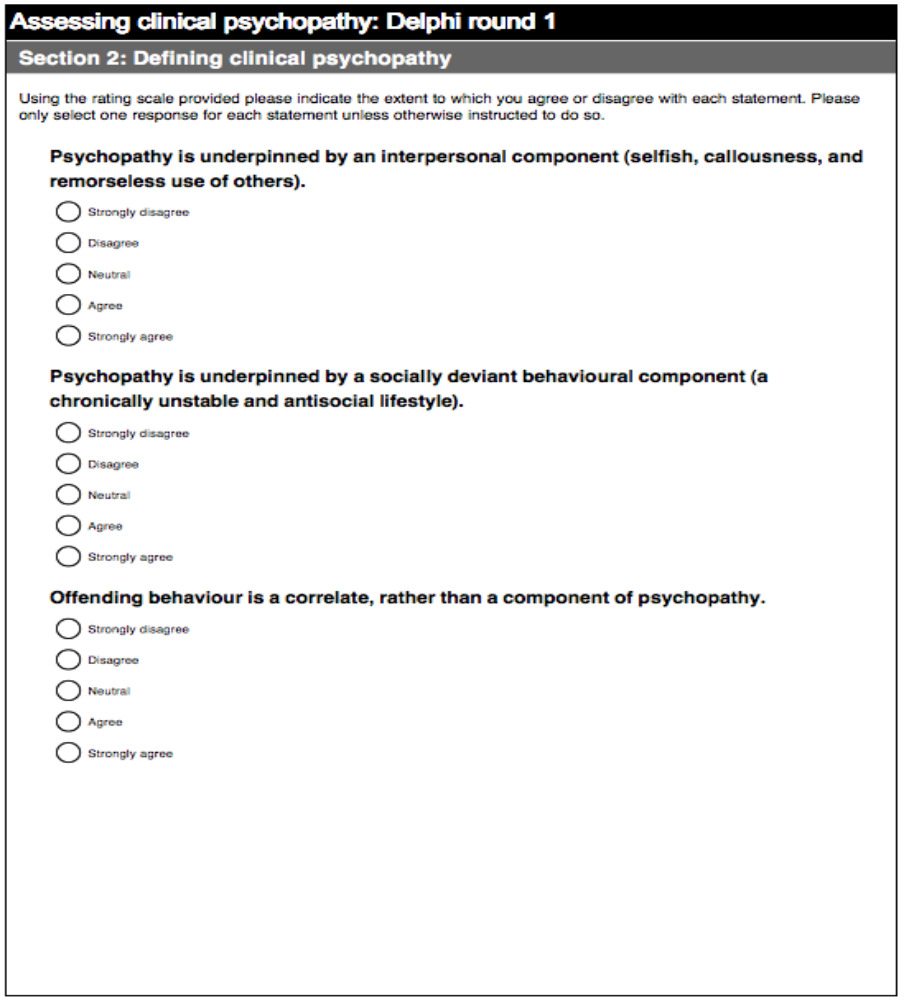

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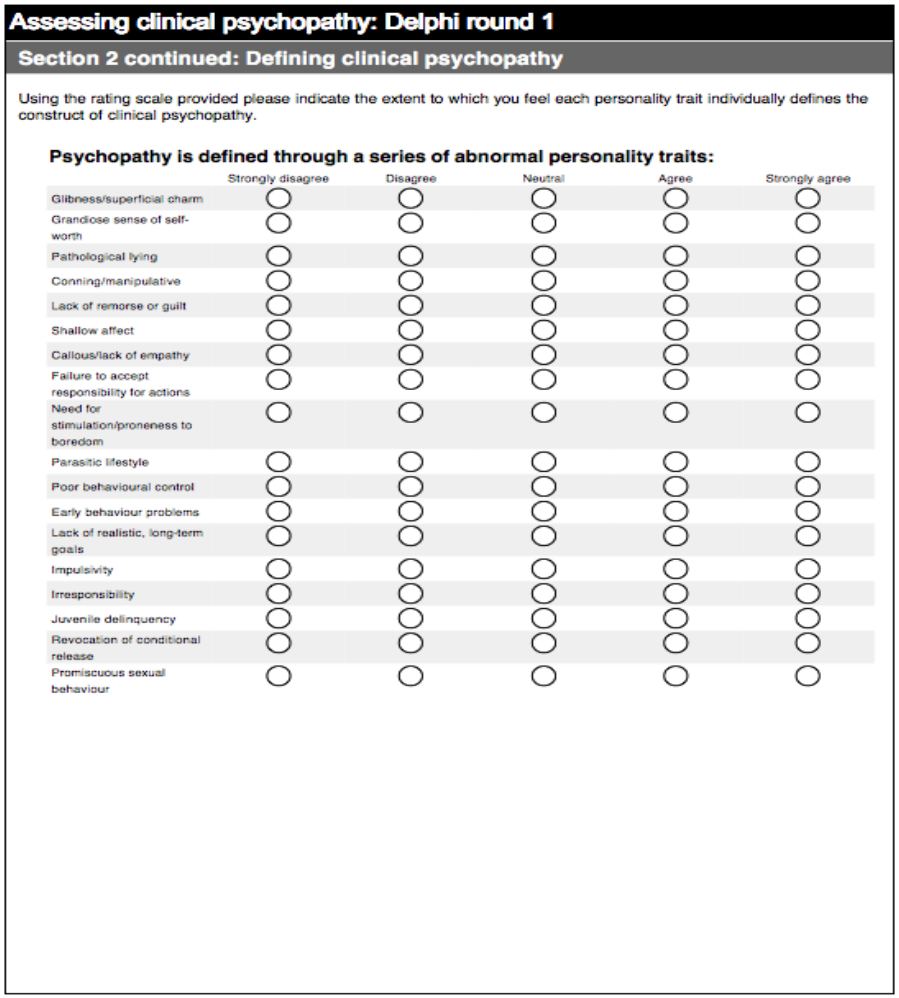


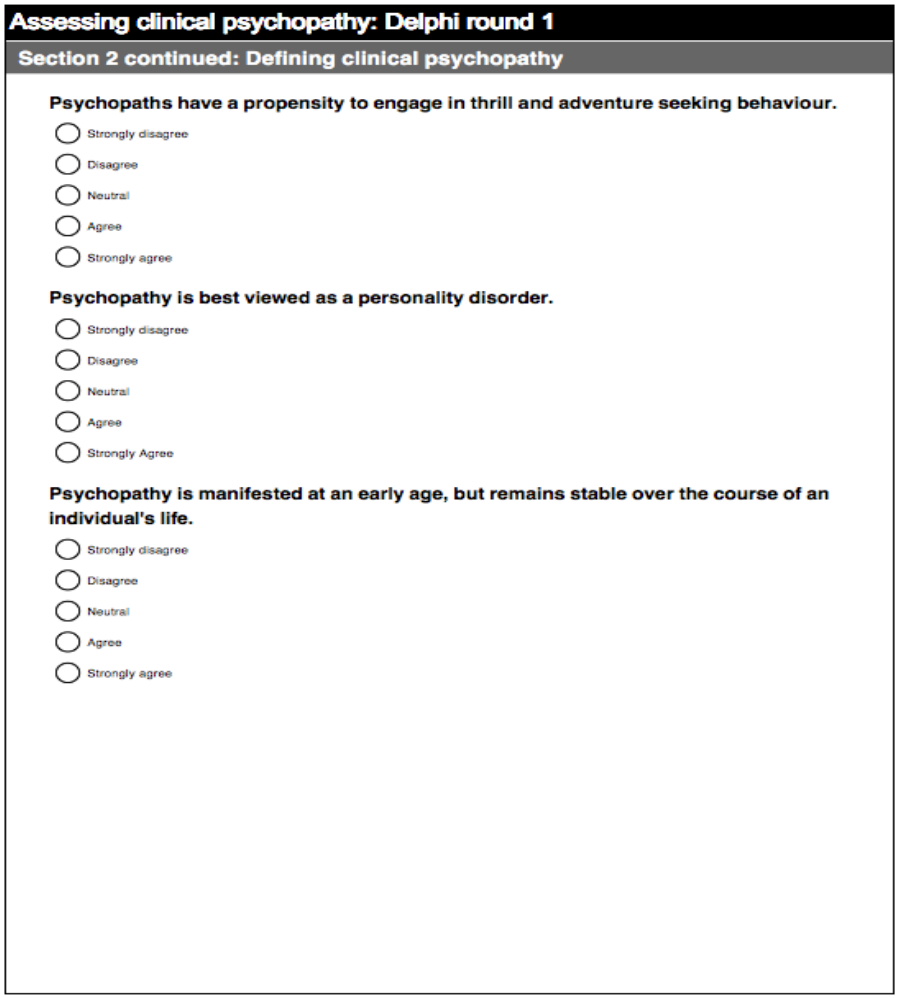
Assessing clinical psychopathy: Delphi round 1

Section 2 continued: Defining clinical psychopathy

Using the rating scale provided please indicate the extent to which you feel each personality trait individually defines the construct of clinical psychopathy.

Psychopathy is defined through a series of abnormal personality traits:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Glibness/superficial charm	◯	◯	◯	◯	◯
Grandiose sense of self-worth	◯	◯	◯	◯	◯
Pathological lying	◯	◯	◯	◯	◯
Conning/manipulative	◯	◯	◯	◯	◯
Lack of remorse or guilt	◯	◯	◯	◯	◯
Shallow affect	◯	◯	◯	◯	◯
Callous/lack of empathy	◯	◯	◯	◯	◯
Failure to accept responsibility for actions	◯	◯	◯	◯	◯
Need for stimulation/proneness to boredom	◯	◯	◯	◯	◯
Parasitic lifestyle	◯	◯	◯	◯	◯
Poor behavioural control	◯	◯	◯	◯	◯
Early behaviour problems	◯	◯	◯	◯	◯
Lack of realistic, long-term goals	◯	◯	◯	◯	◯
Impulsivity	◯	◯	◯	◯	◯
Irresponsibility	◯	◯	◯	◯	◯
Juvenile delinquency	◯	◯	◯	◯	◯
Revocation of conditional release	◯	◯	◯	◯	◯
Promiscuous sexual behaviour	◯	◯	◯	◯	◯



Assessing clinical psychopathy: Delphi round 1

Section 2 continued: Defining clinical psychopathy

Psychopaths have a propensity to engage in thrill and adventure seeking behaviour.

◯ Strongly disagree
◯ Disagree
◯ Neutral
◯ Agree
◯ Strongly agree

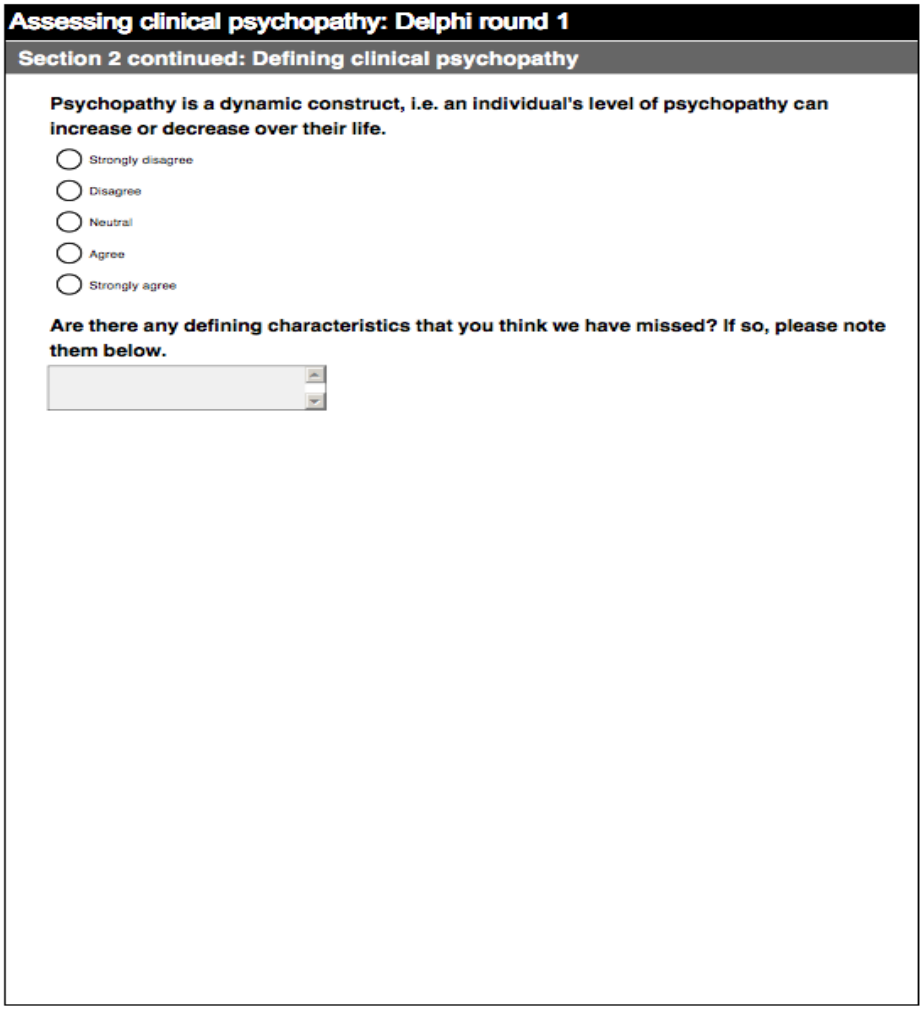
Psychopathy is best viewed as a personality disorder.

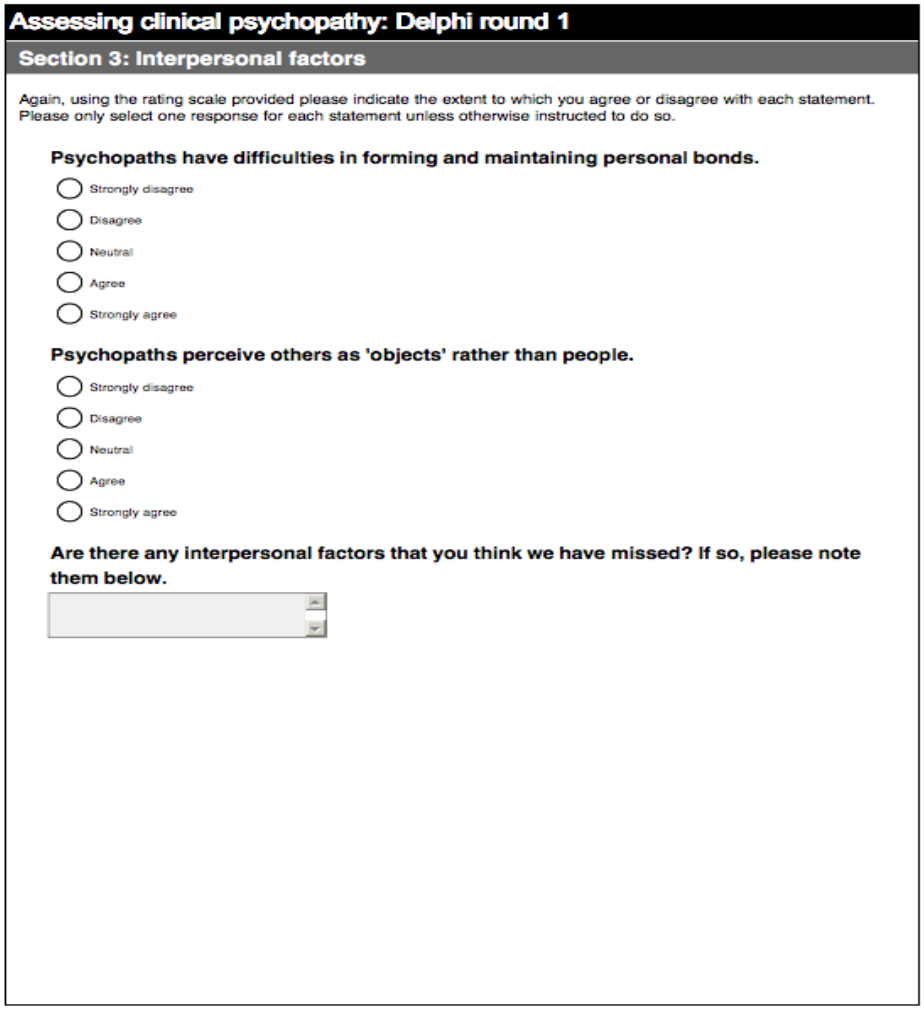
◯ Strongly disagree
◯ Disagree
◯ Neutral
◯ Agree
◯ Strongly Agree

Psychopathy is manifested at an early age, but remains stable over the course of an individual's life.

◯ Strongly disagree
◯ Disagree
◯ Neutral
◯ Agree
◯ Strongly agree

Figure 6: Continued.





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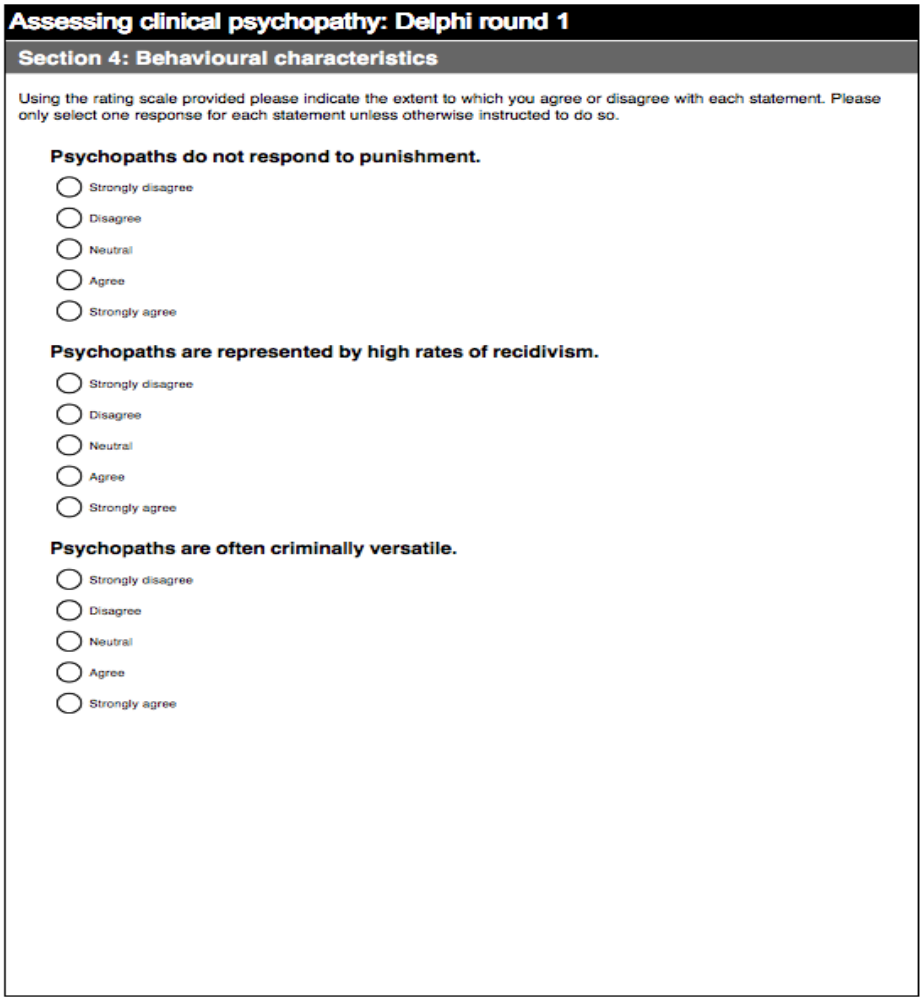

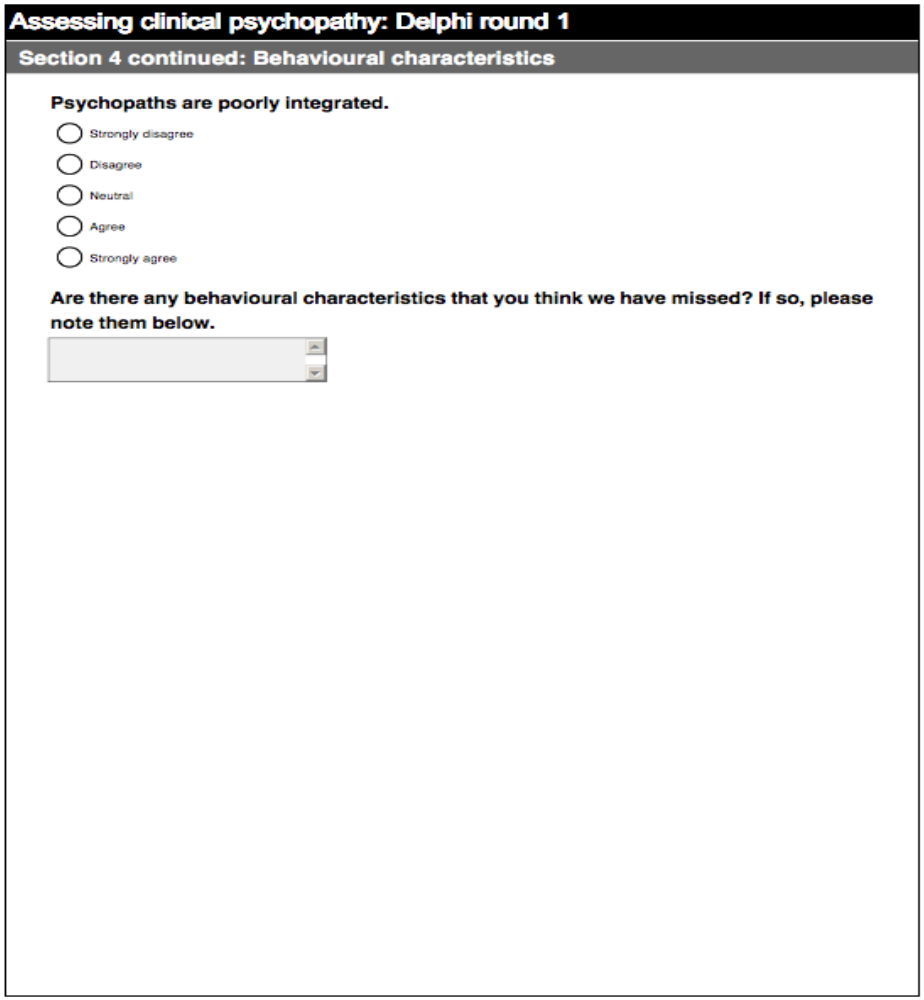

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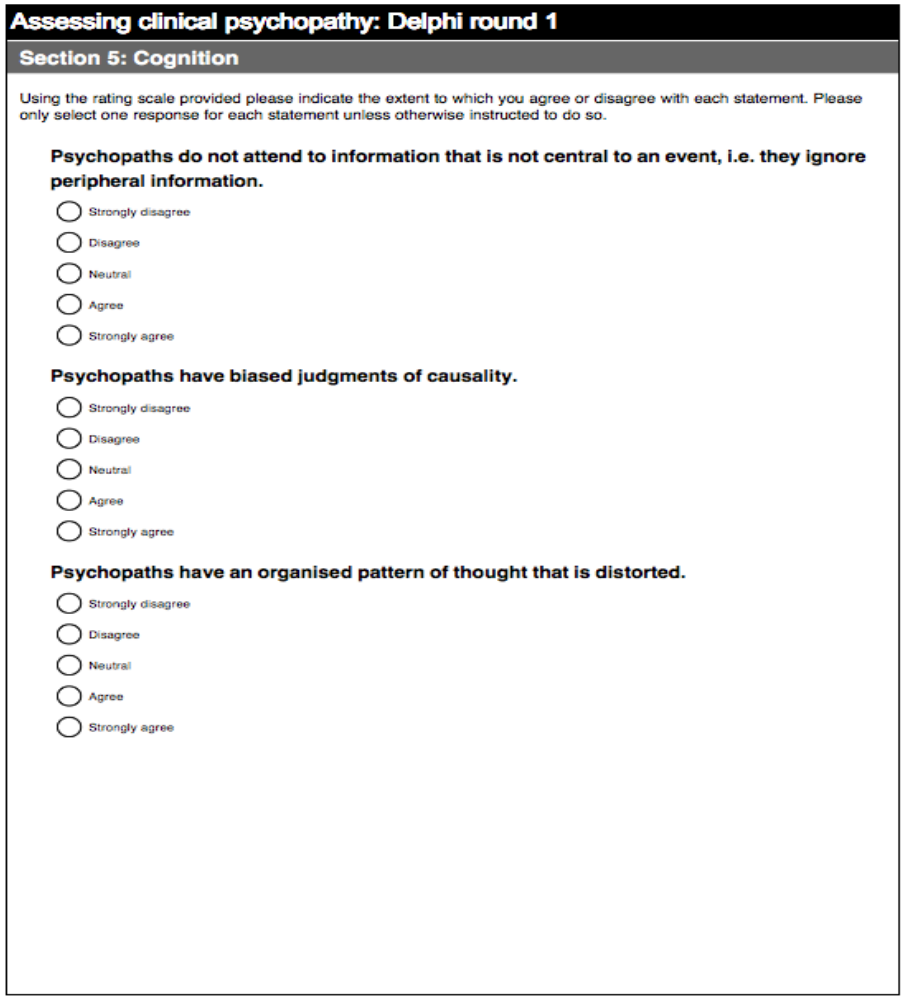


Assessing clinical psychopathy: Delphi round 1

Section 5: Cognition

Using the rating scale provided please indicate the extent to which you agree or disagree with each statement. Please only select one response for each statement unless otherwise instructed to do so.

Psychopaths do not attend to information that is not central to an event, i.e. they ignore peripheral information.

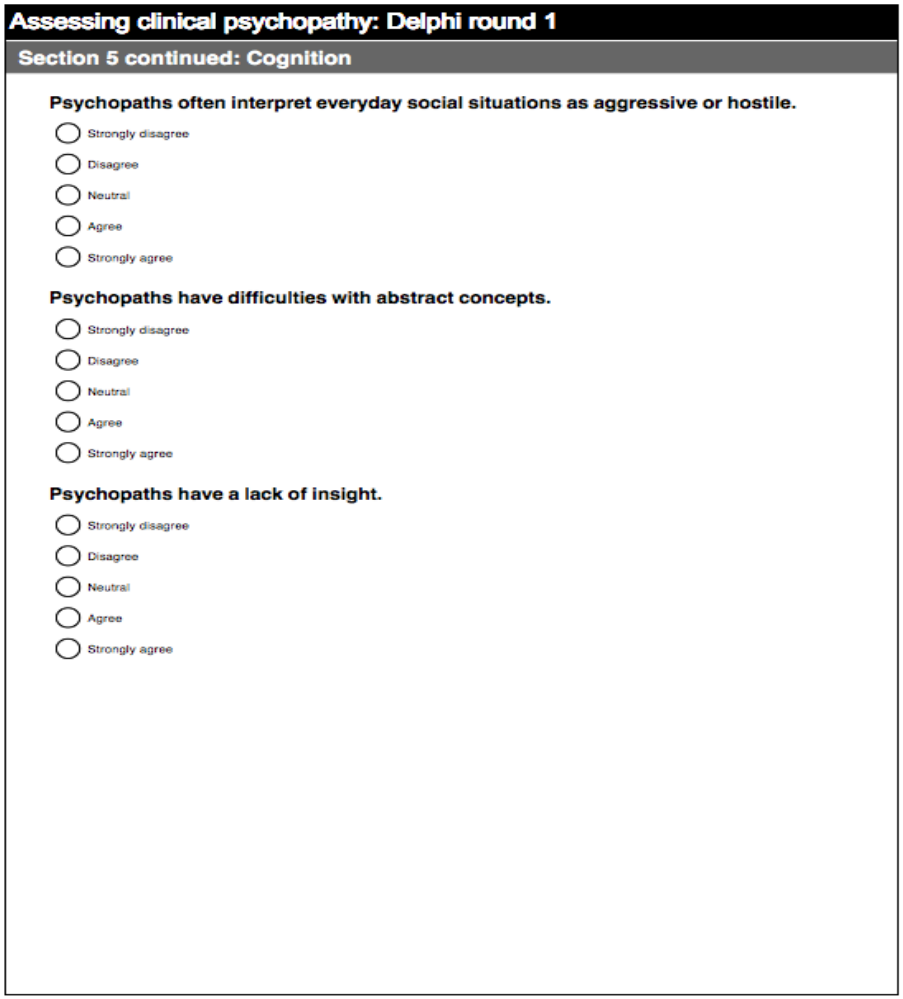
- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Psychopaths have biased judgments of causality.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Psychopaths have an organised pattern of thought that is distorted.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree



Assessing clinical psychopathy: Delphi round 1

Section 5 continued: Cognition

Psychopaths often interpret everyday social situations as aggressive or hostile.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

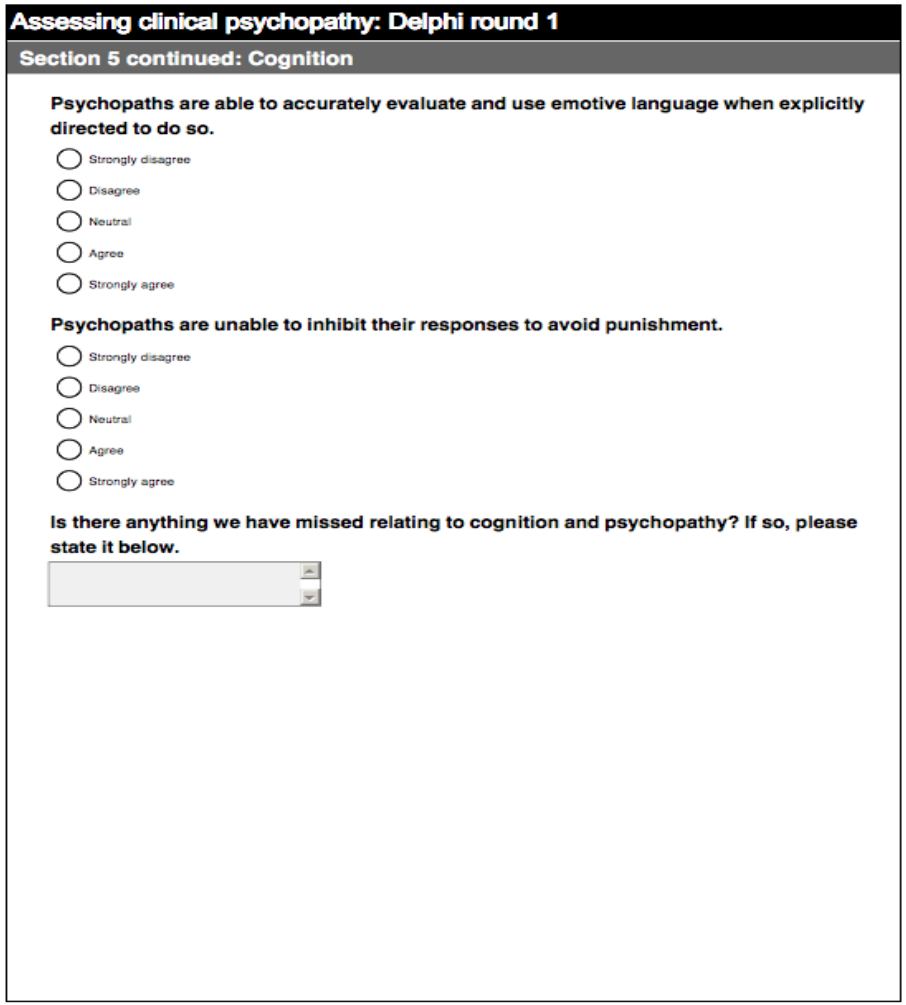
Psychopaths have difficulties with abstract concepts.

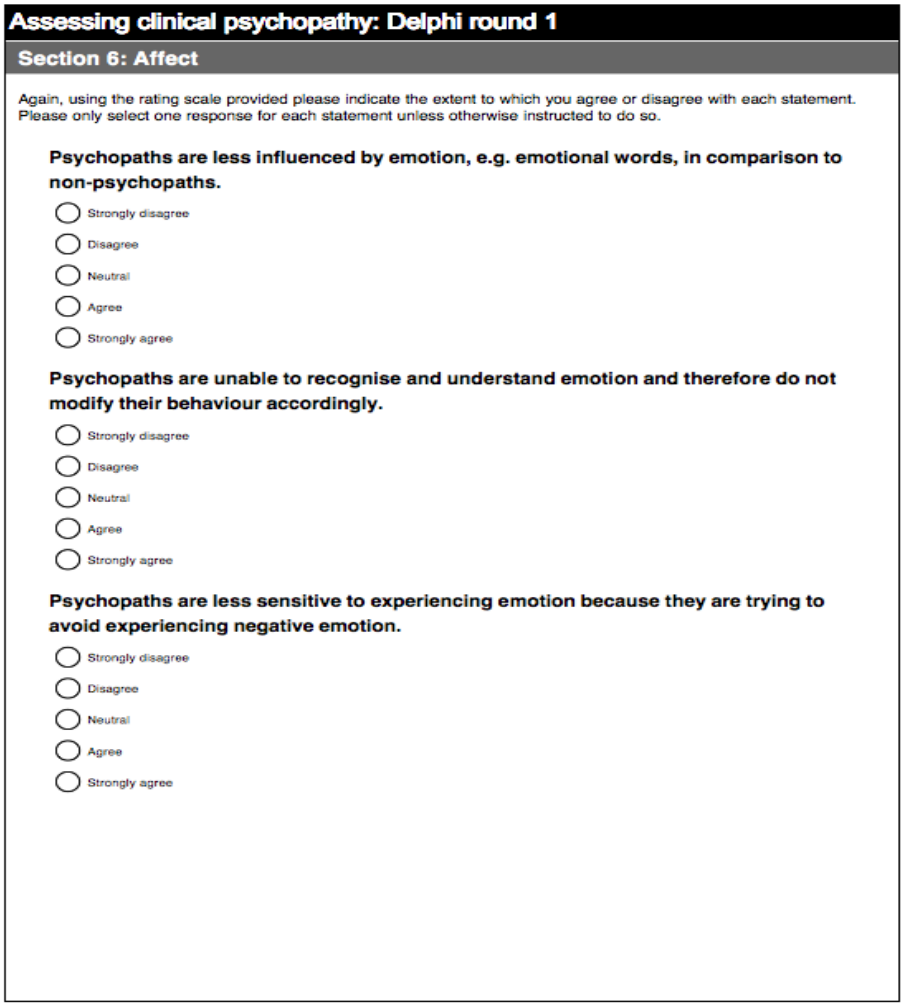
- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Psychopaths have a lack of insight.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Figure 6: Continued.





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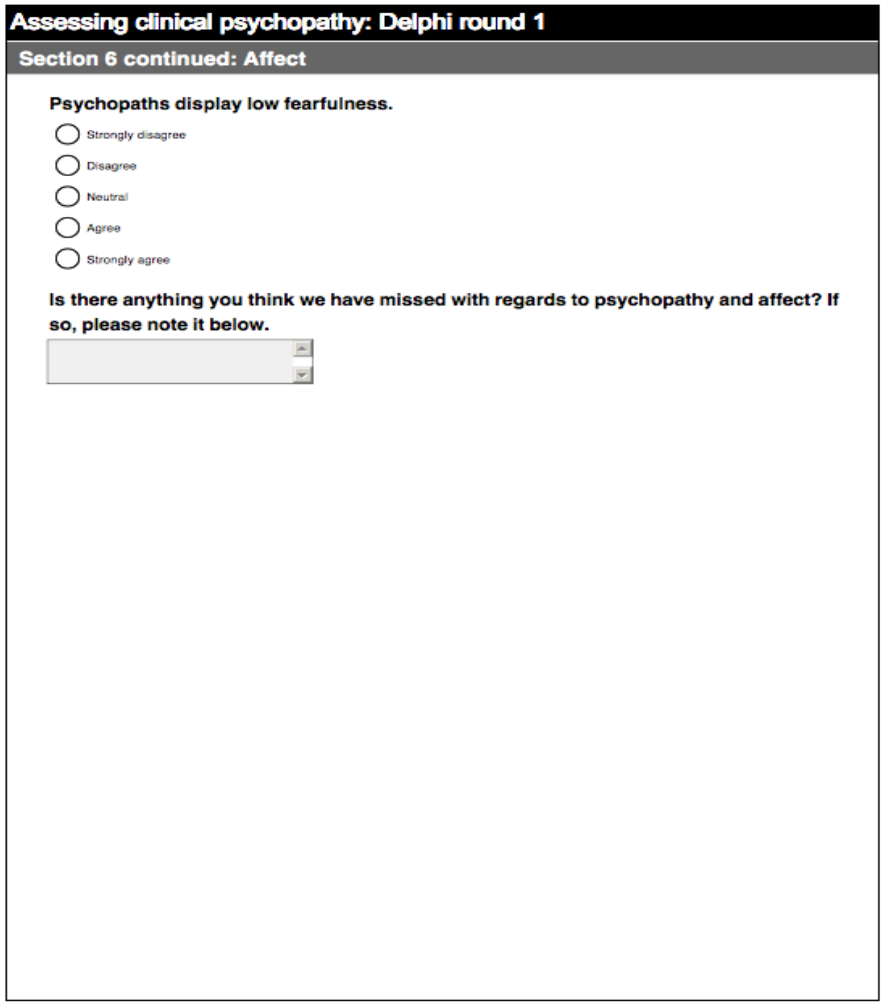

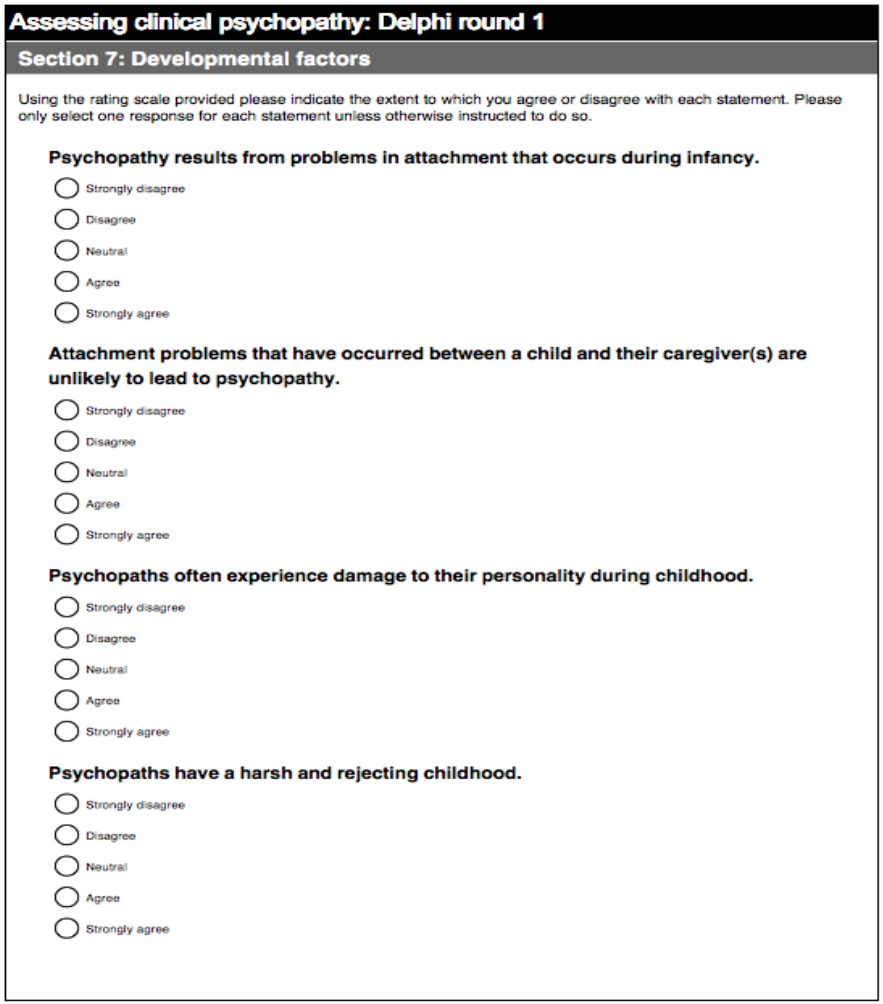

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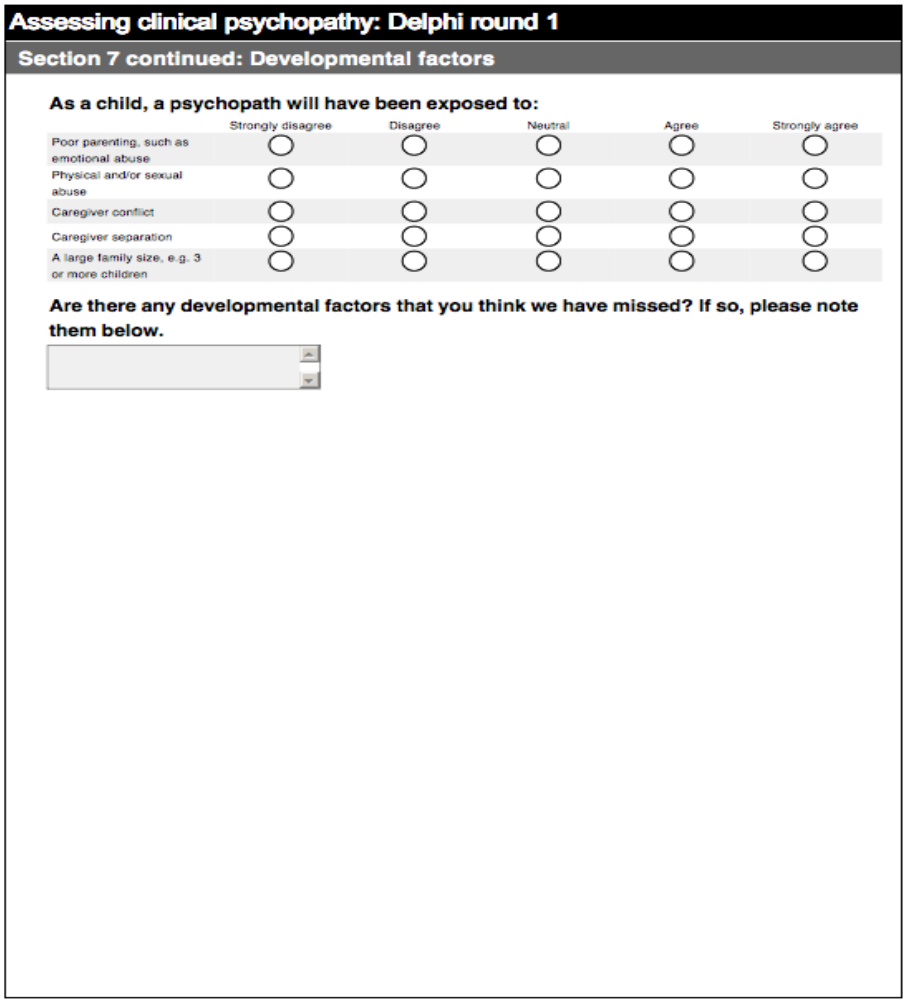


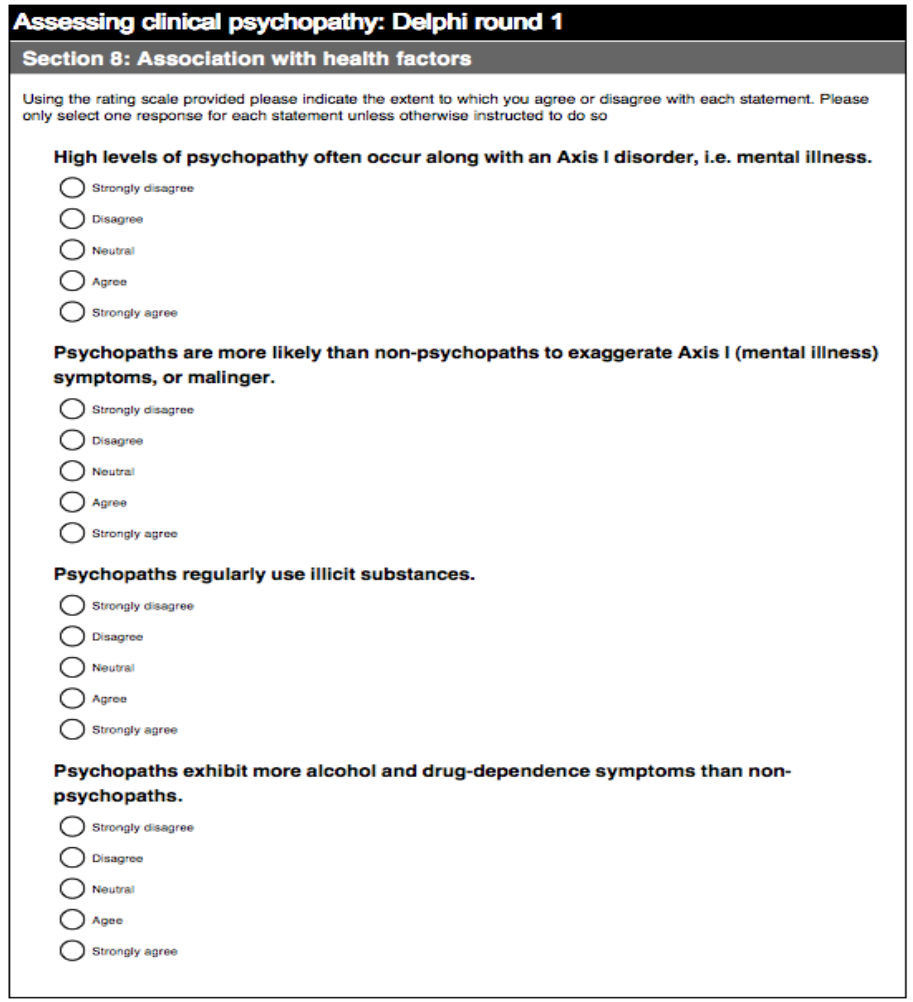
Assessing clinical psychopathy: Delphi round 1

Section 7 continued: Developmental factors

As a child, a psychopath will have been exposed to:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Poor parenting, such as emotional abuse	○	○	○	○	○
Physical and/or sexual abuse	○	○	○	○	○
Caregiver conflict	○	○	○	○	○
Caregiver separation	○	○	○	○	○
A large family size, e.g. 3 or more children	○	○	○	○	○

Are there any developmental factors that you think we have missed? If so, please note them below.



Assessing clinical psychopathy: Delphi round 1

Section 8: Association with health factors

Using the rating scale provided please indicate the extent to which you agree or disagree with each statement. Please only select one response for each statement unless otherwise instructed to do so

High levels of psychopathy often occur along with an Axis I disorder, i.e. mental illness.

○ Strongly disagree
○ Disagree
○ Neutral
○ Agree
○ Strongly agree

Psychopaths are more likely than non-psychopaths to exaggerate Axis I (mental illness) symptoms, or malinger.

○ Strongly disagree
○ Disagree
○ Neutral
○ Agree
○ Strongly agree

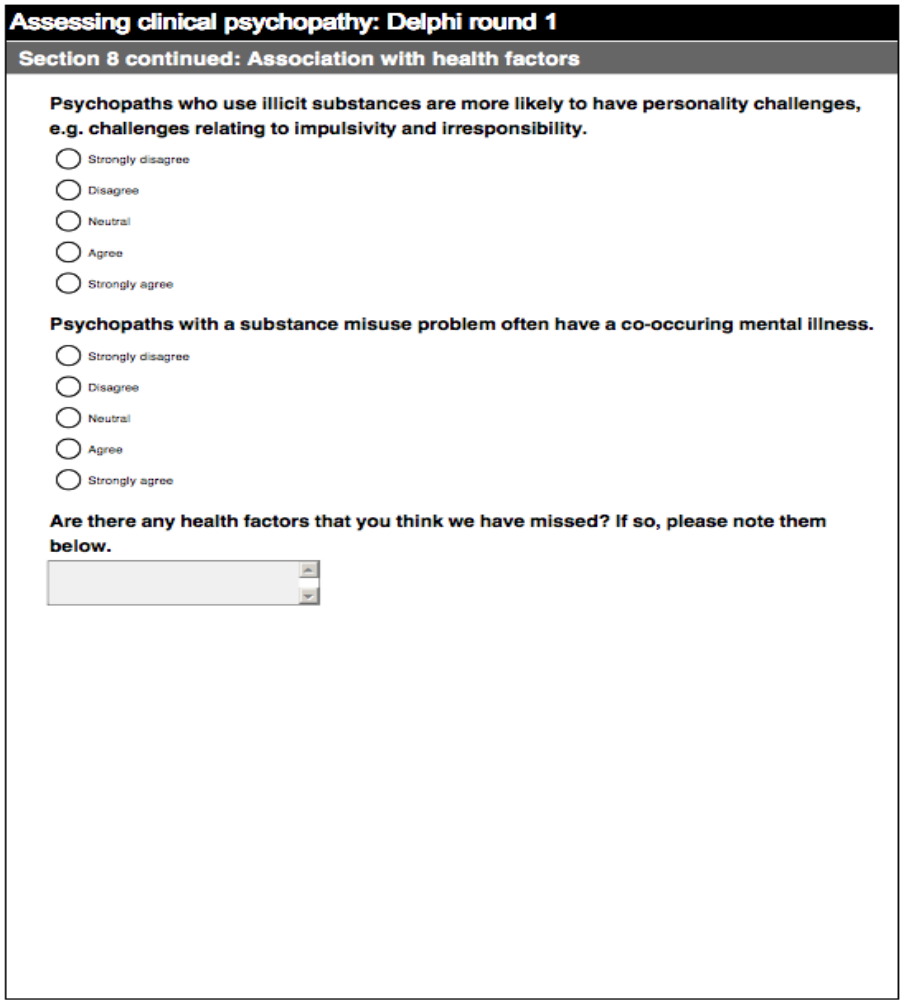
Psychopaths regularly use illicit substances.

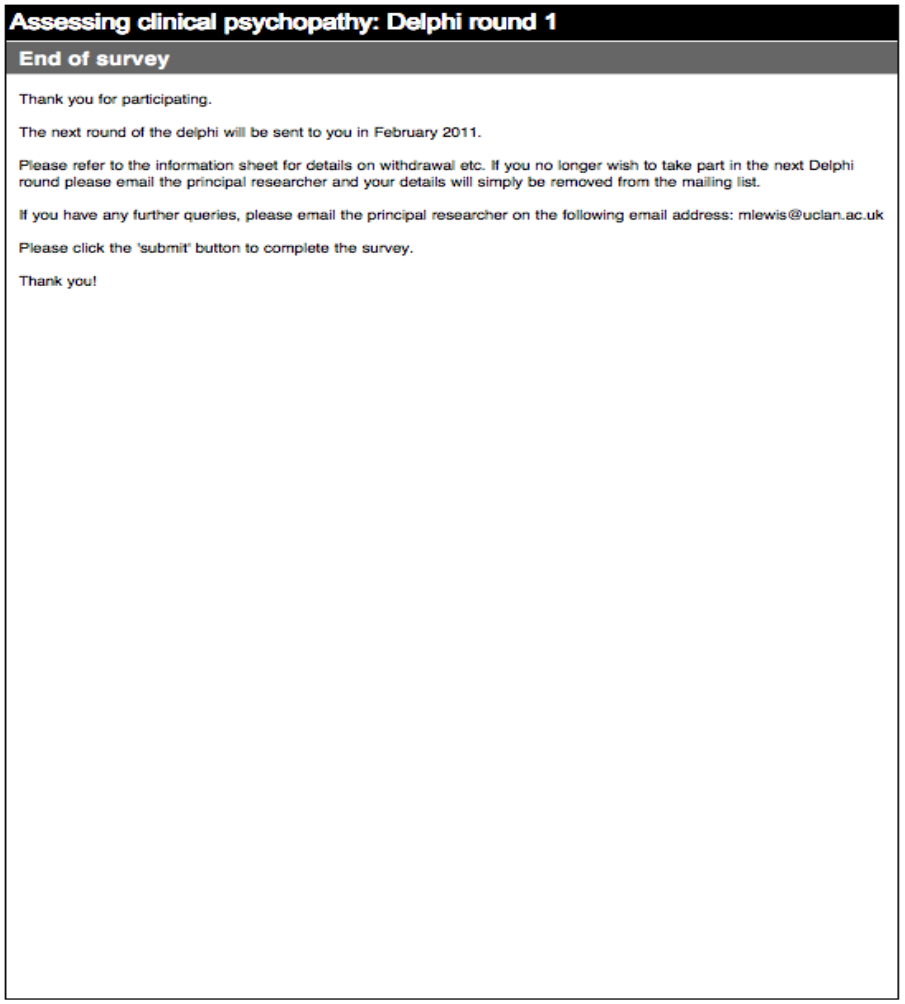
○ Strongly disagree
○ Disagree
○ Neutral
○ Agree
○ Strongly agree

Psychopaths exhibit more alcohol and drug-dependence symptoms than non-psychopaths.

○ Strongly disagree
○ Disagree
○ Neutral
○ Agee
○ Strongly agree

Figure 6: Continued.





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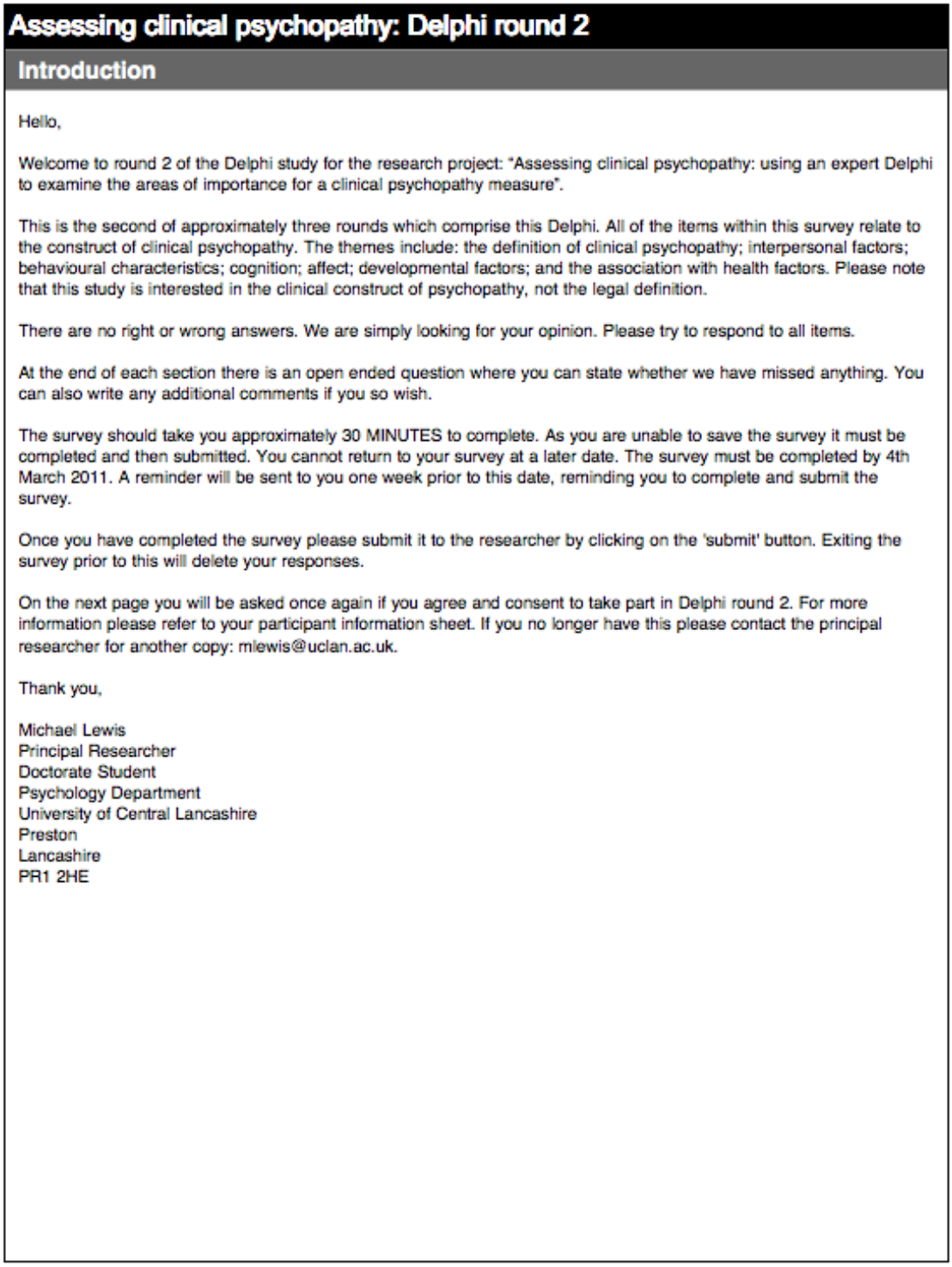


Assessing clinical psychopathy: Delphi round 2

Introduction

Hello,

Welcome to round 2 of the Delphi study for the research project: "Assessing clinical psychopathy: using an expert Delphi to examine the areas of importance for a clinical psychopathy measure".

This is the second of approximately three rounds which comprise this Delphi. All of the items within this survey relate to the construct of clinical psychopathy. The themes include: the definition of clinical psychopathy; interpersonal factors; behavioural characteristics; cognition; affect; developmental factors; and the association with health factors. Please note that this study is interested in the clinical construct of psychopathy, not the legal definition.

There are no right or wrong answers. We are simply looking for your opinion. Please try to respond to all items.

At the end of each section there is an open ended question where you can state whether we have missed anything. You can also write any additional comments if you so wish.

The survey should take you approximately 30 MINUTES to complete. As you are unable to save the survey it must be completed and then submitted. You cannot return to your survey at a later date. The survey must be completed by 4th March 2011. A reminder will be sent to you one week prior to this date, reminding you to complete and submit the survey.

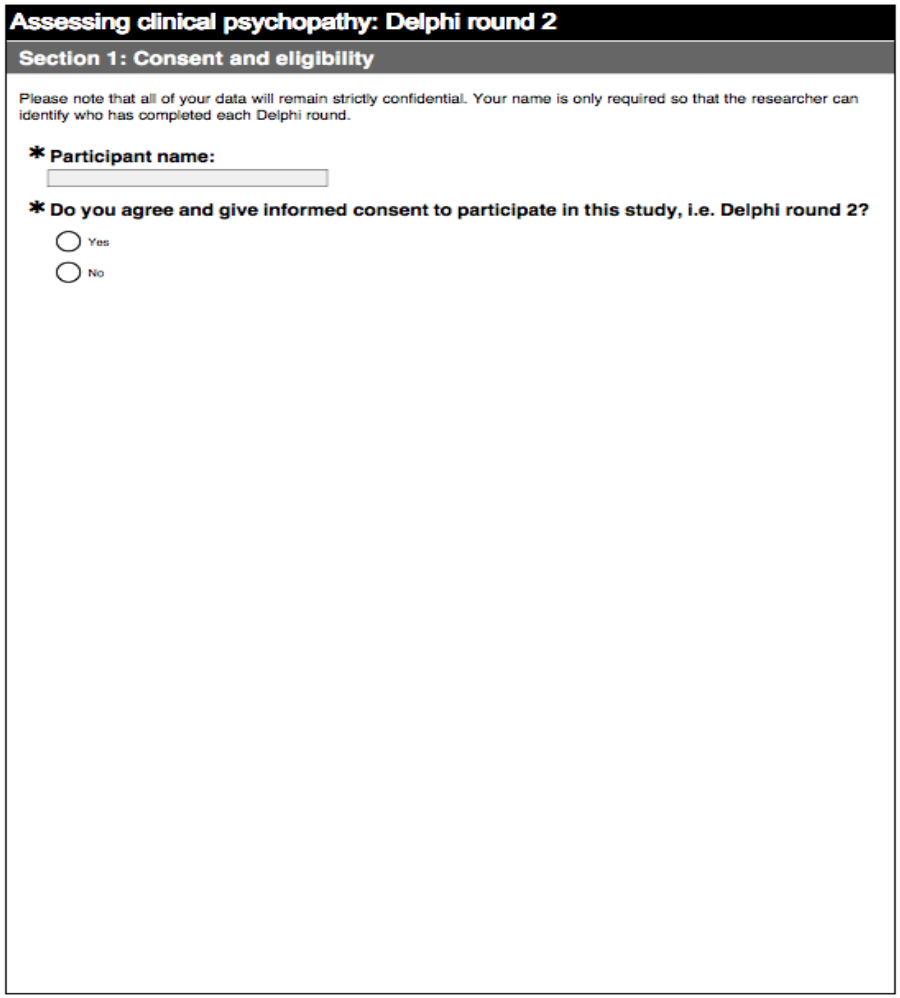
Once you have completed the survey please submit it to the researcher by clicking on the 'submit' button. Exiting the survey prior to this will delete your responses.

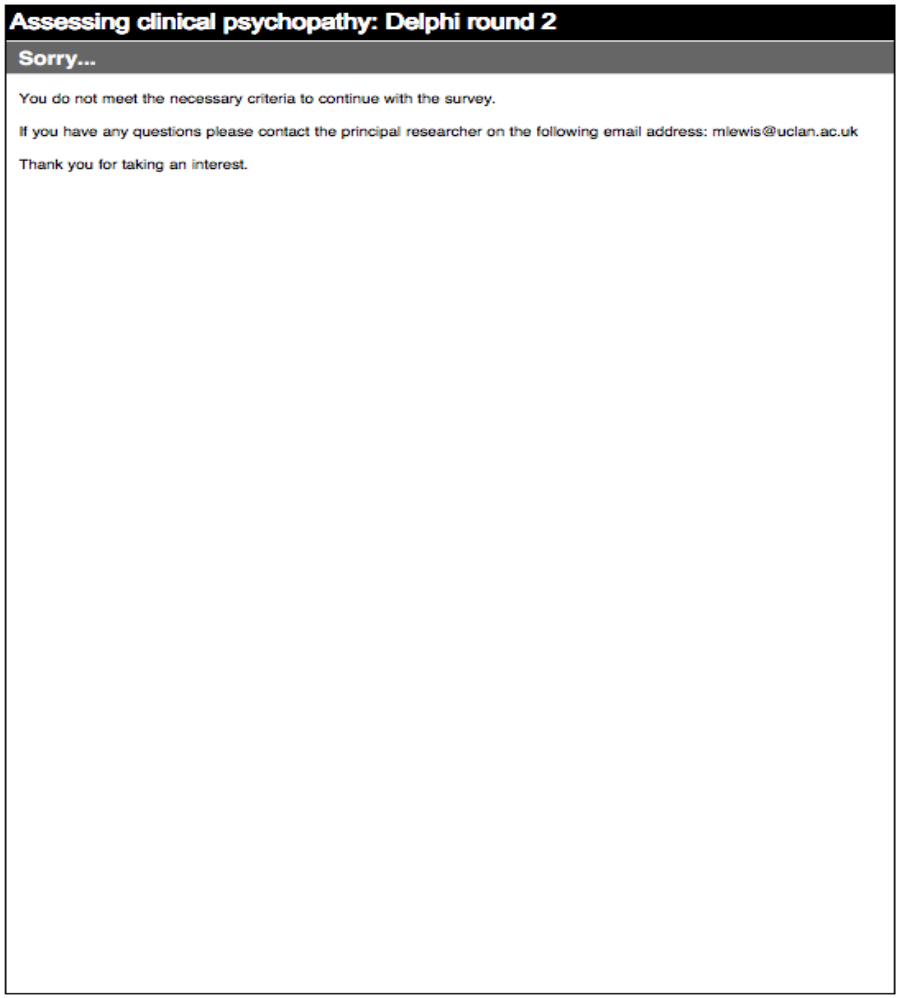
On the next page you will be asked once again if you agree and consent to take part in Delphi round 2. For more information please refer to your participant information sheet. If you no longer have this please contact the principal researcher for another copy: mlewis@uclan.ac.uk.

Thank you,

Michael Lewis
Principal Researcher
Doctorate Student
Psychology Department
University of Central Lancashire
Preston
Lancashire
PR1 2HE

Figure 7: Round two.





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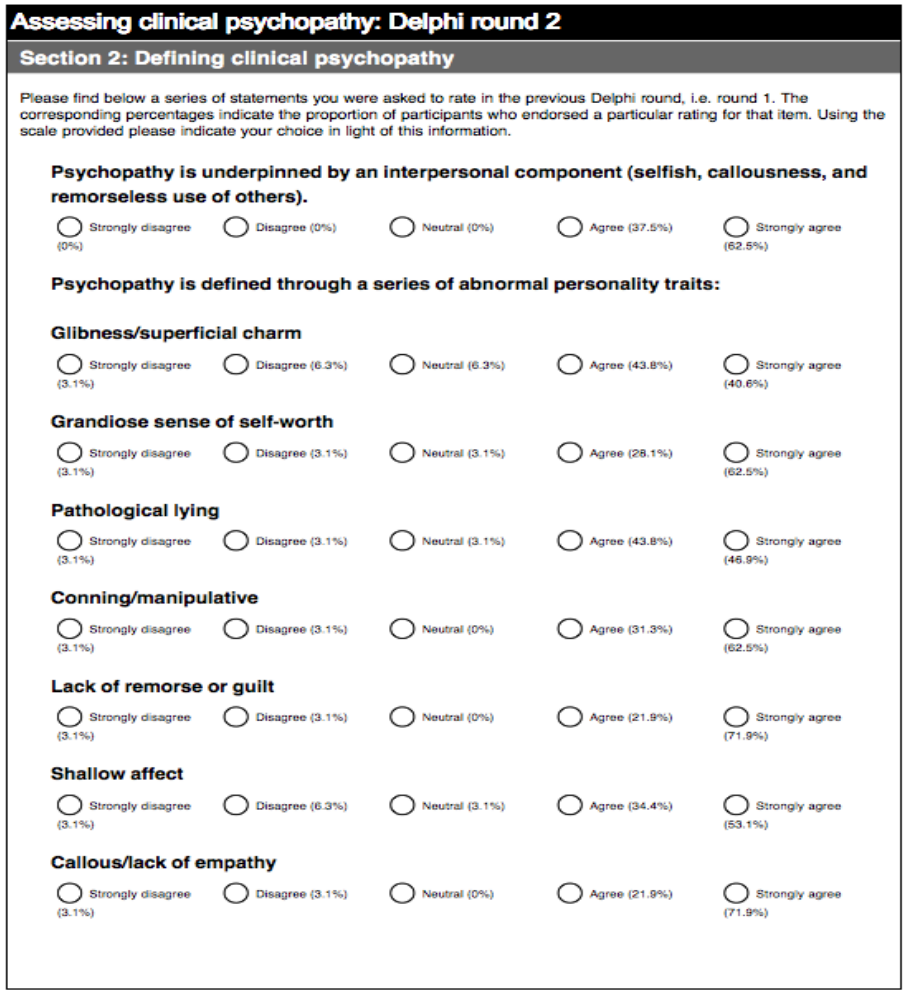


Assessing clinical psychopathy: Delphi round 2

Section 2: Defining clinical psychopathy

Please find below a series of statements you were asked to rate in the previous Delphi round, i.e. round 1. The corresponding percentages indicate the proportion of participants who endorsed a particular rating for that item. Using the scale provided please indicate your choice in light of this information.

Psychopathy is underpinned by an interpersonal component (selfish, callousness, and remorseless use of others).

Strongly disagree (0%) | Disagree (0%) | Neutral (0%) | Agree (37.5%) | Strongly agree (62.5%)

Psychopathy is defined through a series of abnormal personality traits:

Glibness/superficial charm

Strongly disagree (3.1%) | Disagree (6.3%) | Neutral (6.3%) | Agree (43.8%) | Strongly agree (40.6%)

Grandiose sense of self-worth

Strongly disagree (3.1%) | Disagree (3.1%) | Neutral (3.1%) | Agree (28.1%) | Strongly agree (62.5%)

Pathological lying

Strongly disagree (3.1%) | Disagree (3.1%) | Neutral (3.1%) | Agree (43.8%) | Strongly agree (46.9%)

Conning/manipulative

Strongly disagree (3.1%) | Disagree (3.1%) | Neutral (0%) | Agree (31.3%) | Strongly agree (62.5%)

Lack of remorse or guilt

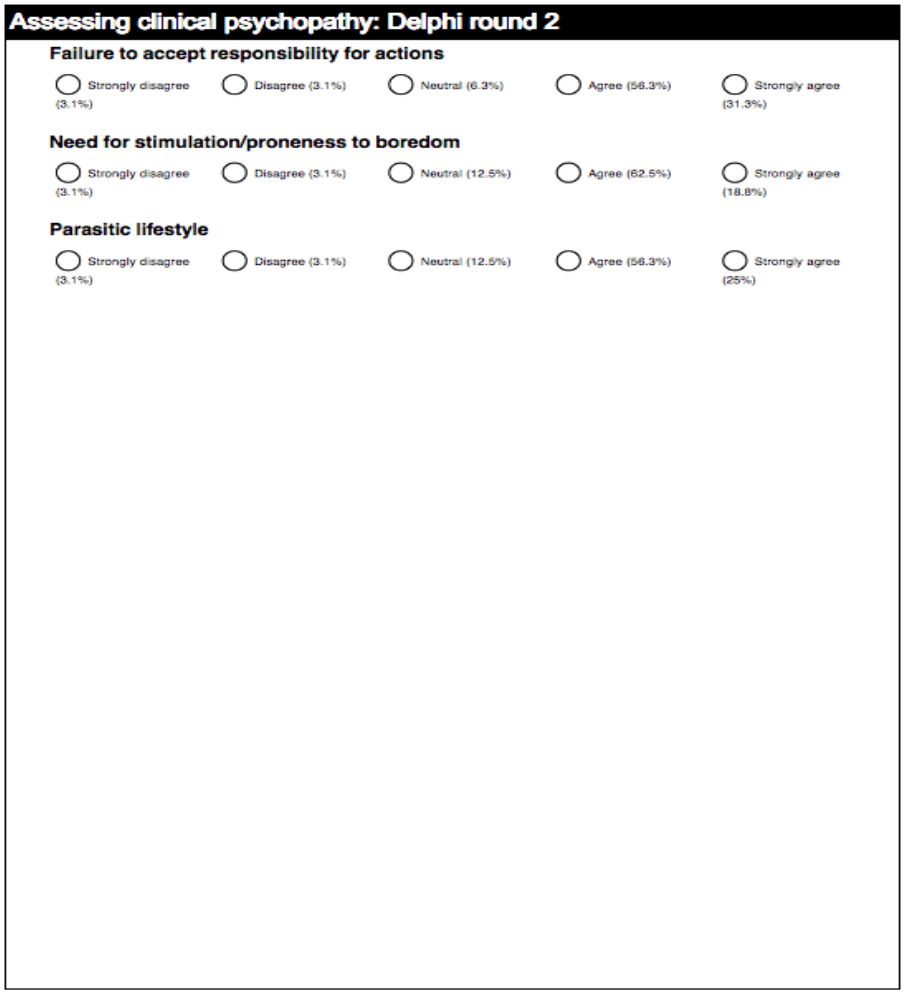
Strongly disagree (3.1%) | Disagree (3.1%) | Neutral (0%) | Agree (21.9%) | Strongly agree (71.9%)

Shallow affect

Strongly disagree (3.1%) | Disagree (6.3%) | Neutral (3.1%) | Agree (34.4%) | Strongly agree (53.1%)

Callous/lack of empathy

Strongly disagree (3.1%) | Disagree (3.1%) | Neutral (0%) | Agree (21.9%) | Strongly agree (71.9%)



Assessing clinical psychopathy: Delphi round 2

Failure to accept responsibility for actions

Strongly disagree (3.1%) | Disagree (3.1%) | Neutral (6.3%) | Agree (56.3%) | Strongly agree (31.3%)

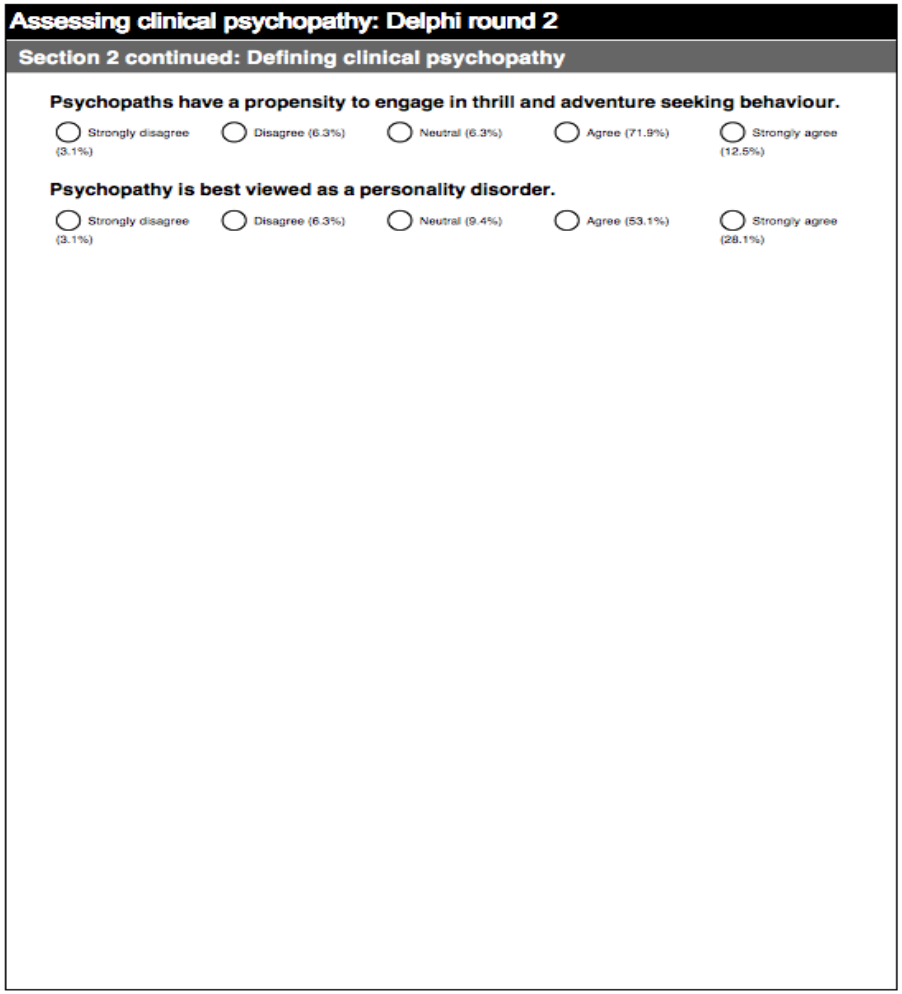
Need for stimulation/proneness to boredom

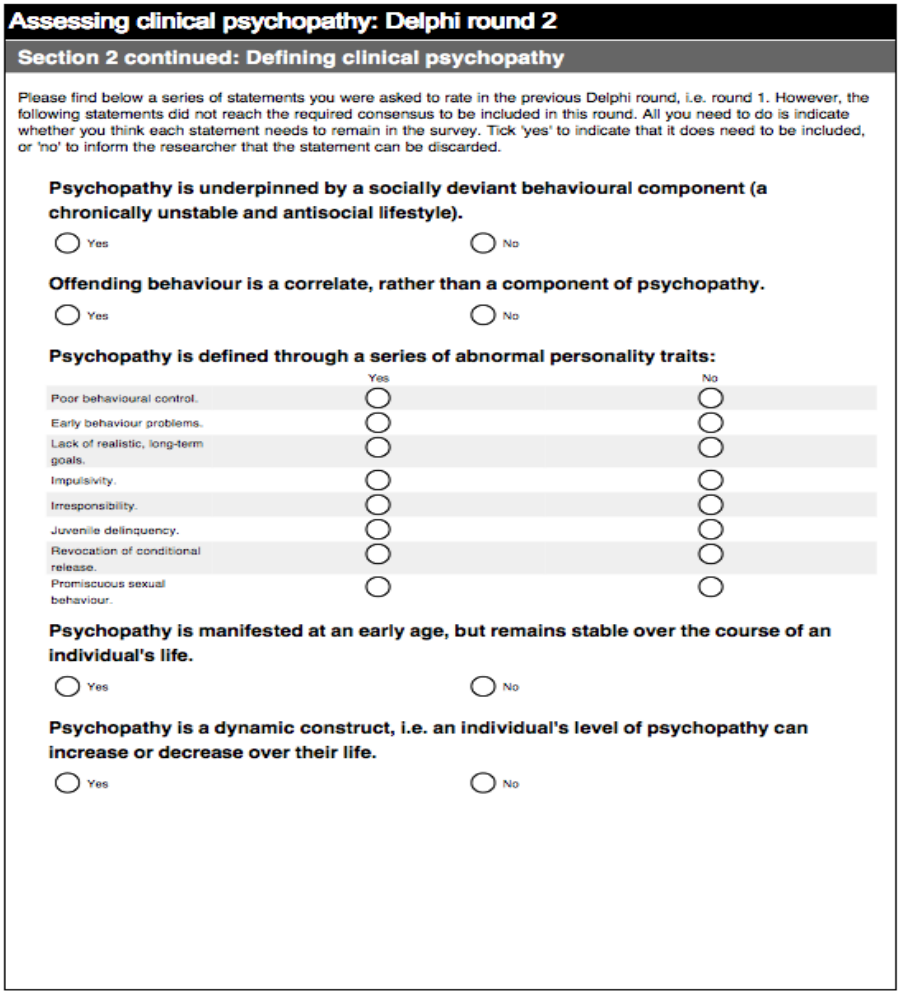
Strongly disagree (3.1%) | Disagree (3.1%) | Neutral (12.5%) | Agree (62.5%) | Strongly agree (18.8%)

Parasitic lifestyle

Strongly disagree (3.1%) | Disagree (3.1%) | Neutral (12.5%) | Agree (56.3%) | Strongly agree (25%)

Figure 7: Continued.





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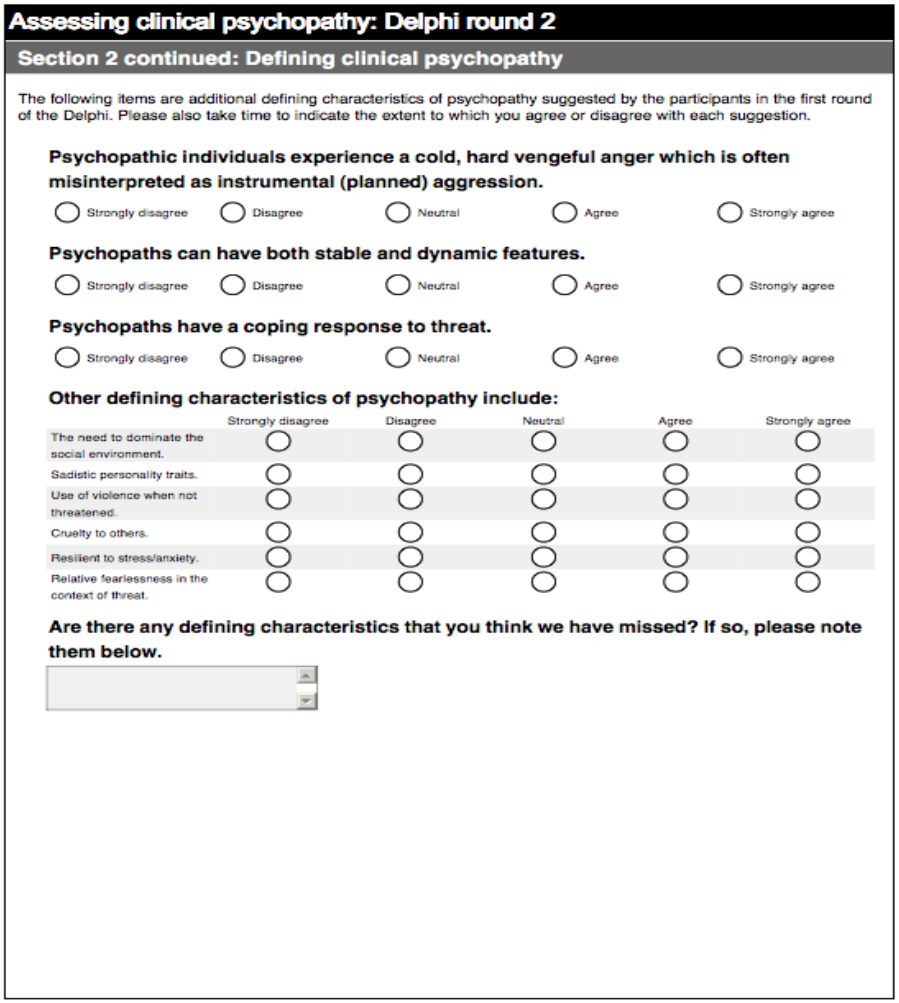


Assessing clinical psychopathy: Delphi round 2

Section 2 continued: Defining clinical psychopathy

The following items are additional defining characteristics of psychopathy suggested by the participants in the first round of the Delphi. Please also take time to indicate the extent to which you agree or disagree with each suggestion.

Psychopathic individuals experience a cold, hard vengeful anger which is often misinterpreted as instrumental (planned) aggression.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

Psychopaths can have both stable and dynamic features.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

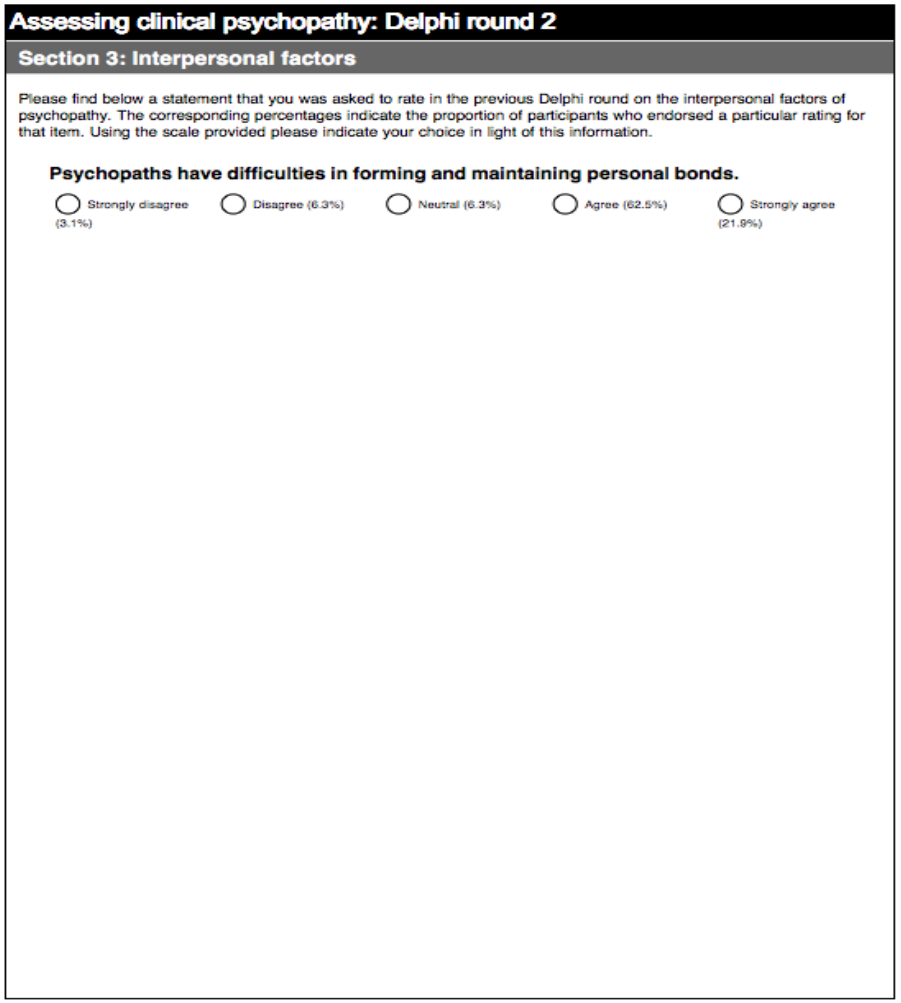
Psychopaths have a coping response to threat.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

Other defining characteristics of psychopathy include:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The need to dominate the social environment.					
Sadistic personality traits.					
Use of violence when not threatened.					
Cruelty to others.					
Resilient to stress/anxiety.					
Relative fearlessness in the context of threat.					

Are there any defining characteristics that you think we have missed? If so, please note them below.



Assessing clinical psychopathy: Delphi round 2

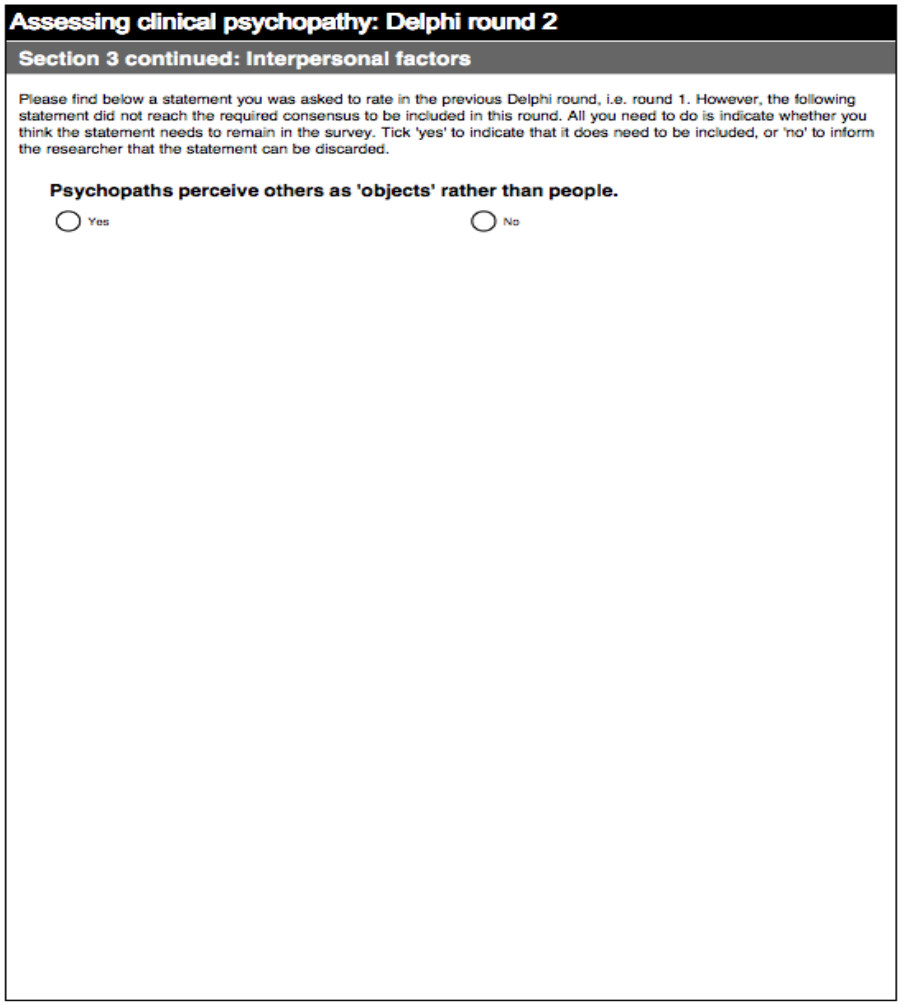
Section 3: Interpersonal factors

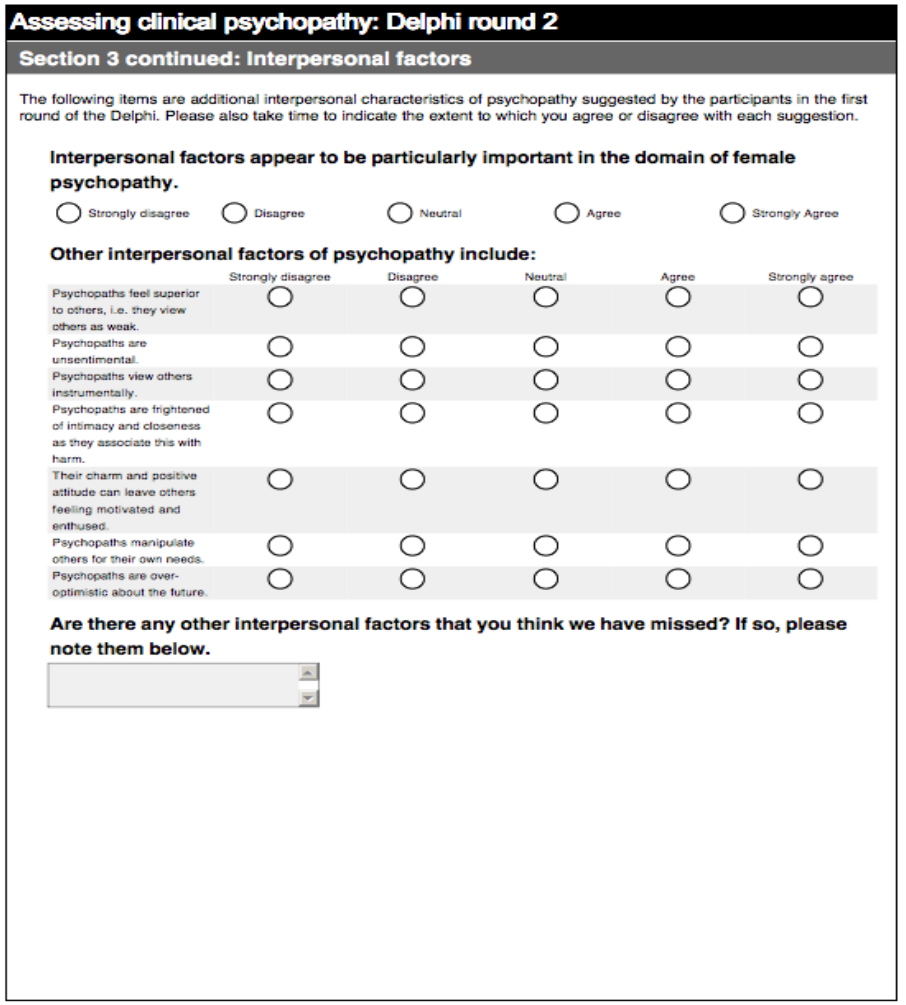
Please find below a statement that you was asked to rate in the previous Delphi round on the interpersonal factors of psychopathy. The corresponding percentages indicate the proportion of participants who endorsed a particular rating for that item. Using the scale provided please indicate your choice in light of this information.

Psychopaths have difficulties in forming and maintaining personal bonds.

Strongly disagree (3.1%) | Disagree (6.3%) | Neutral (6.3%) | Agree (62.5%) | Strongly agree (21.9%)

Figure 7: Continued.





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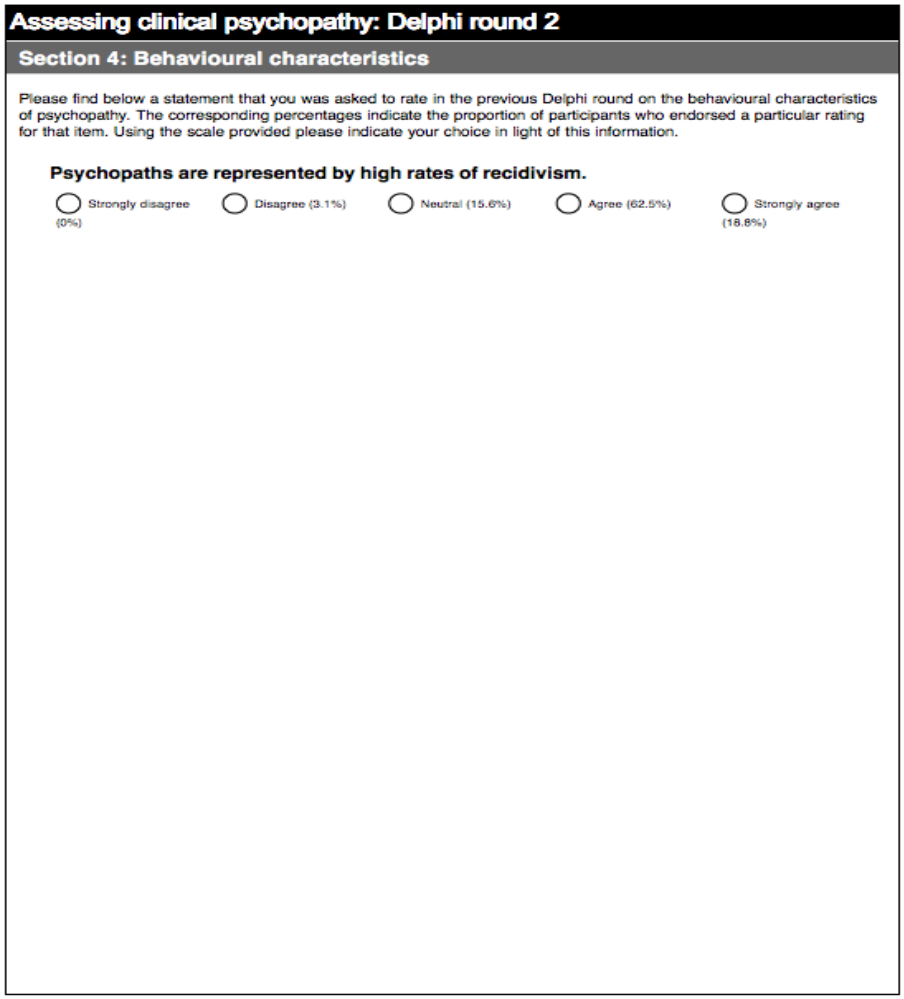

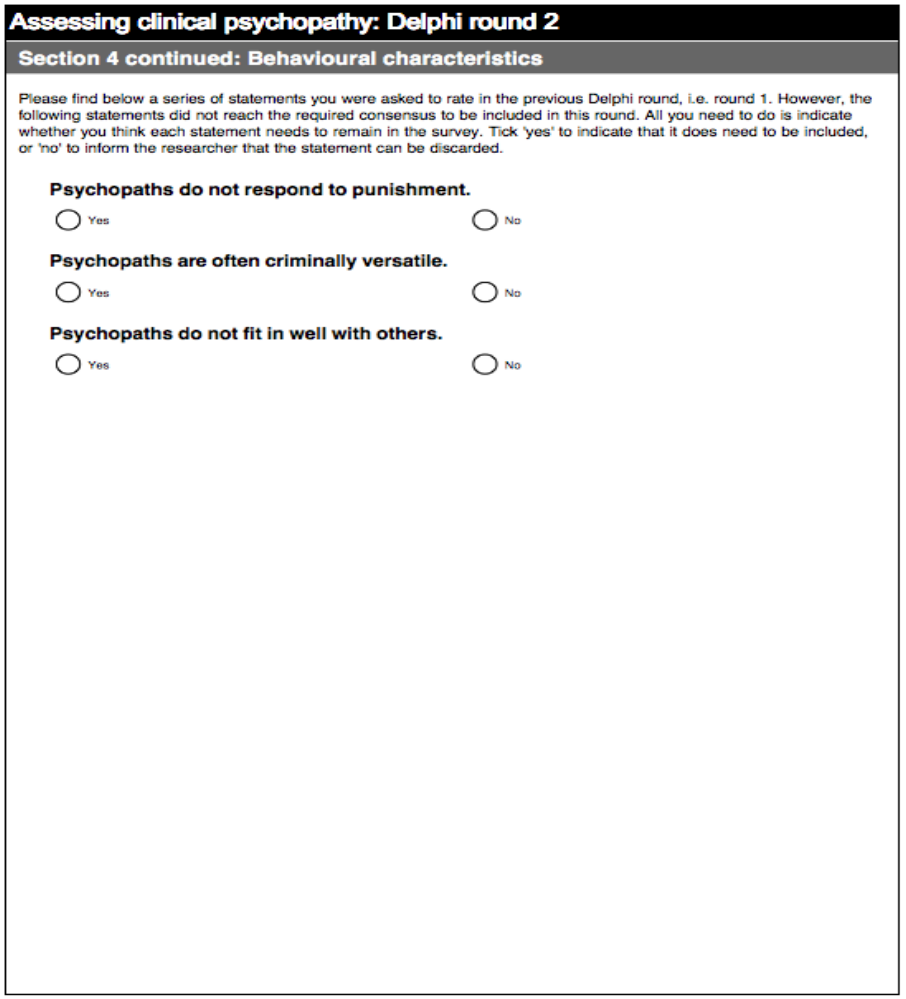

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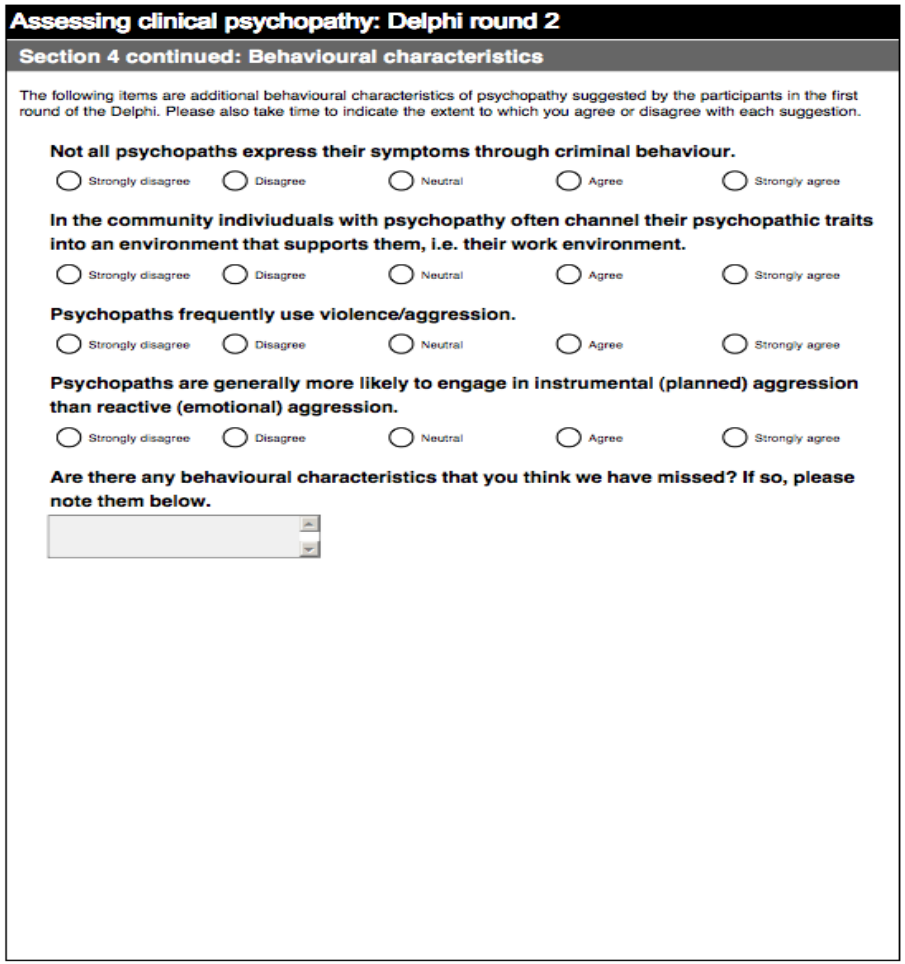


Assessing clinical psychopathy: Delphi round 2

Section 4 continued: Behavioural characteristics

The following items are additional behavioural characteristics of psychopathy suggested by the participants in the first round of the Delphi. Please also take time to indicate the extent to which you agree or disagree with each suggestion.

Not all psychopaths express their symptoms through criminal behaviour.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

In the community indiviuduals with psychopathy often channel their psychopathic traits into an environment that supports them, i.e. their work environment.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

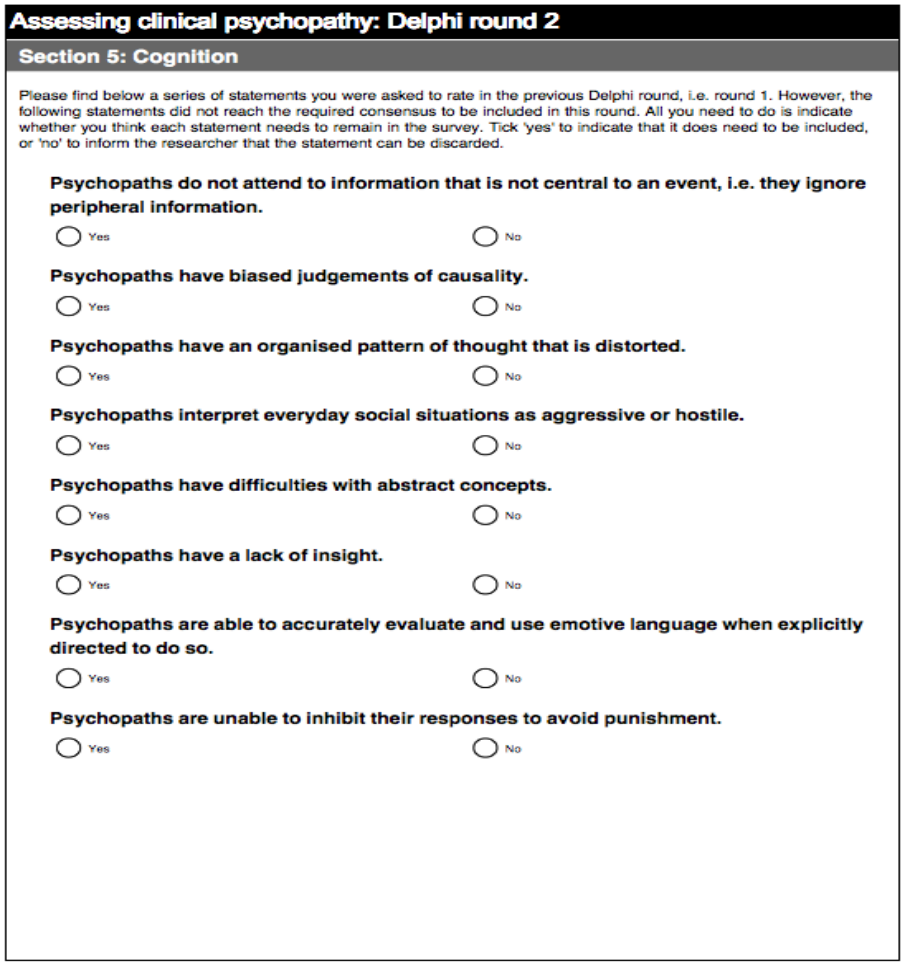
Psychopaths frequently use violence/aggression.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

Psychopaths are generally more likely to engage in instrumental (planned) aggression than reactive (emotional) aggression.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

Are there any behavioural characteristics that you think we have missed? If so, please note them below.



Assessing clinical psychopathy: Delphi round 2

Section 5: Cognition

Please find below a series of statements you were asked to rate in the previous Delphi round, i.e. round 1. However, the following statements did not reach the required consensus to be included in this round. All you need to do is indicate whether you think each statement needs to remain in the survey. Tick 'yes' to indicate that it does need to be included, or 'no' to inform the researcher that the statement can be discarded.

Psychopaths do not attend to information that is not central to an event, i.e. they ignore peripheral information.

Yes | No

Psychopaths have biased judgements of causality.

Yes | No

Psychopaths have an organised pattern of thought that is distorted.

Yes | No

Psychopaths interpret everyday social situations as aggressive or hostile.

Yes | No

Psychopaths have difficulties with abstract concepts.

Yes | No

Psychopaths have a lack of insight.

Yes | No

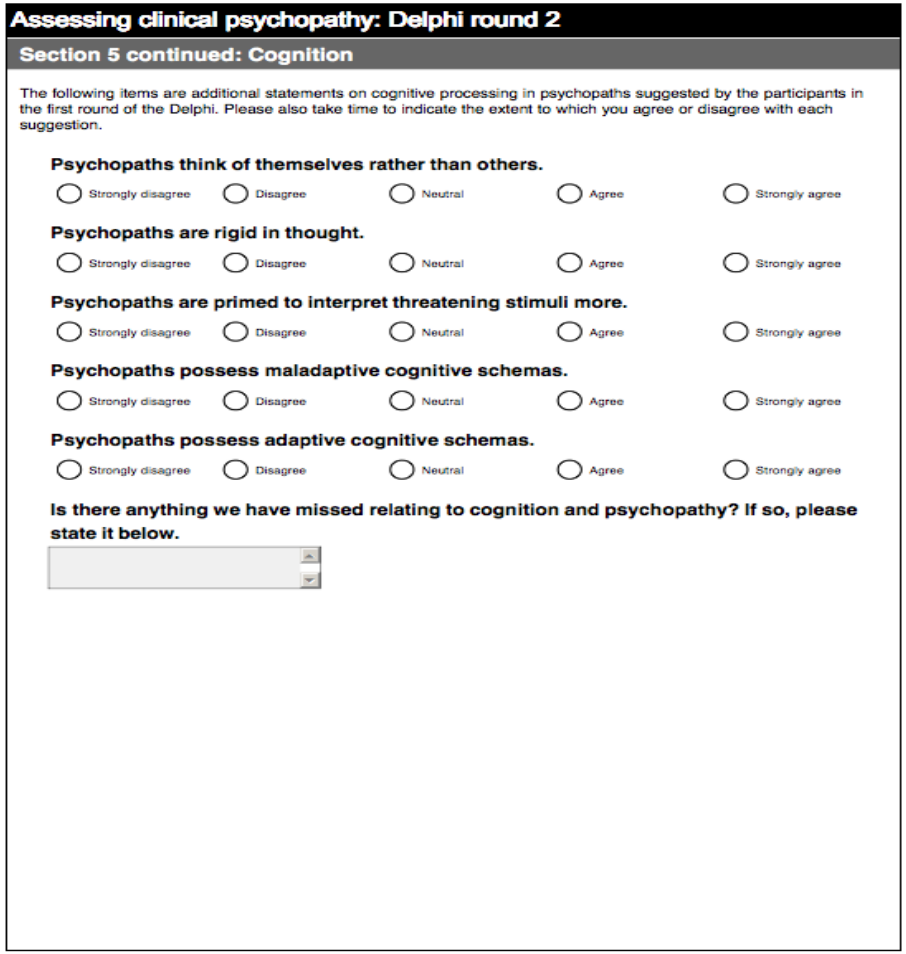
Psychopaths are able to accurately evaluate and use emotive language when explicitly directed to do so.

Yes | No

Psychopaths are unable to inhibit their responses to avoid punishment.

Yes | No

Figure 7: Continued.



Assessing clinical psychopathy: Delphi round 2

Section 5 continued: Cognition

The following items are additional statements on cognitive processing in psychopaths suggested by the participants in the first round of the Delphi. Please also take time to indicate the extent to which you agree or disagree with each suggestion.

Psychopaths think of themselves rather than others.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

Psychopaths are rigid in thought.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

Psychopaths are primed to interpret threatening stimuli more.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

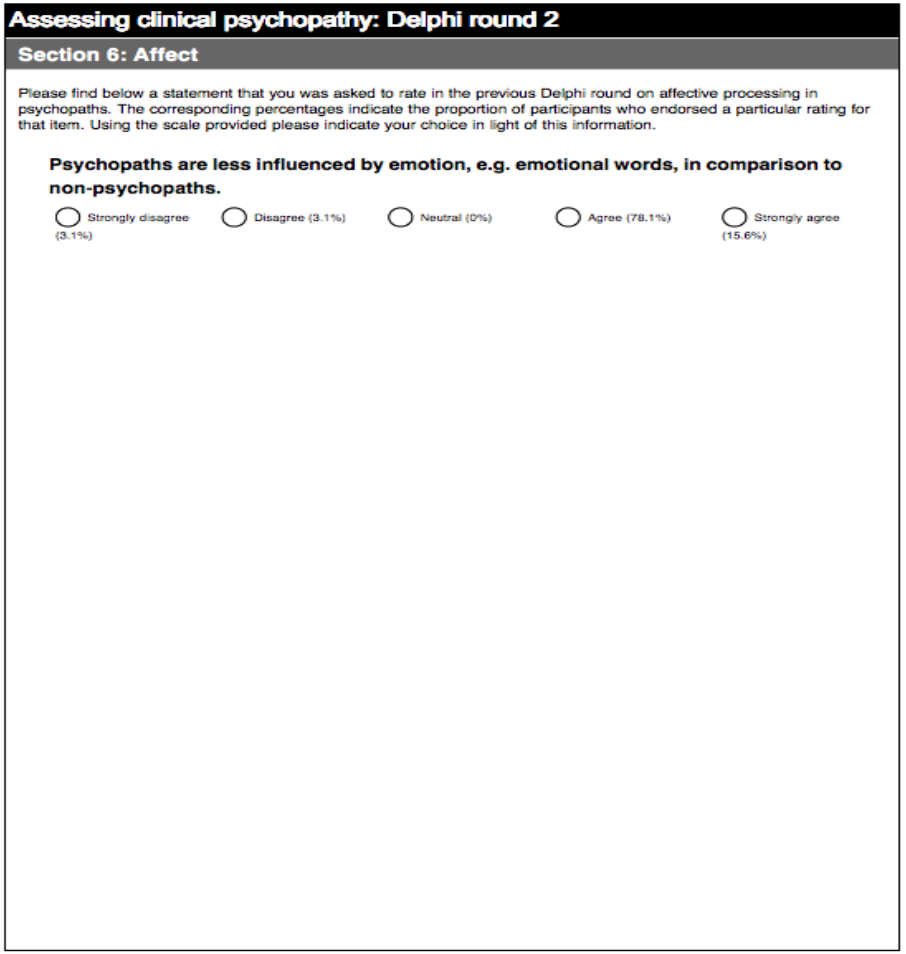
Psychopaths possess maladaptive cognitive schemas.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

Psychopaths possess adaptive cognitive schemas.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

Is there anything we have missed relating to cognition and psychopathy? If so, please state it below.



Assessing clinical psychopathy: Delphi round 2

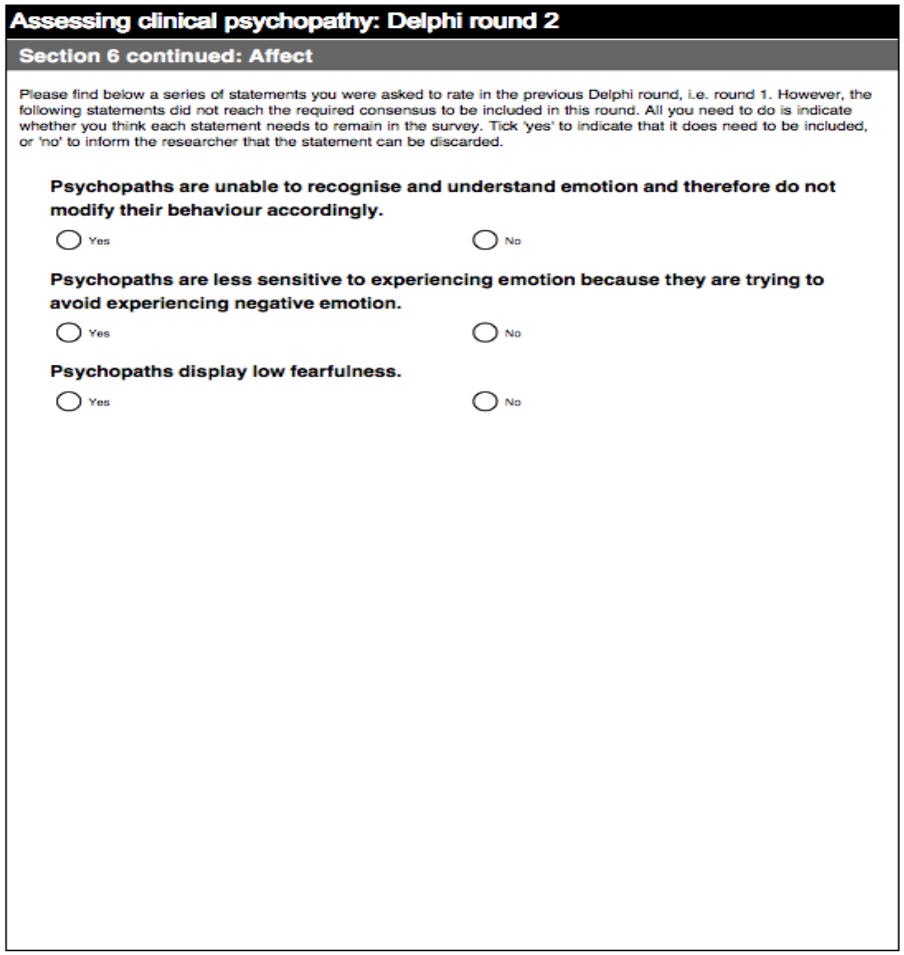
Section 6: Affect

Please find below a statement that you was asked to rate in the previous Delphi round on affective processing in psychopaths. The corresponding percentages indicate the proportion of participants who endorsed a particular rating for that item. Using the scale provided please indicate your choice in light of this information.

Psychopaths are less influenced by emotion, e.g. emotional words, in comparison to non-psychopaths.

Strongly disagree (3.1%) | Disagree (3.1%) | Neutral (0%) | Agree (78.1%) | Strongly agree (15.6%)

Figure 7: Continued.



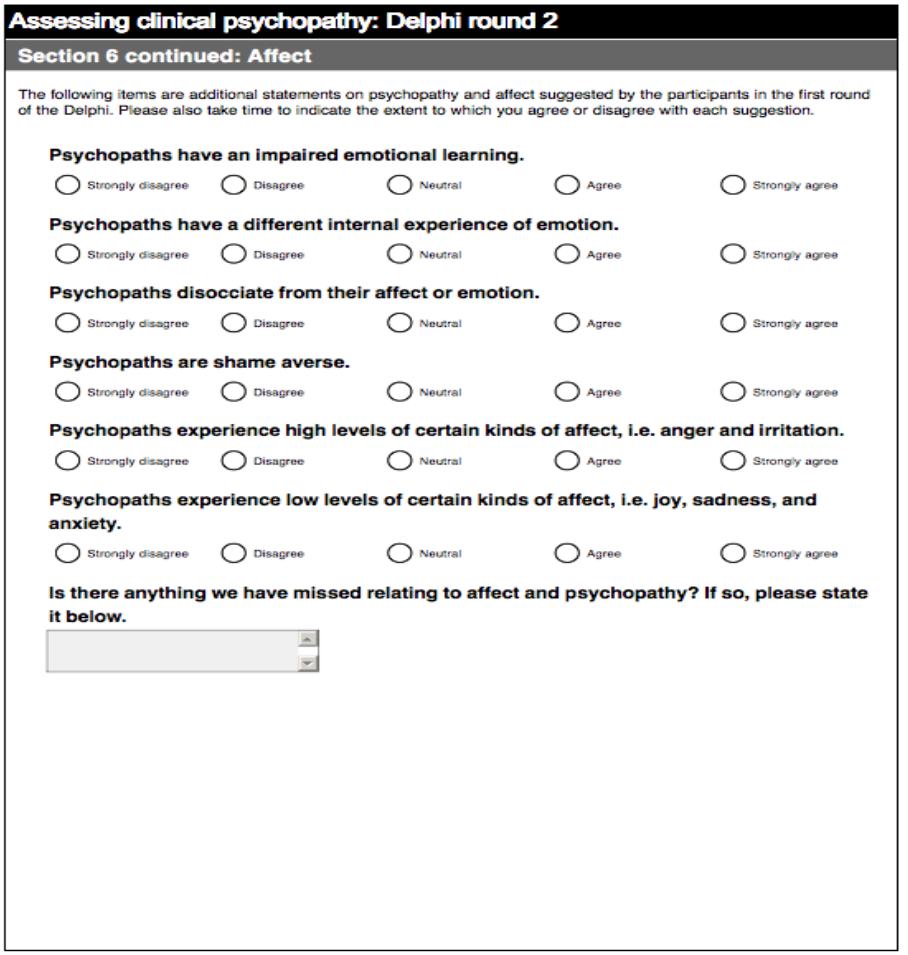
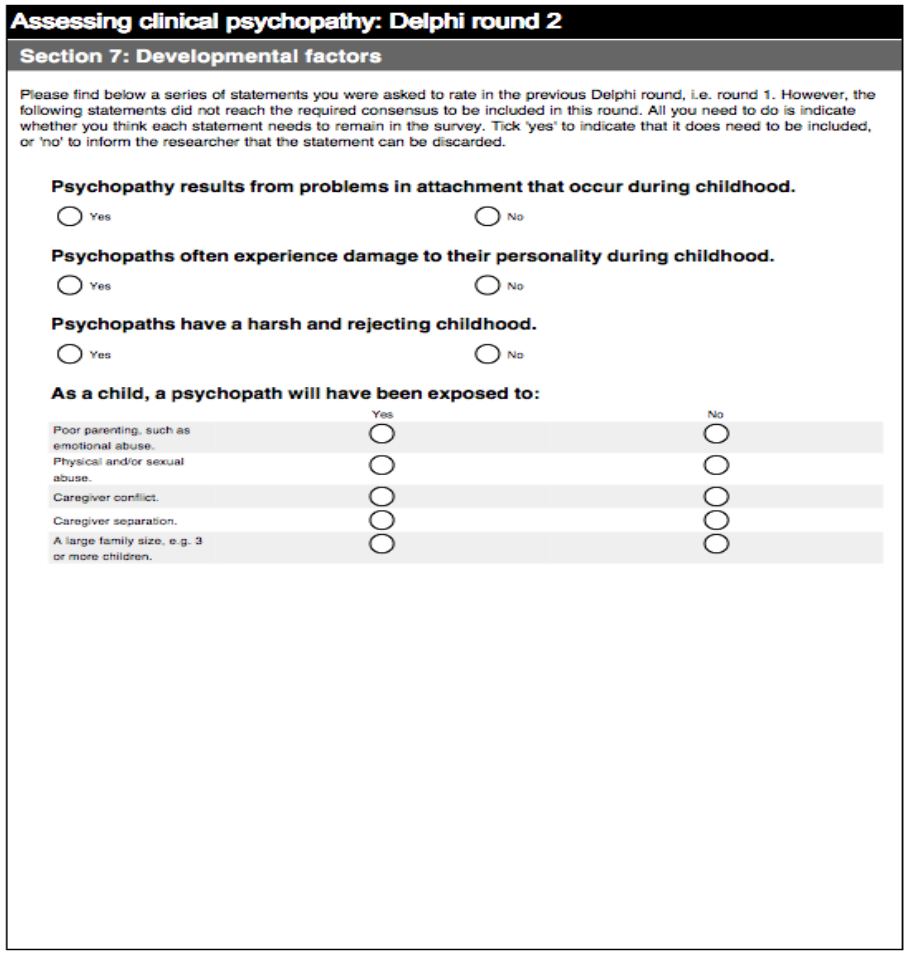


Figure 7: Continued.



Assessing clinical psychopathy: Delphi round 2

Section 7: Developmental factors

Please find below a series of statements you were asked to rate in the previous Delphi round, i.e. round 1. However, the following statements did not reach the required consensus to be included in this round. All you need to do is indicate whether you think each statement needs to remain in the survey. Tick 'yes' to indicate that it does need to be included, or 'no' to inform the researcher that the statement can be discarded.

Psychopathy results from problems in attachment that occur during childhood.

◯ Yes ◯ No

Psychopaths often experience damage to their personality during childhood.

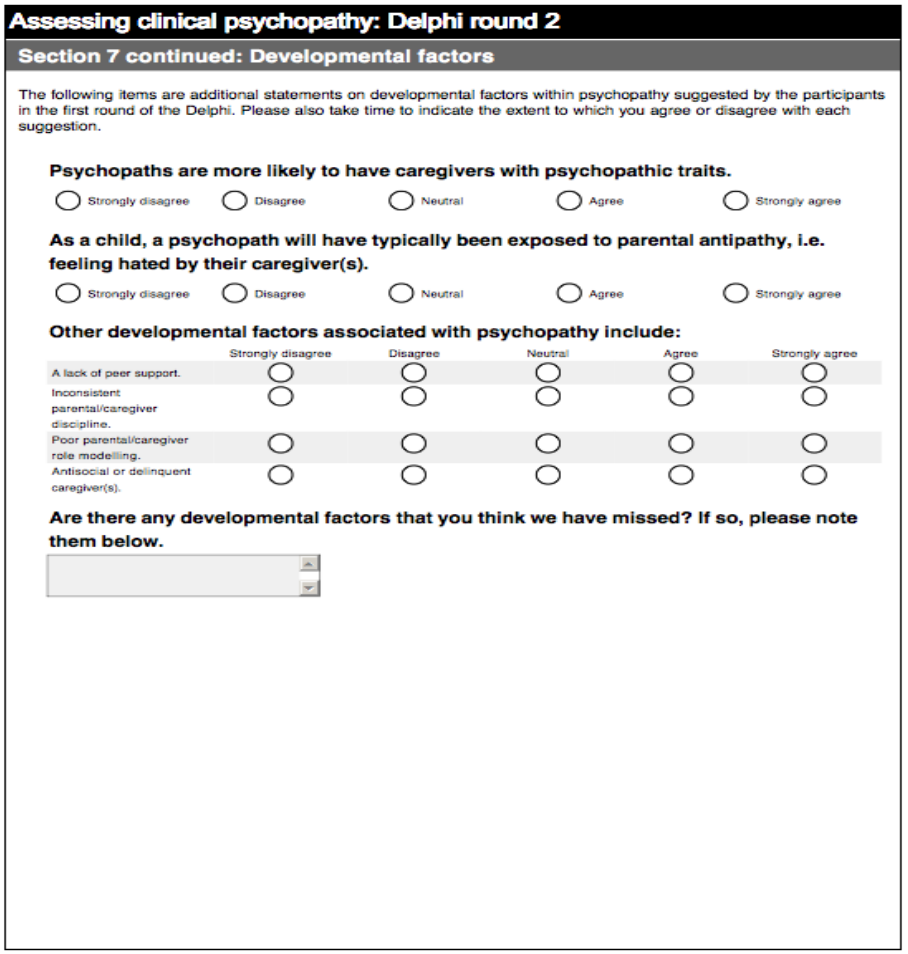
◯ Yes ◯ No

Psychopaths have a harsh and rejecting childhood.

◯ Yes ◯ No

As a child, a psychopath will have been exposed to:

	Yes	No
Poor parenting, such as emotional abuse.	◯	◯
Physical and/or sexual abuse.	◯	◯
Caregiver conflict.	◯	◯
Caregiver separation.	◯	◯
A large family size, e.g. 3 or more children.	◯	◯



Assessing clinical psychopathy: Delphi round 2

Section 7 continued: Developmental factors

The following items are additional statements on developmental factors within psychopathy suggested by the participants in the first round of the Delphi. Please also take time to indicate the extent to which you agree or disagree with each suggestion.

Psychopaths are more likely to have caregivers with psychopathic traits.

◯ Strongly disagree ◯ Disagree ◯ Neutral ◯ Agree ◯ Strongly agree

As a child, a psychopath will have typically been exposed to parental antipathy, i.e. feeling hated by their caregiver(s).

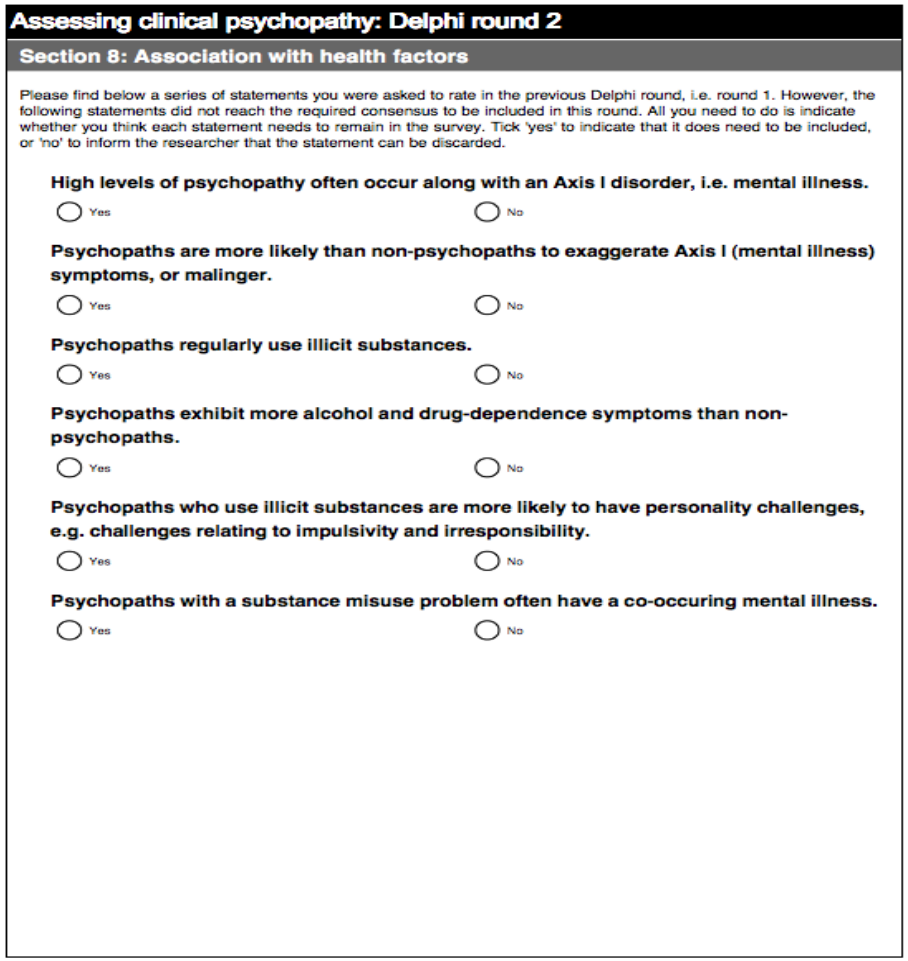
◯ Strongly disagree ◯ Disagree ◯ Neutral ◯ Agree ◯ Strongly agree

Other developmental factors associated with psychopathy include:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
A lack of peer support.	◯	◯	◯	◯	◯
Inconsistent parental/caregiver discipline.	◯	◯	◯	◯	◯
Poor parental/caregiver role modelling.	◯	◯	◯	◯	◯
Antisocial or delinquent caregiver(s).	◯	◯	◯	◯	◯

Are there any developmental factors that you think we have missed? If so, please note them below.

Figure 7: Continued.



Assessing clinical psychopathy: Delphi round 2

Section 8: Association with health factors

Please find below a series of statements you were asked to rate in the previous Delphi round, i.e. round 1. However, the following statements did not reach the required consensus to be included in this round. All you need to do is indicate whether you think each statement needs to remain in the survey. Tick 'yes' to indicate that it does need to be included, or 'no' to inform the researcher that the statement can be discarded.

High levels of psychopathy often occur along with an Axis I disorder, i.e. mental illness.

◯ Yes ◯ No

Psychopaths are more likely than non-psychopaths to exaggerate Axis I (mental illness) symptoms, or malinger.

◯ Yes ◯ No

Psychopaths regularly use illicit substances.

◯ Yes ◯ No

Psychopaths exhibit more alcohol and drug-dependence symptoms than non-psychopaths.

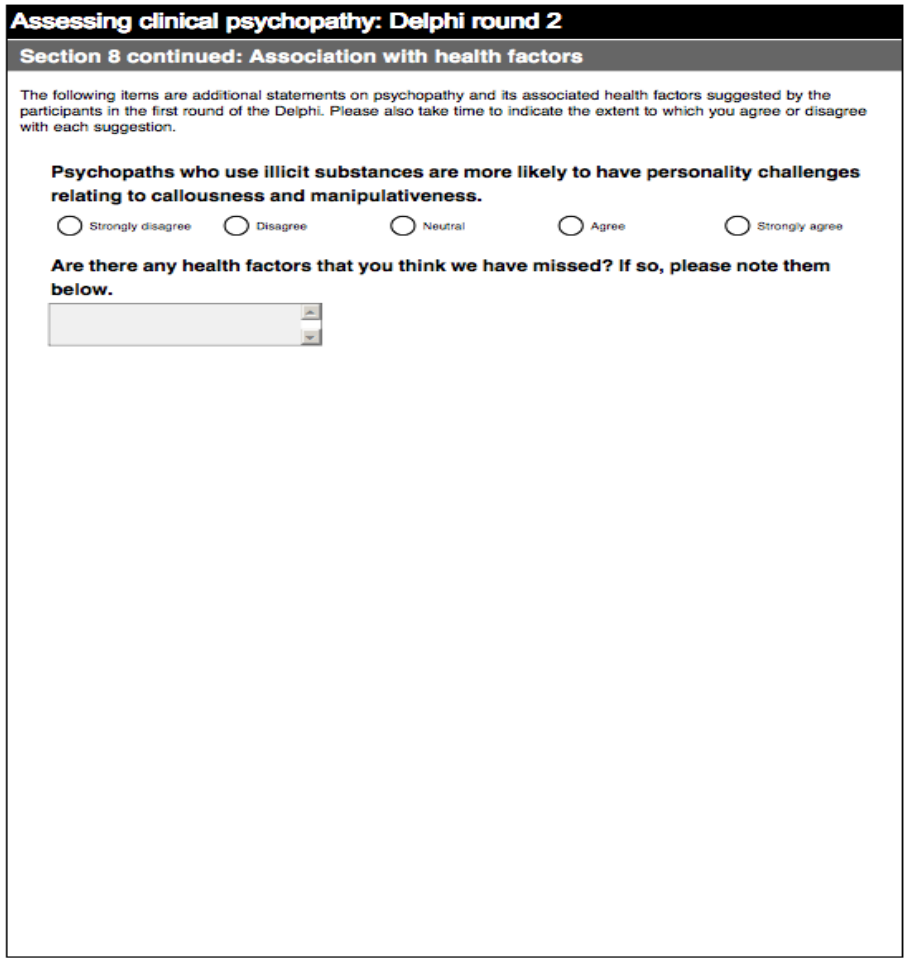
◯ Yes ◯ No

Psychopaths who use illicit substances are more likely to have personality challenges, e.g. challenges relating to impulsivity and irresponsibility.

◯ Yes ◯ No

Psychopaths with a substance misuse problem often have a co-occuring mental illness.

◯ Yes ◯ No



Assessing clinical psychopathy: Delphi round 2

Section 8 continued: Association with health factors

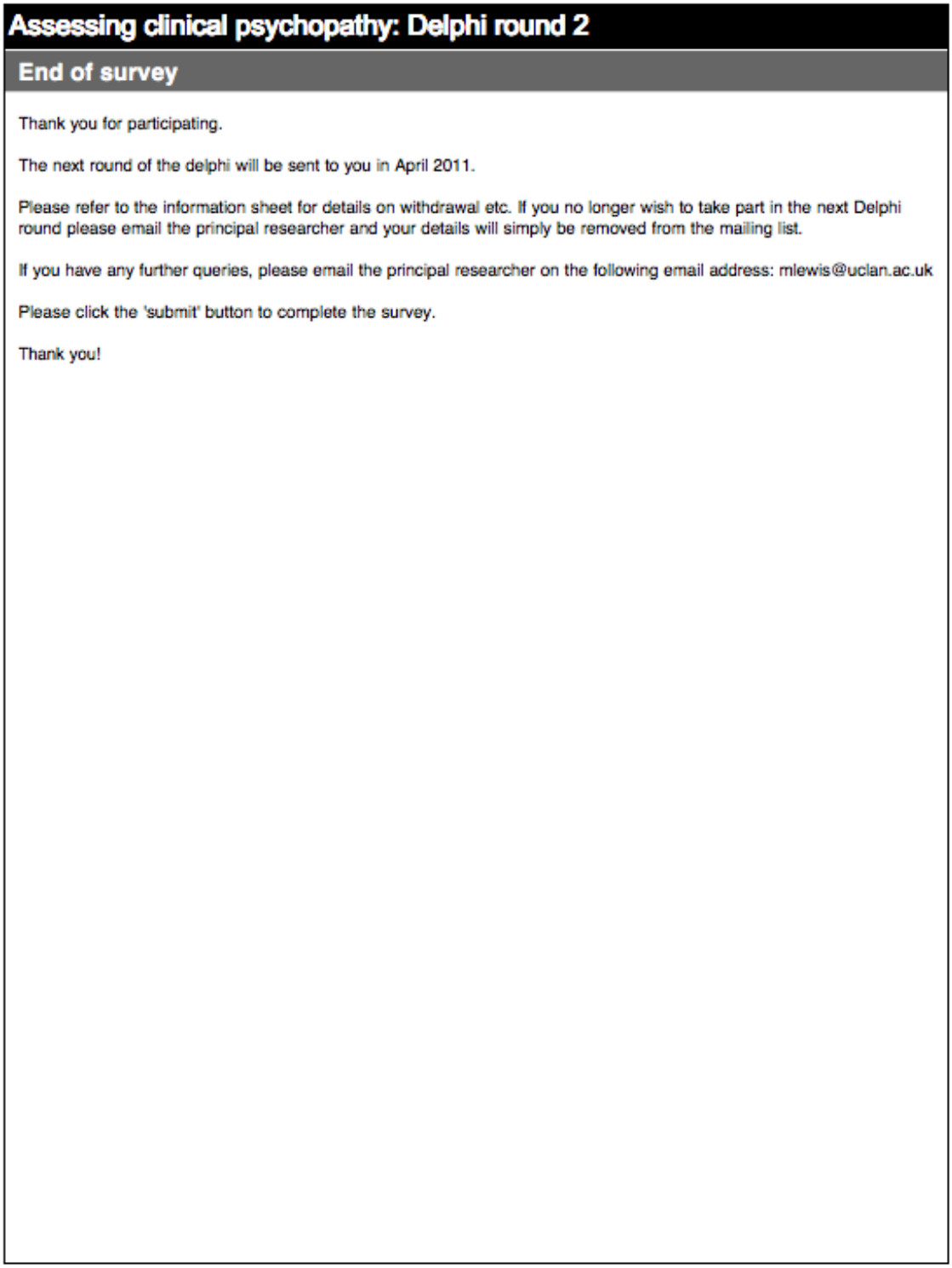
The following items are additional statements on psychopathy and its associated health factors suggested by the participants in the first round of the Delphi. Please also take time to indicate the extent to which you agree or disagree with each suggestion.

Psychopaths who use illicit substances are more likely to have personality challenges relating to callousness and manipulativeness.

◯ Strongly disagree ◯ Disagree ◯ Neutral ◯ Agree ◯ Strongly agree

Are there any health factors that you think we have missed? If so, please note them below.

Figure 7: Continued.



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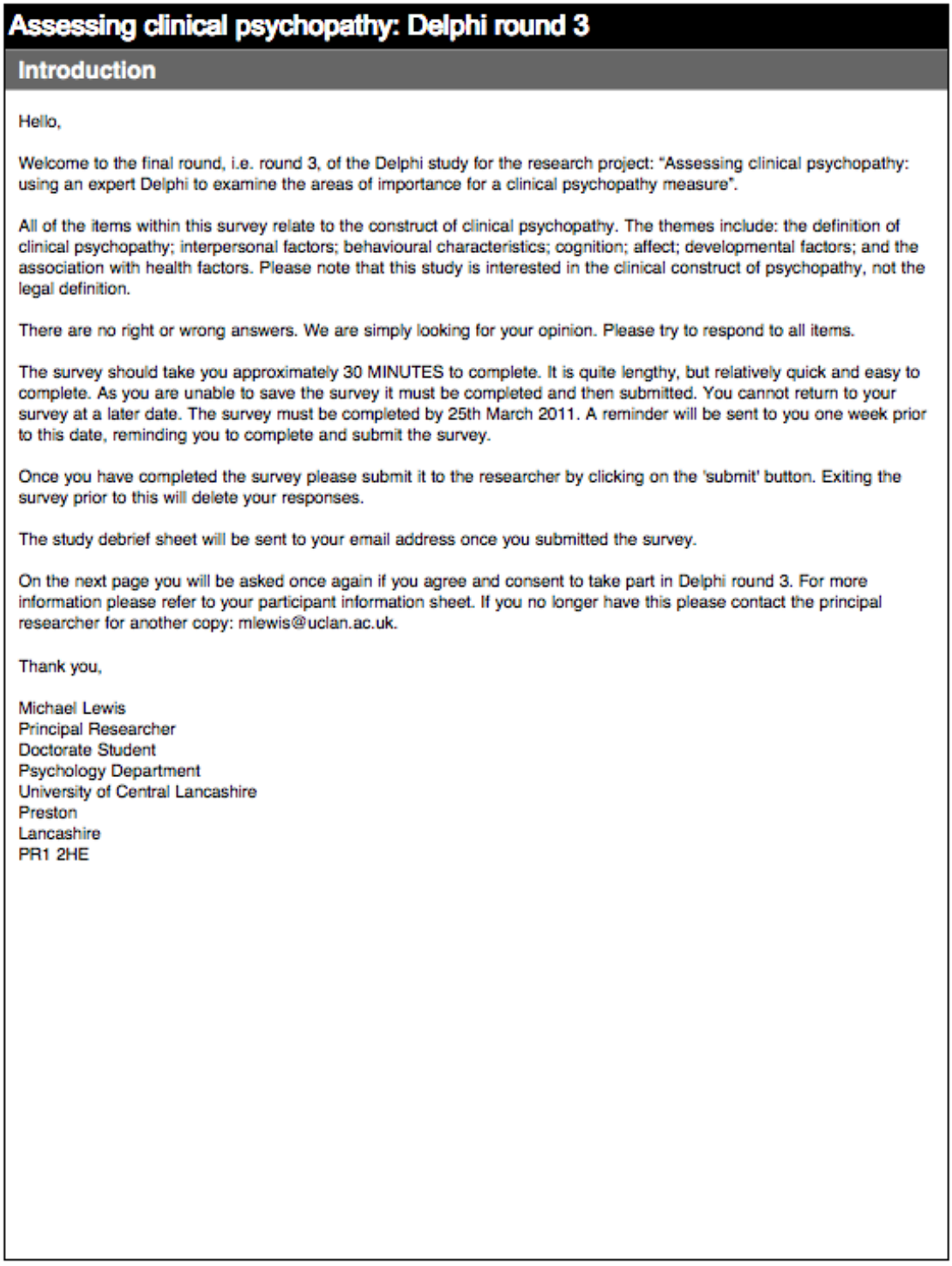


Assessing clinical psychopathy: Delphi round 3

Introduction

Hello,

Welcome to the final round, i.e. round 3, of the Delphi study for the research project: "Assessing clinical psychopathy: using an expert Delphi to examine the areas of importance for a clinical psychopathy measure".

All of the items within this survey relate to the construct of clinical psychopathy. The themes include: the definition of clinical psychopathy; interpersonal factors; behavioural characteristics; cognition; affect; developmental factors; and the association with health factors. Please note that this study is interested in the clinical construct of psychopathy, not the legal definition.

There are no right or wrong answers. We are simply looking for your opinion. Please try to respond to all items.

The survey should take you approximately 30 MINUTES to complete. It is quite lengthy, but relatively quick and easy to complete. As you are unable to save the survey it must be completed and then submitted. You cannot return to your survey at a later date. The survey must be completed by 25th March 2011. A reminder will be sent to you one week prior to this date, reminding you to complete and submit the survey.

Once you have completed the survey please submit it to the researcher by clicking on the 'submit' button. Exiting the survey prior to this will delete your responses.

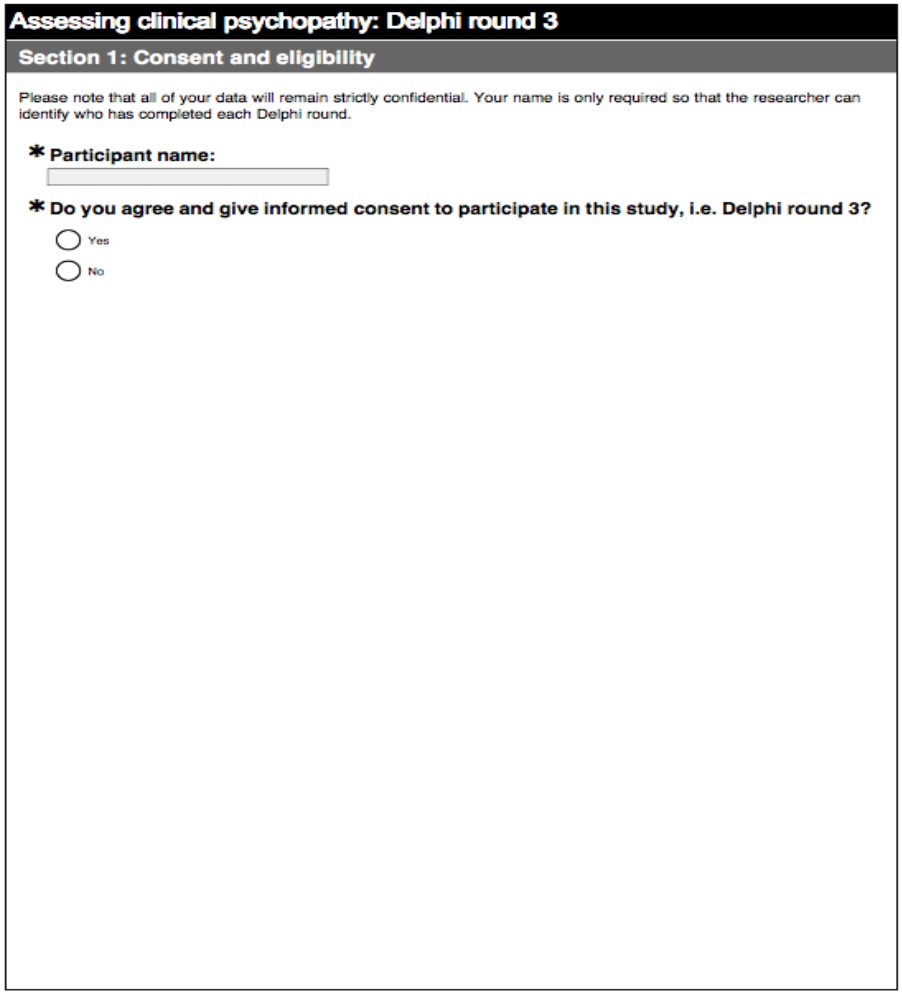
The study debrief sheet will be sent to your email address once you submitted the survey.

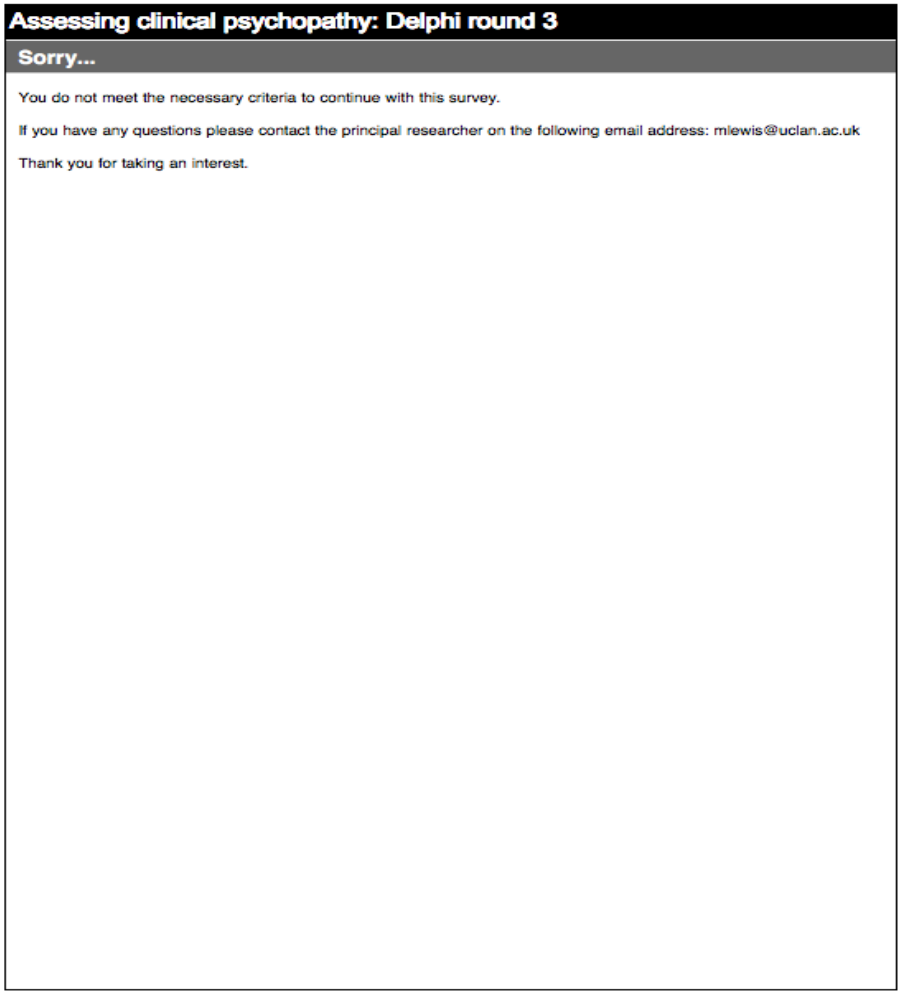
On the next page you will be asked once again if you agree and consent to take part in Delphi round 3. For more information please refer to your participant information sheet. If you no longer have this please contact the principal researcher for another copy: mlewis@uclan.ac.uk.

Thank you,

Michael Lewis
Principal Researcher
Doctorate Student
Psychology Department
University of Central Lancashire
Preston
Lancashire
PR1 2HE

Figure 8: Round three.





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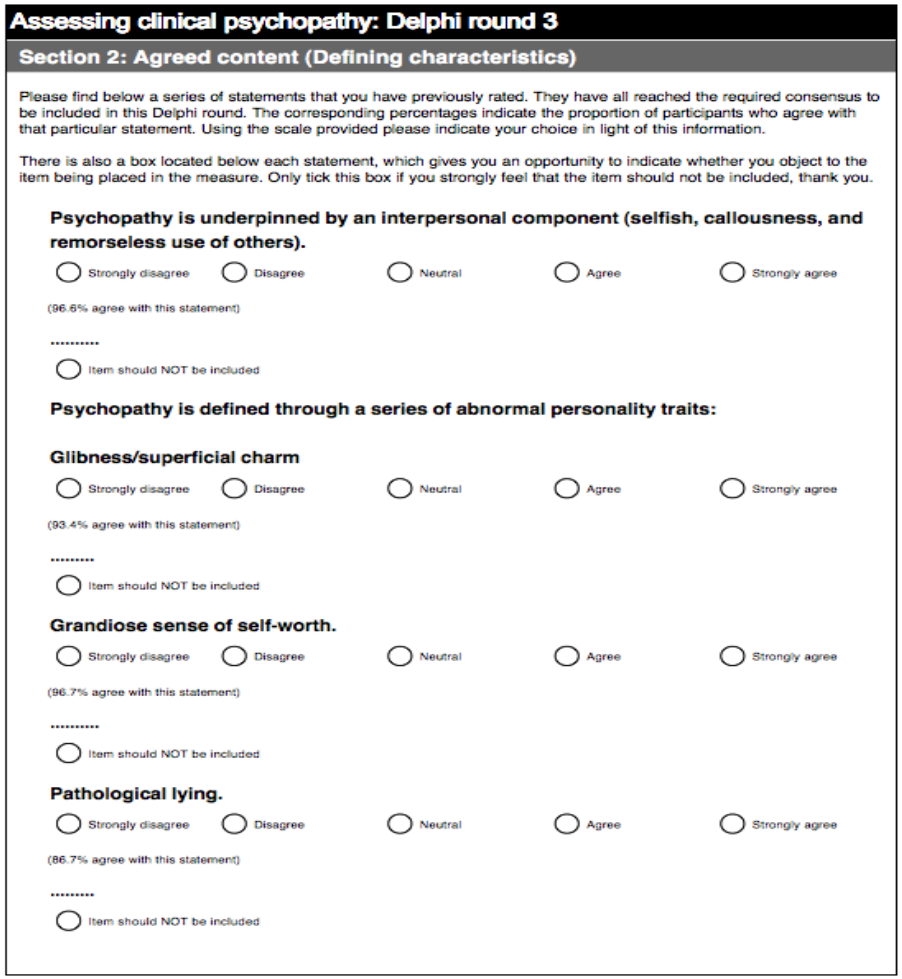


Assessing clinical psychopathy: Delphi round 3

Section 2: Agreed content (Defining characteristics)

Please find below a series of statements that you have previously rated. They have all reached the required consensus to be included in this Delphi round. The corresponding percentages indicate the proportion of participants who agree with that particular statement. Using the scale provided please indicate your choice in light of this information.

There is also a box located below each statement, which gives you an opportunity to indicate whether you object to the item being placed in the measure. Only tick this box if you strongly feel that the item should not be included, thank you.

Psychopathy is underpinned by an interpersonal component (selfish, callousness, and remorseless use of others).

Strongly disagree Disagree Neutral Agree Strongly agree

(96.6% agree with this statement)

.....

Item should NOT be included

Psychopathy is defined through a series of abnormal personality traits:

Glibness/superficial charm

Strongly disagree Disagree Neutral Agree Strongly agree

(93.4% agree with this statement)

.....

Item should NOT be included

Grandiose sense of self-worth.

Strongly disagree Disagree Neutral Agree Strongly agree

(96.7% agree with this statement)

.....

Item should NOT be included

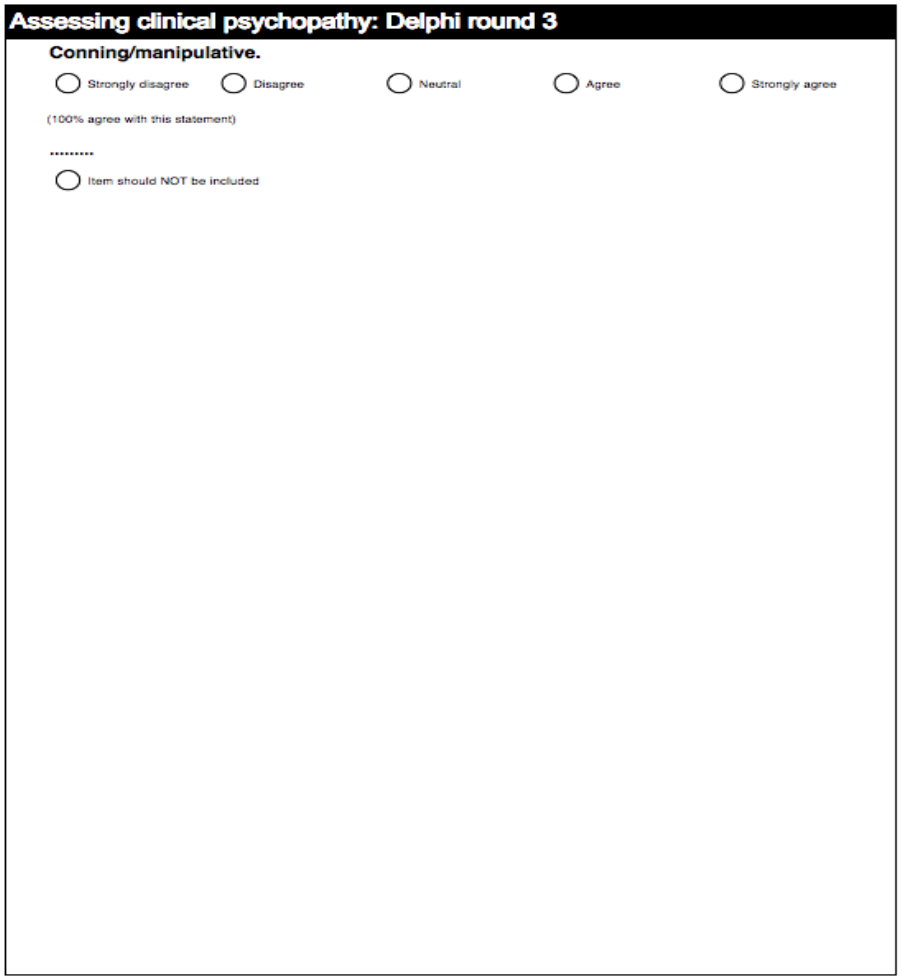
Pathological lying.

Strongly disagree Disagree Neutral Agree Strongly agree

(86.7% agree with this statement)

.....

Item should NOT be included



Assessing clinical psychopathy: Delphi round 3

Conning/manipulative.

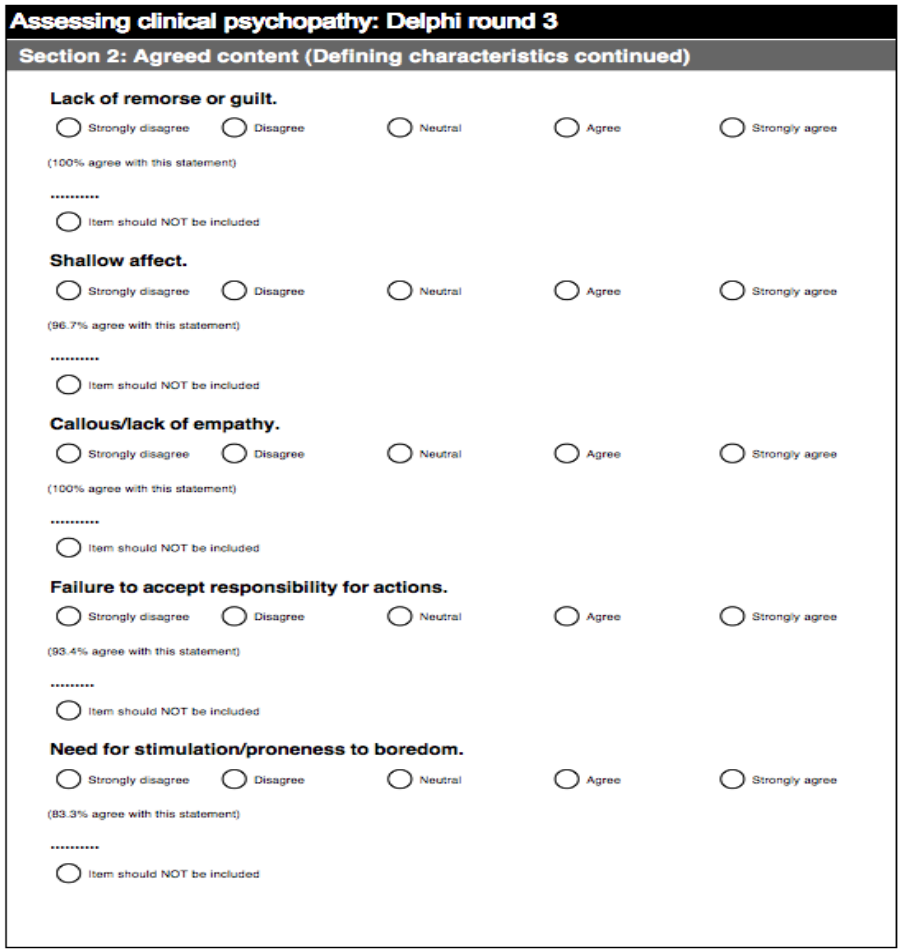
Strongly disagree Disagree Neutral Agree Strongly agree

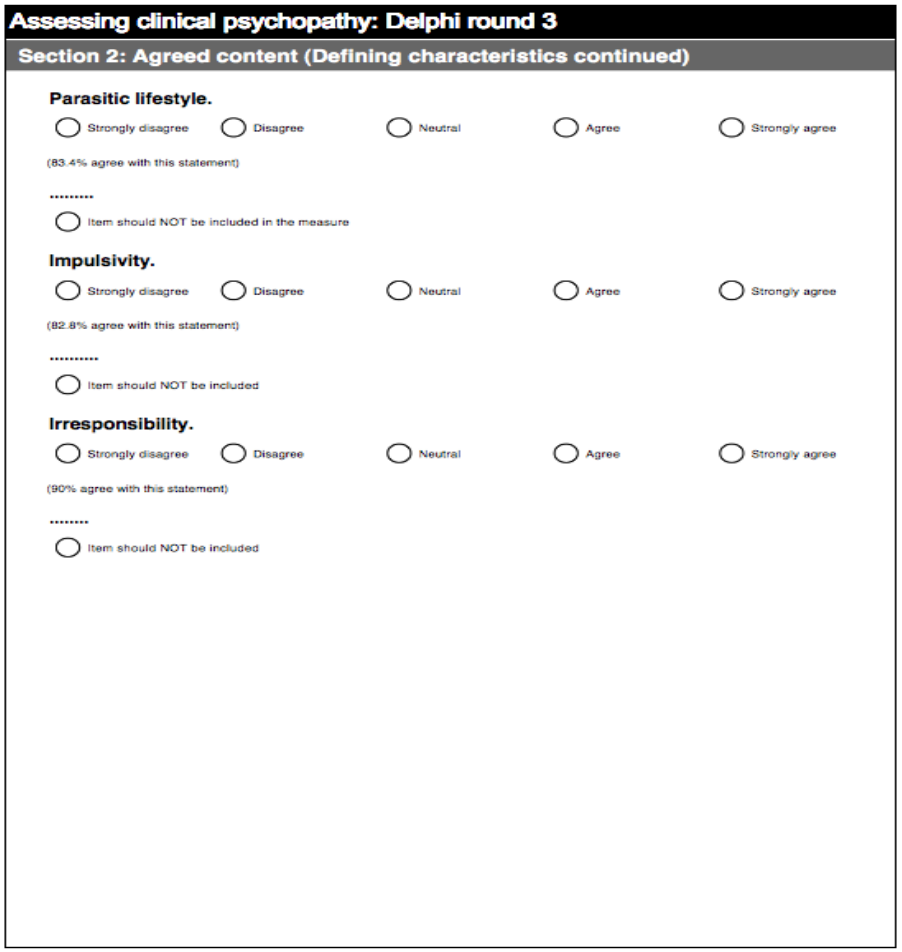
(100% agree with this statement)

.....

Item should NOT be included

Figure 8: Continued.





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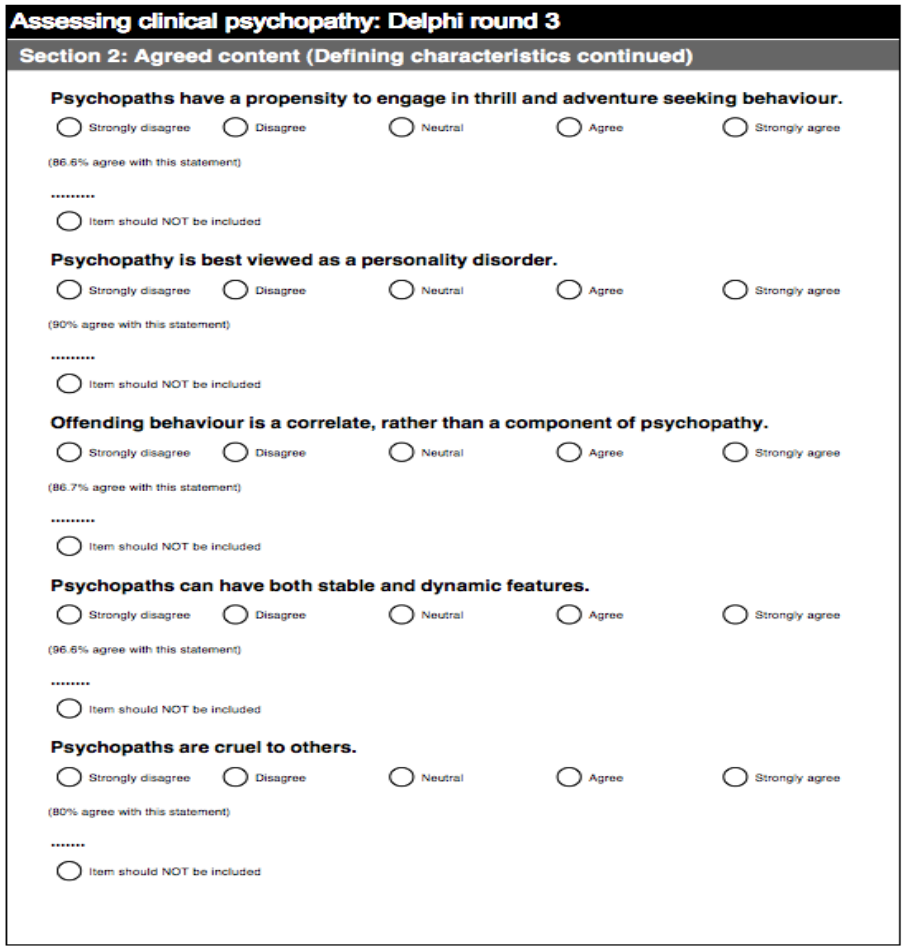


Assessing clinical psychopathy: Delphi round 3

Section 2: Agreed content (Defining characteristics continued)

Psychopaths have a propensity to engage in thrill and adventure seeking behaviour.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

(86.6% agree with this statement)

.....

Item should NOT be included

Psychopathy is best viewed as a personality disorder.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

(90% agree with this statement)

.....

Item should NOT be included

Offending behaviour is a correlate, rather than a component of psychopathy.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

(86.7% agree with this statement)

.....

Item should NOT be included

Psychopaths can have both stable and dynamic features.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

(96.6% agree with this statement)

.....

Item should NOT be included

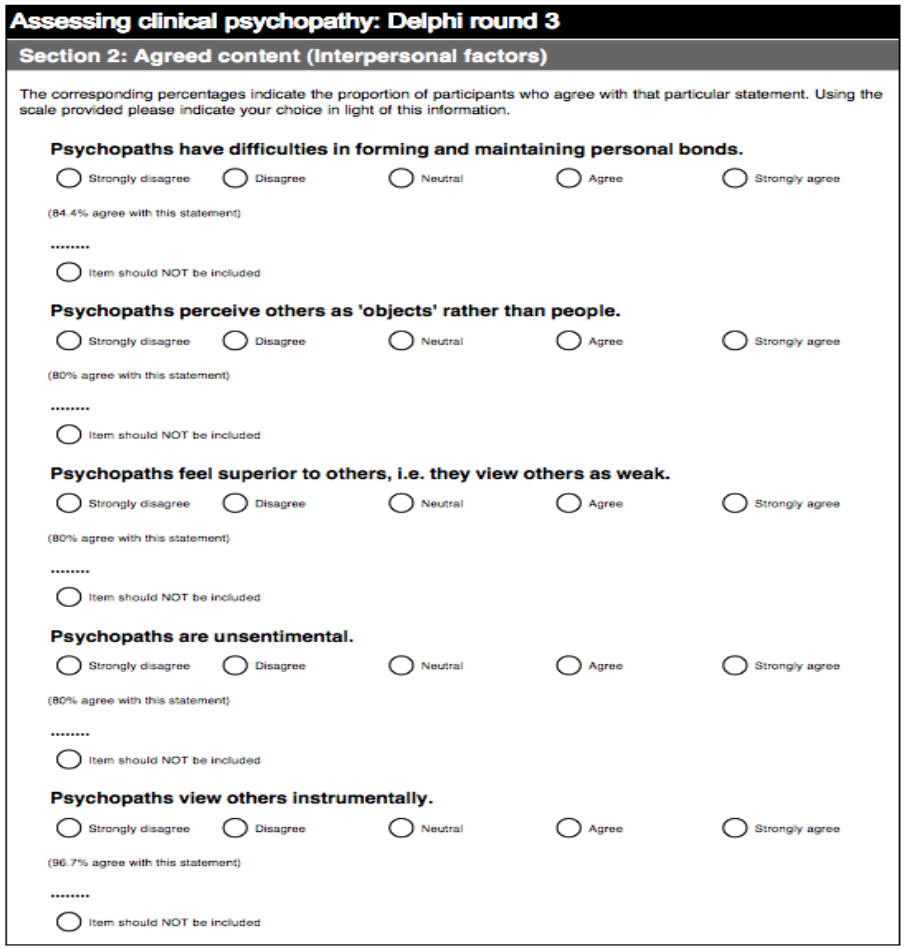
Psychopaths are cruel to others.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

(80% agree with this statement)

.....

Item should NOT be included



Assessing clinical psychopathy: Delphi round 3

Section 2: Agreed content (Interpersonal factors)

The corresponding percentages indicate the proportion of participants who agree with that particular statement. Using the scale provided please indicate your choice in light of this information.

Psychopaths have difficulties in forming and maintaining personal bonds.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

(84.4% agree with this statement)

.....

Item should NOT be included

Psychopaths perceive others as 'objects' rather than people.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

(80% agree with this statement)

.....

Item should NOT be included

Psychopaths feel superior to others, i.e. they view others as weak.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

(80% agree with this statement)

.....

Item should NOT be included

Psychopaths are unsentimental.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

(80% agree with this statement)

.....

Item should NOT be included

Psychopaths view others instrumentally.

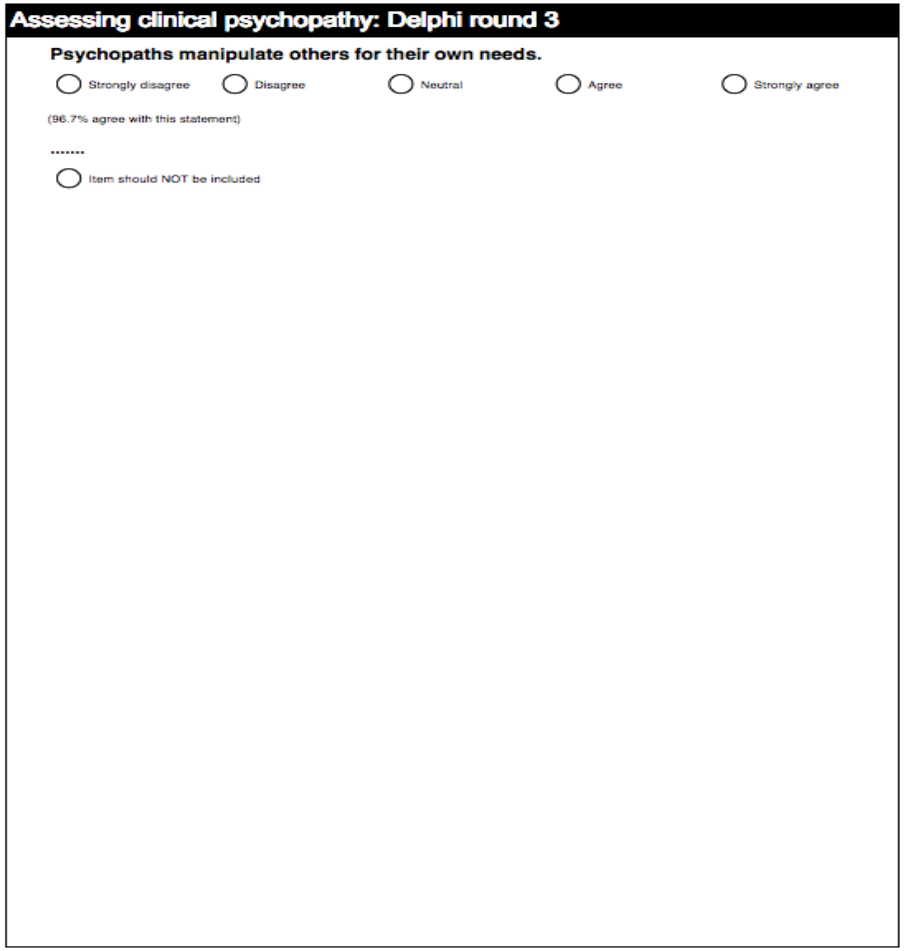
Strongly disagree | Disagree | Neutral | Agree | Strongly agree

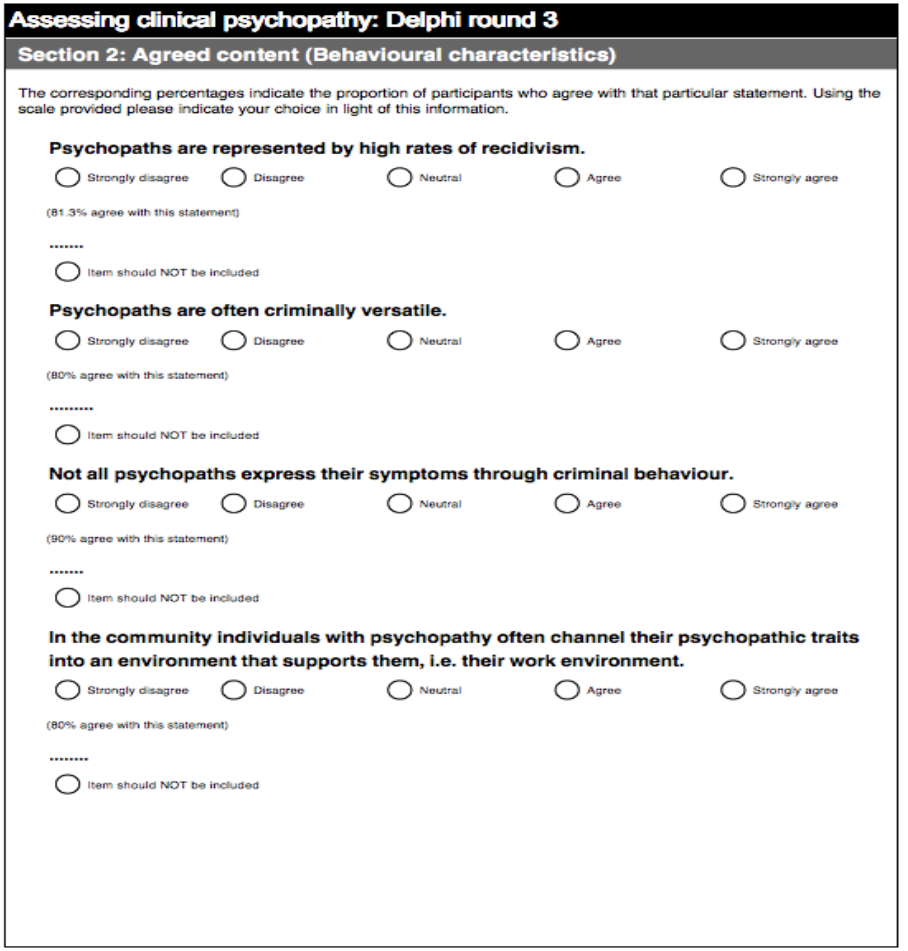
(96.7% agree with this statement)

.....

Item should NOT be included

Figure 8: Continued.





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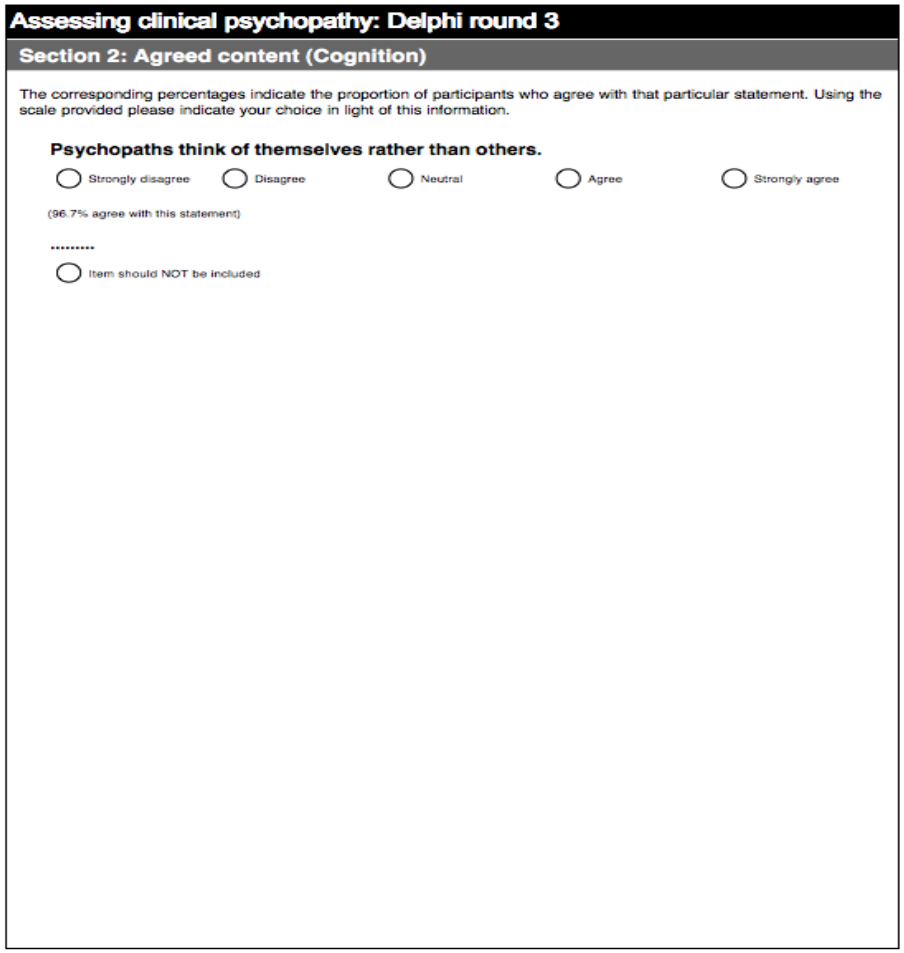

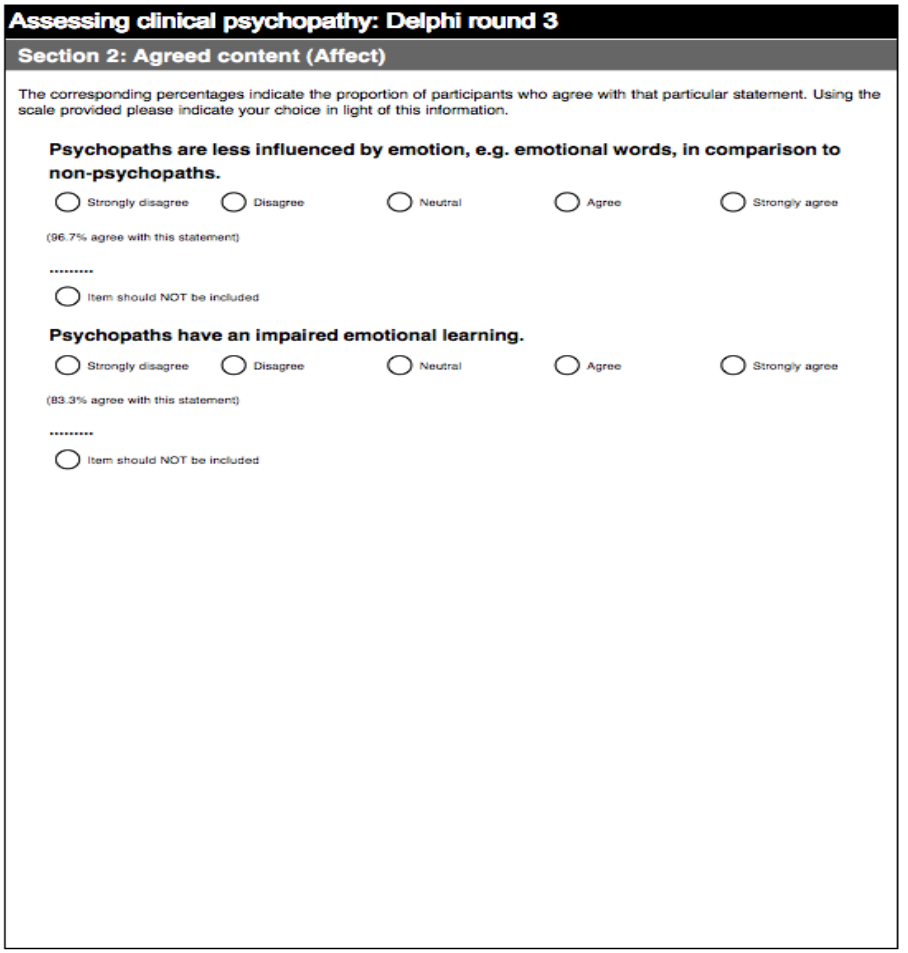

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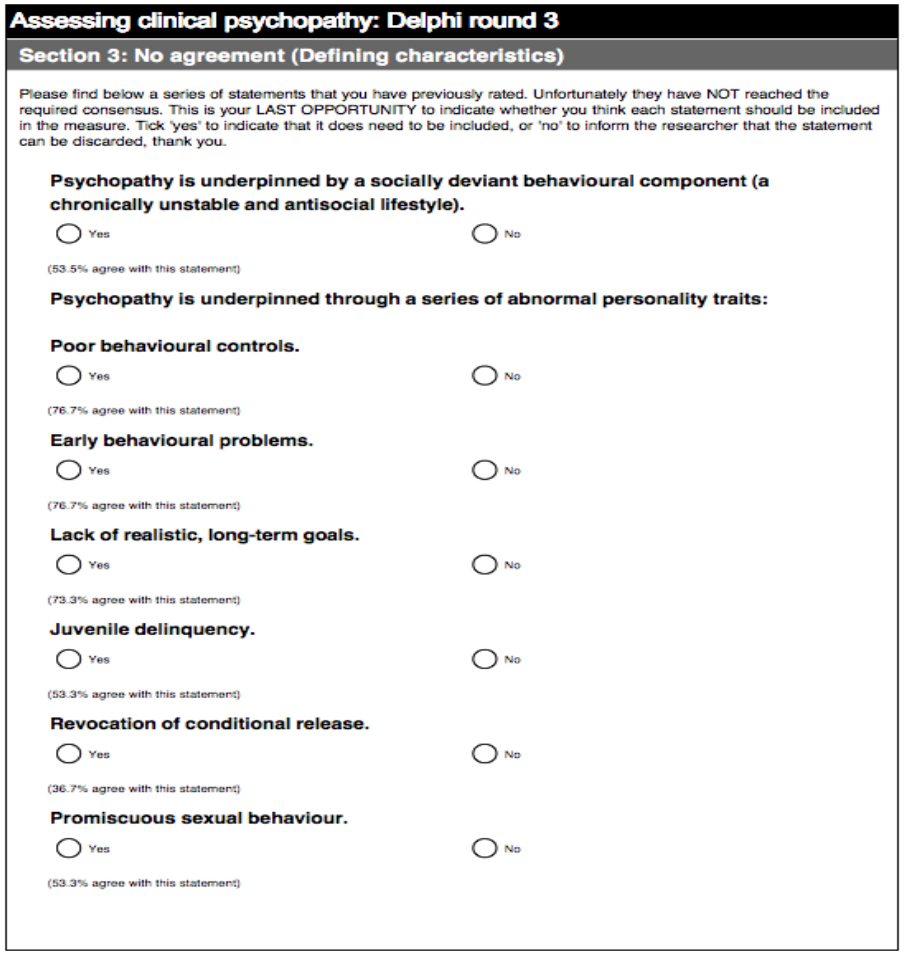


Assessing clinical psychopathy: Delphi round 3

Section 3: No agreement (Defining characteristics)

Please find below a series of statements that you have previously rated. Unfortunately they have NOT reached the required consensus. This is your LAST OPPORTUNITY to indicate whether you think each statement should be included in the measure. Tick 'yes' to indicate that it does need to be included, or 'no' to inform the researcher that the statement can be discarded, thank you.

Psychopathy is underpinned by a socially deviant behavioural component (a chronically unstable and antisocial lifestyle).

◯ Yes ◯ No

(53.5% agree with this statement)

Psychopathy is underpinned through a series of abnormal personality traits:

Poor behavioural controls.

◯ Yes ◯ No

(76.7% agree with this statement)

Early behavioural problems.

◯ Yes ◯ No

(76.7% agree with this statement)

Lack of realistic, long-term goals.

◯ Yes ◯ No

(73.3% agree with this statement)

Juvenile delinquency.

◯ Yes ◯ No

(53.3% agree with this statement)

Revocation of conditional release.

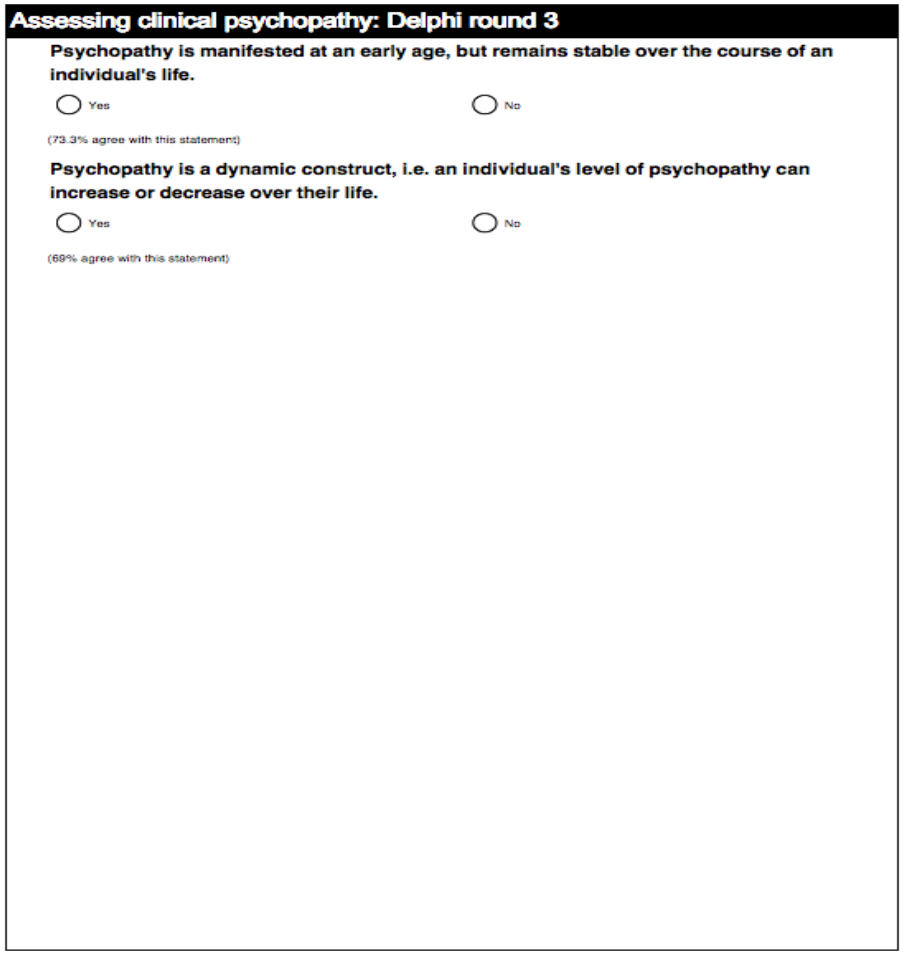
◯ Yes ◯ No

(36.7% agree with this statement)

Promiscuous sexual behaviour.

◯ Yes ◯ No

(53.3% agree with this statement)



Assessing clinical psychopathy: Delphi round 3

Psychopathy is manifested at an early age, but remains stable over the course of an individual's life.

◯ Yes ◯ No

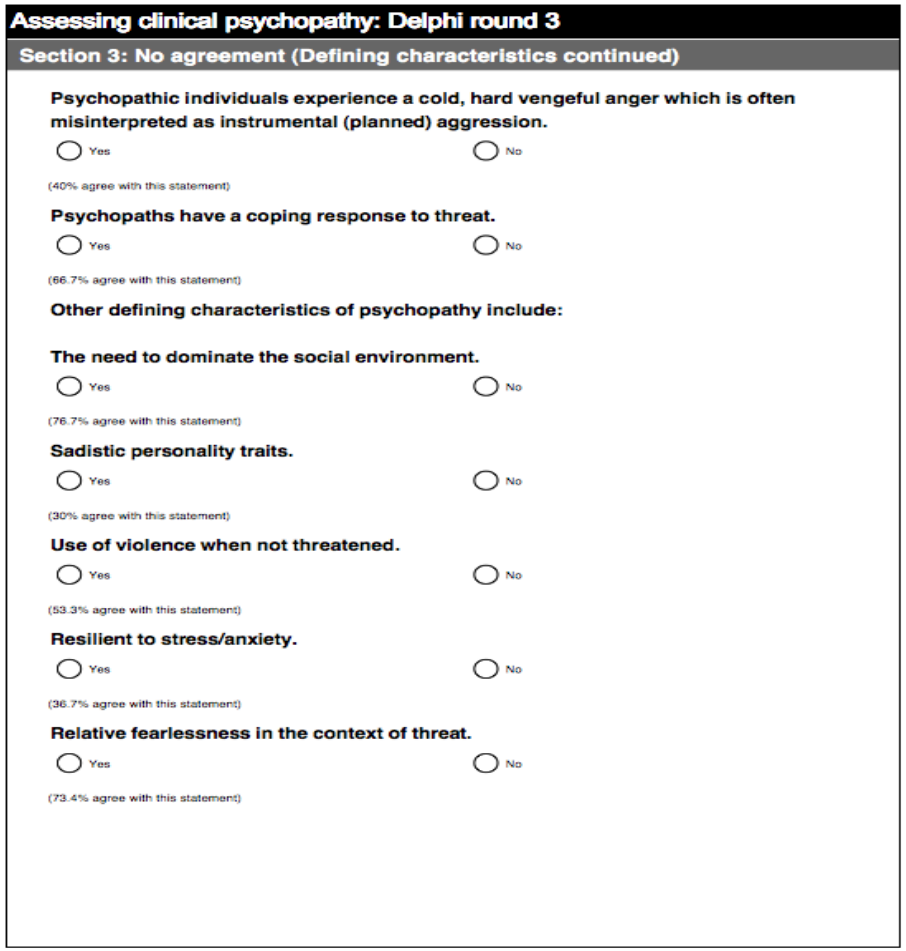
(73.3% agree with this statement)

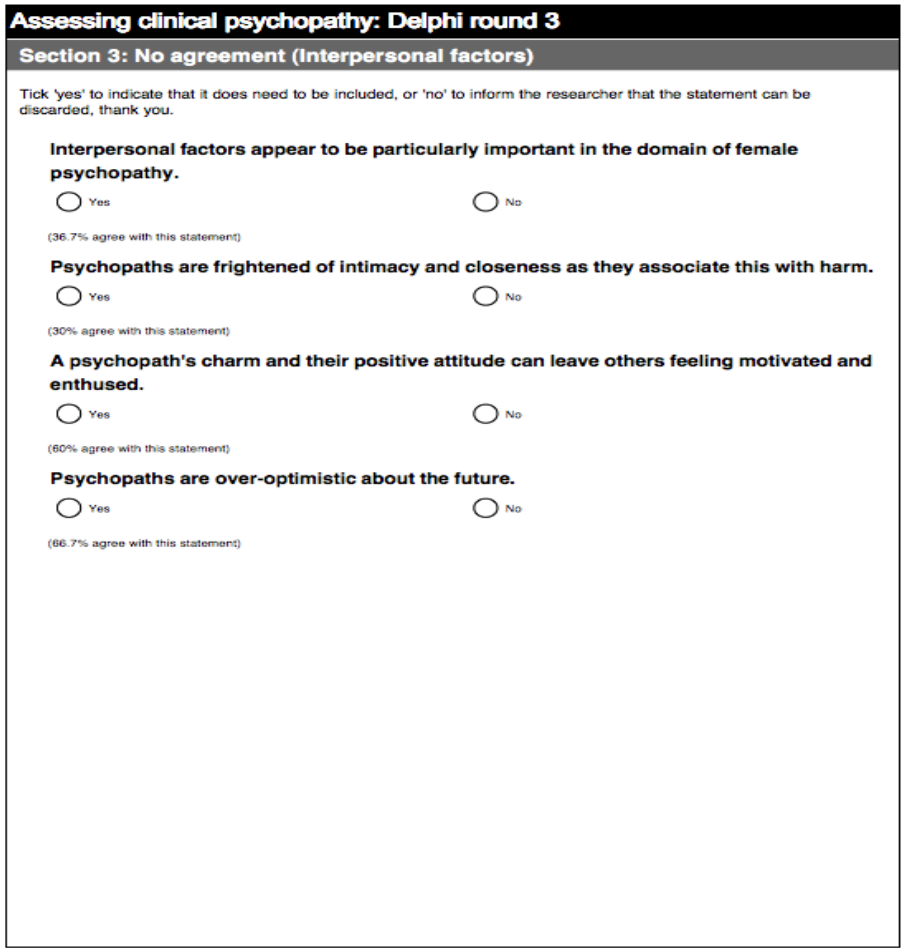
Psychopathy is a dynamic construct, i.e. an individual's level of psychopathy can increase or decrease over their life.

◯ Yes ◯ No

(69% agree with this statement)

Figure 8: Continued.





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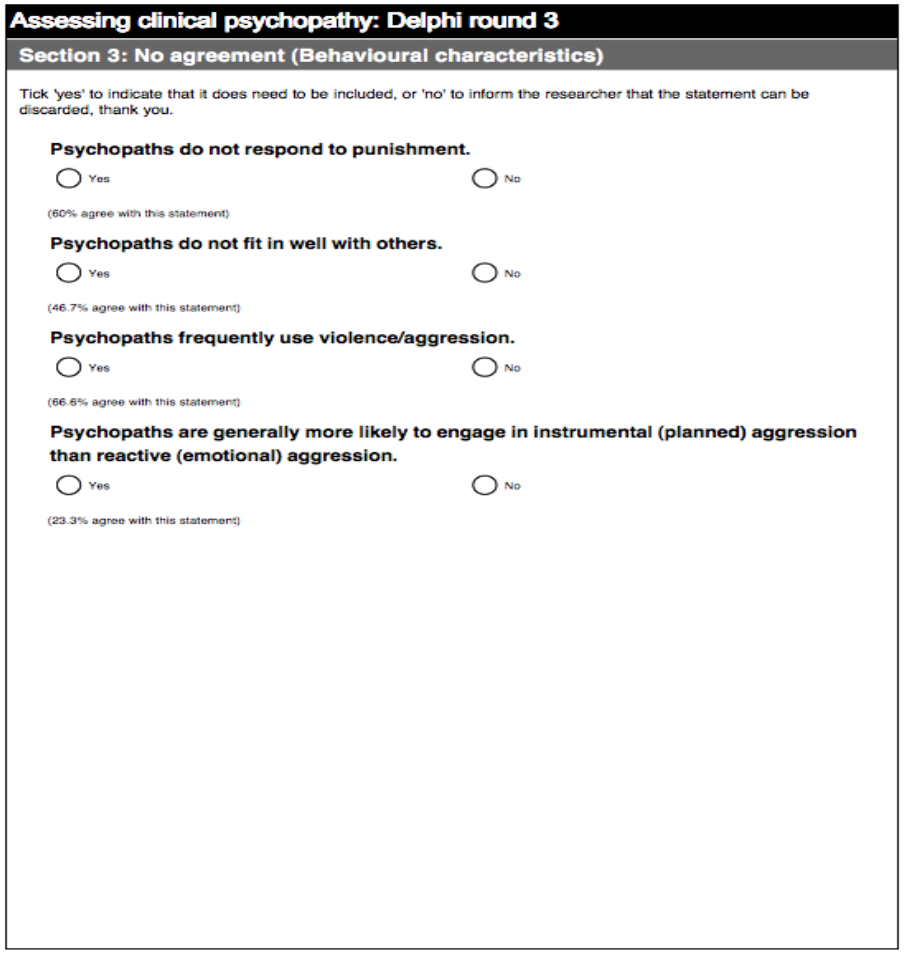


Assessing clinical psychopathy: Delphi round 3

Section 3: No agreement (Behavioural characteristics)

Tick 'yes' to indicate that it does need to be included, or 'no' to inform the researcher that the statement can be discarded, thank you.

Psychopaths do not respond to punishment.

◯ Yes ◯ No

(60% agree with this statement)

Psychopaths do not fit in well with others.

◯ Yes ◯ No

(46.7% agree with this statement)

Psychopaths frequently use violence/aggression.

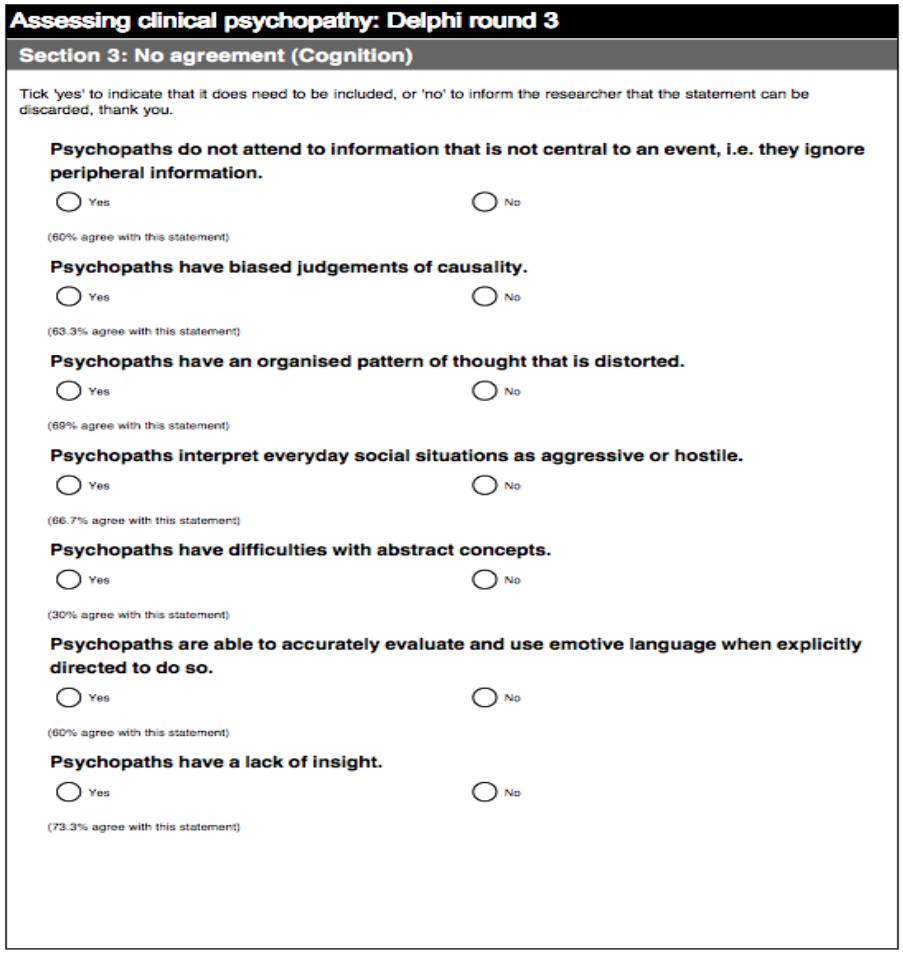
◯ Yes ◯ No

(66.6% agree with this statement)

Psychopaths are generally more likely to engage in instrumental (planned) aggression than reactive (emotional) aggression.

◯ Yes ◯ No

(23.3% agree with this statement)



Assessing clinical psychopathy: Delphi round 3

Section 3: No agreement (Cognition)

Tick 'yes' to indicate that it does need to be included, or 'no' to inform the researcher that the statement can be discarded, thank you.

Psychopaths do not attend to information that is not central to an event, i.e. they ignore peripheral information.

◯ Yes ◯ No

(60% agree with this statement)

Psychopaths have biased judgements of causality.

◯ Yes ◯ No

(63.3% agree with this statement)

Psychopaths have an organised pattern of thought that is distorted.

◯ Yes ◯ No

(69% agree with this statement)

Psychopaths interpret everyday social situations as aggressive or hostile.

◯ Yes ◯ No

(66.7% agree with this statement)

Psychopaths have difficulties with abstract concepts.

◯ Yes ◯ No

(30% agree with this statement)

Psychopaths are able to accurately evaluate and use emotive language when explicitly directed to do so.

◯ Yes ◯ No

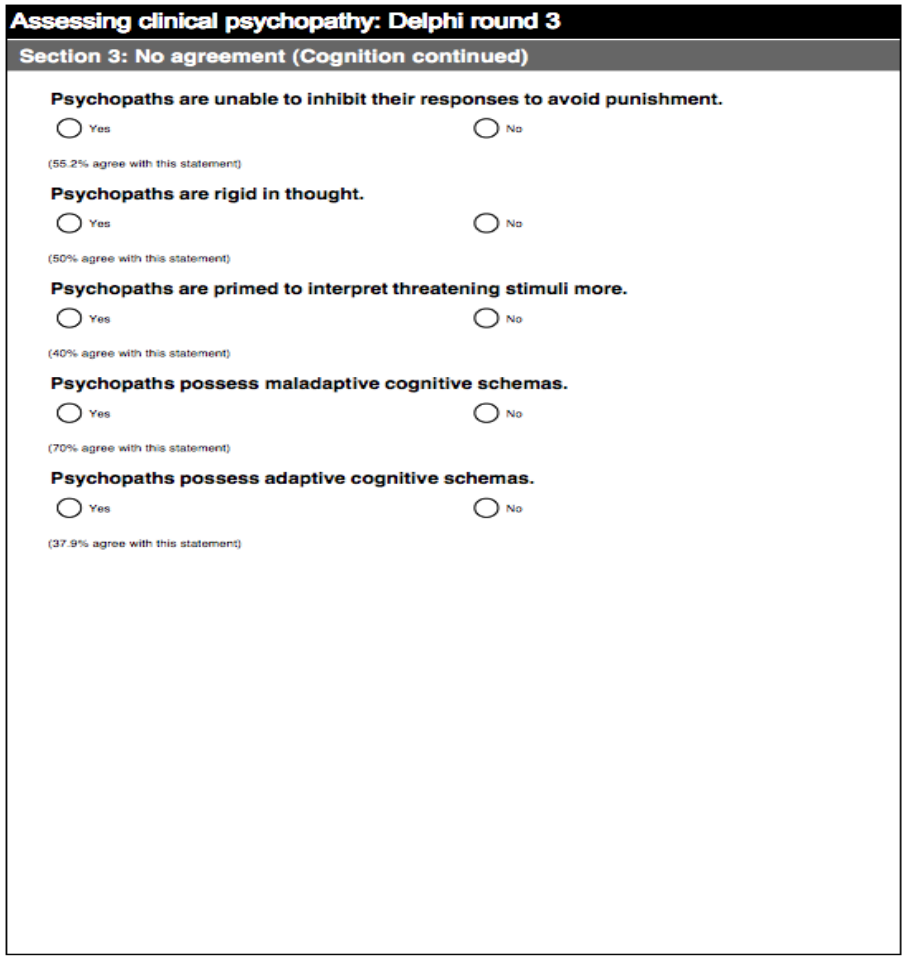
(60% agree with this statement)

Psychopaths have a lack of insight.

◯ Yes ◯ No

(73.3% agree with this statement)

Figure 8: Continued.



Assessing clinical psychopathy: Delphi round 3

Section 3: No agreement (Cognition continued)

Psychopaths are unable to inhibit their responses to avoid punishment.

◯ Yes ◯ No

(55.2% agree with this statement)

Psychopaths are rigid in thought.

◯ Yes ◯ No

(50% agree with this statement)

Psychopaths are primed to interpret threatening stimuli more.

◯ Yes ◯ No

(40% agree with this statement)

Psychopaths possess maladaptive cognitive schemas.

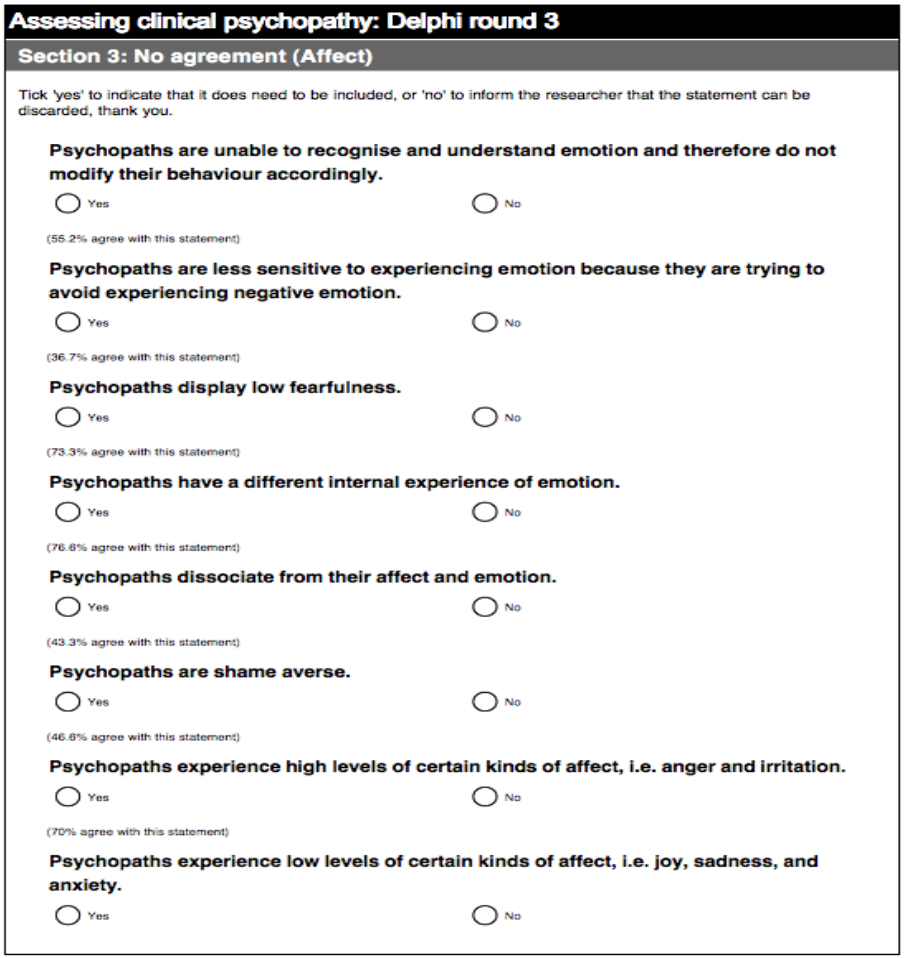
◯ Yes ◯ No

(70% agree with this statement)

Psychopaths possess adaptive cognitive schemas.

◯ Yes ◯ No

(37.9% agree with this statement)



Assessing clinical psychopathy: Delphi round 3

Section 3: No agreement (Affect)

Tick 'yes' to indicate that it does need to be included, or 'no' to inform the researcher that the statement can be discarded, thank you.

Psychopaths are unable to recognise and understand emotion and therefore do not modify their behaviour accordingly.

◯ Yes ◯ No

(55.2% agree with this statement)

Psychopaths are less sensitive to experiencing emotion because they are trying to avoid experiencing negative emotion.

◯ Yes ◯ No

(36.7% agree with this statement)

Psychopaths display low fearfulness.

◯ Yes ◯ No

(73.3% agree with this statement)

Psychopaths have a different internal experience of emotion.

◯ Yes ◯ No

(76.6% agree with this statement)

Psychopaths dissociate from their affect and emotion.

◯ Yes ◯ No

(43.3% agree with this statement)

Psychopaths are shame averse.

◯ Yes ◯ No

(46.6% agree with this statement)

Psychopaths experience high levels of certain kinds of affect, i.e. anger and irritation.

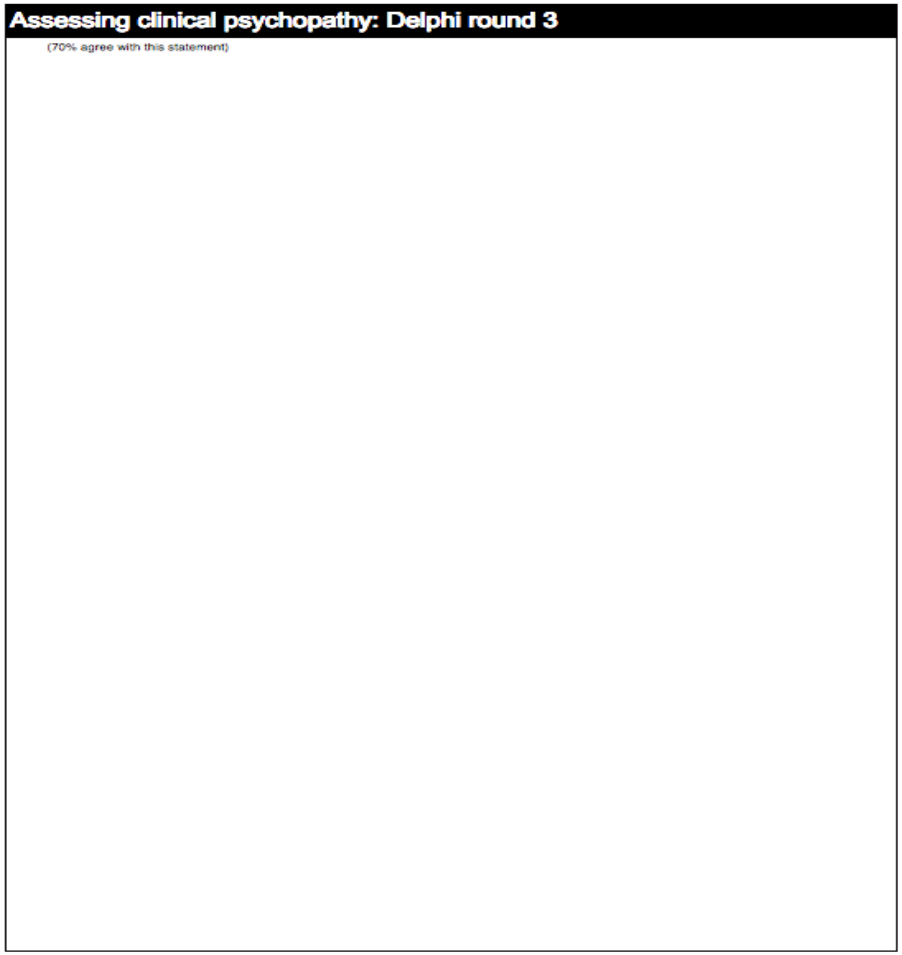
◯ Yes ◯ No

(70% agree with this statement)

Psychopaths experience low levels of certain kinds of affect, i.e. joy, sadness, and anxiety.

◯ Yes ◯ No

Figure 8: Continued.



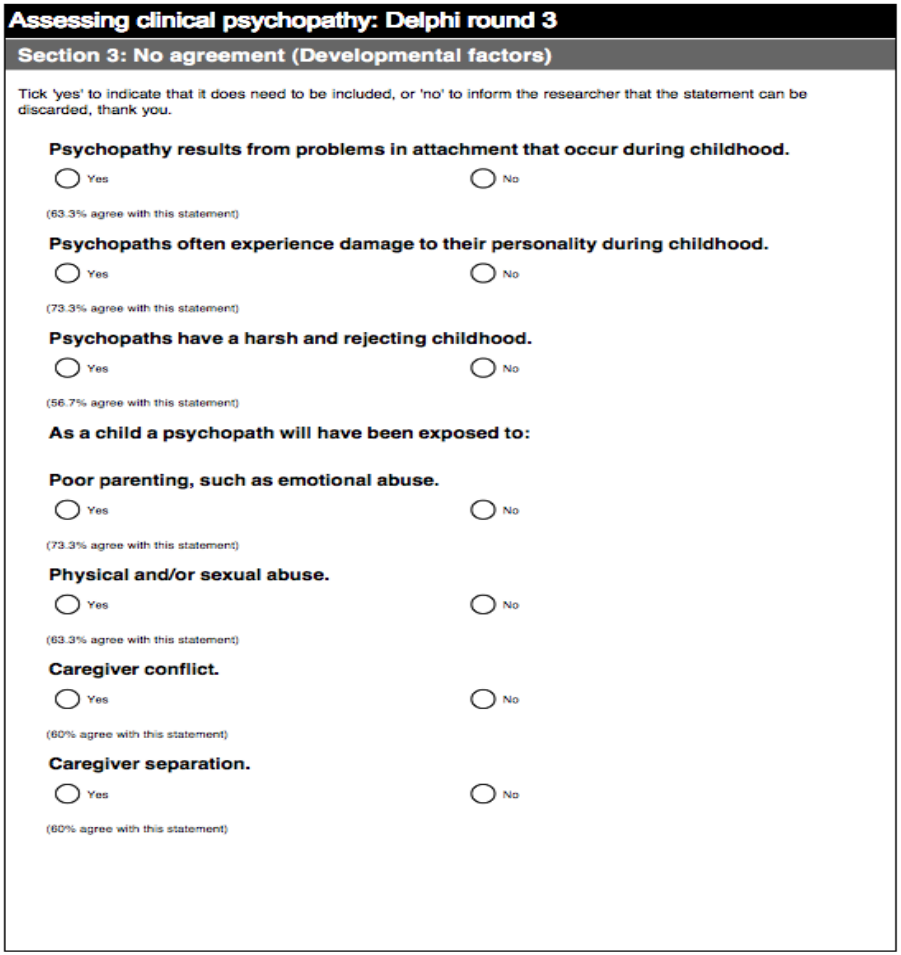
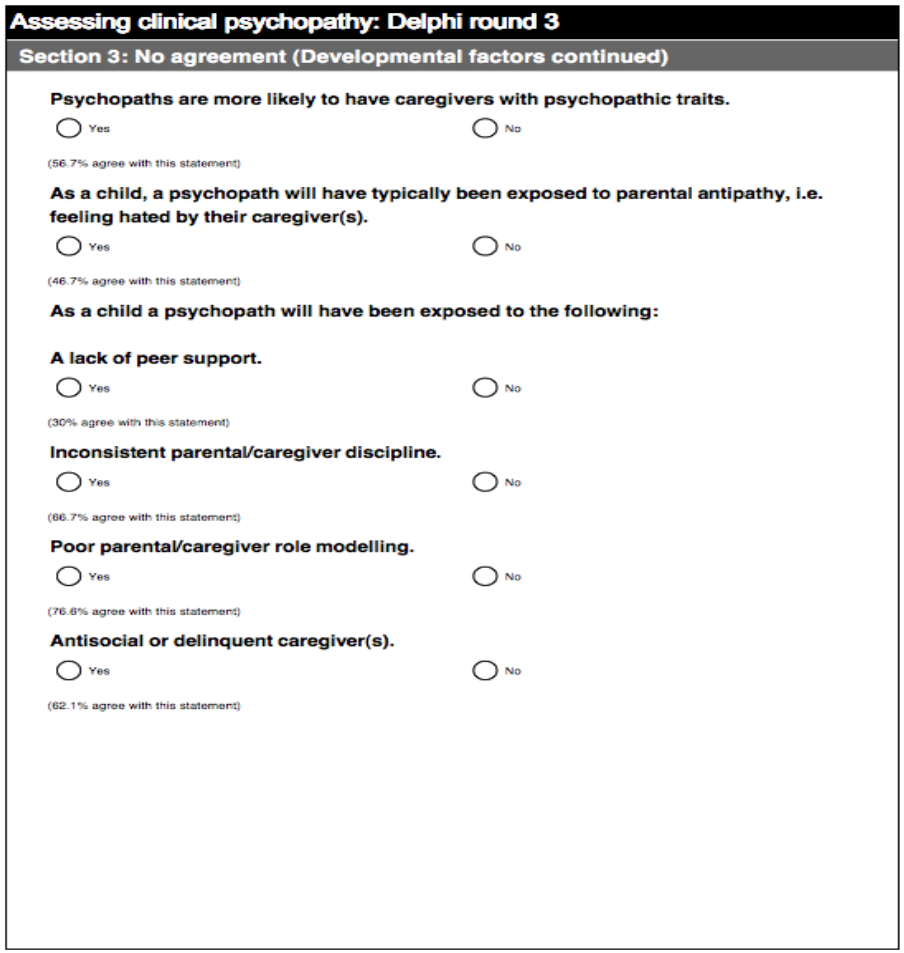


Figure 8: Continued.



Assessing clinical psychopathy: Delphi round 3

Section 3: No agreement (Developmental factors continued)

Psychopaths are more likely to have caregivers with psychopathic traits.

Yes No

(56.7% agree with this statement)

As a child, a psychopath will have typically been exposed to parental antipathy, i.e. feeling hated by their caregiver(s).

Yes No

(46.7% agree with this statement)

As a child a psychopath will have been exposed to the following:

A lack of peer support.

Yes No

(30% agree with this statement)

Inconsistent parental/caregiver discipline.

Yes No

(66.7% agree with this statement)

Poor parental/caregiver role modelling.

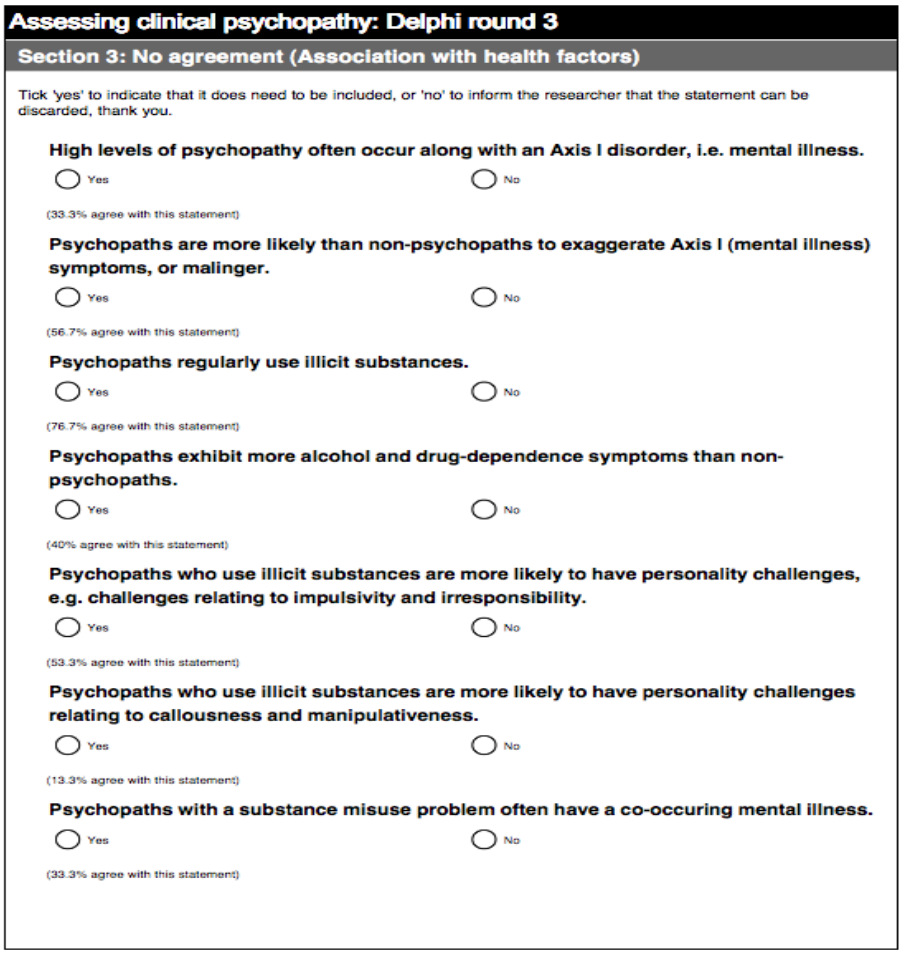
Yes No

(76.6% agree with this statement)

Antisocial or delinquent caregiver(s).

Yes No

(62.1% agree with this statement)



Assessing clinical psychopathy: Delphi round 3

Section 3: No agreement (Association with health factors)

Tick 'yes' to indicate that it does need to be included, or 'no' to inform the researcher that the statement can be discarded, thank you.

High levels of psychopathy often occur along with an Axis I disorder, i.e. mental illness.

Yes No

(33.3% agree with this statement)

Psychopaths are more likely than non-psychopaths to exaggerate Axis I (mental illness) symptoms, or malinger.

Yes No

(56.7% agree with this statement)

Psychopaths regularly use illicit substances.

Yes No

(76.7% agree with this statement)

Psychopaths exhibit more alcohol and drug-dependence symptoms than non-psychopaths.

Yes No

(40% agree with this statement)

Psychopaths who use illicit substances are more likely to have personality challenges, e.g. challenges relating to impulsivity and irresponsibility.

Yes No

(53.3% agree with this statement)

Psychopaths who use illicit substances are more likely to have personality challenges relating to callousness and manipulativeness.

Yes No

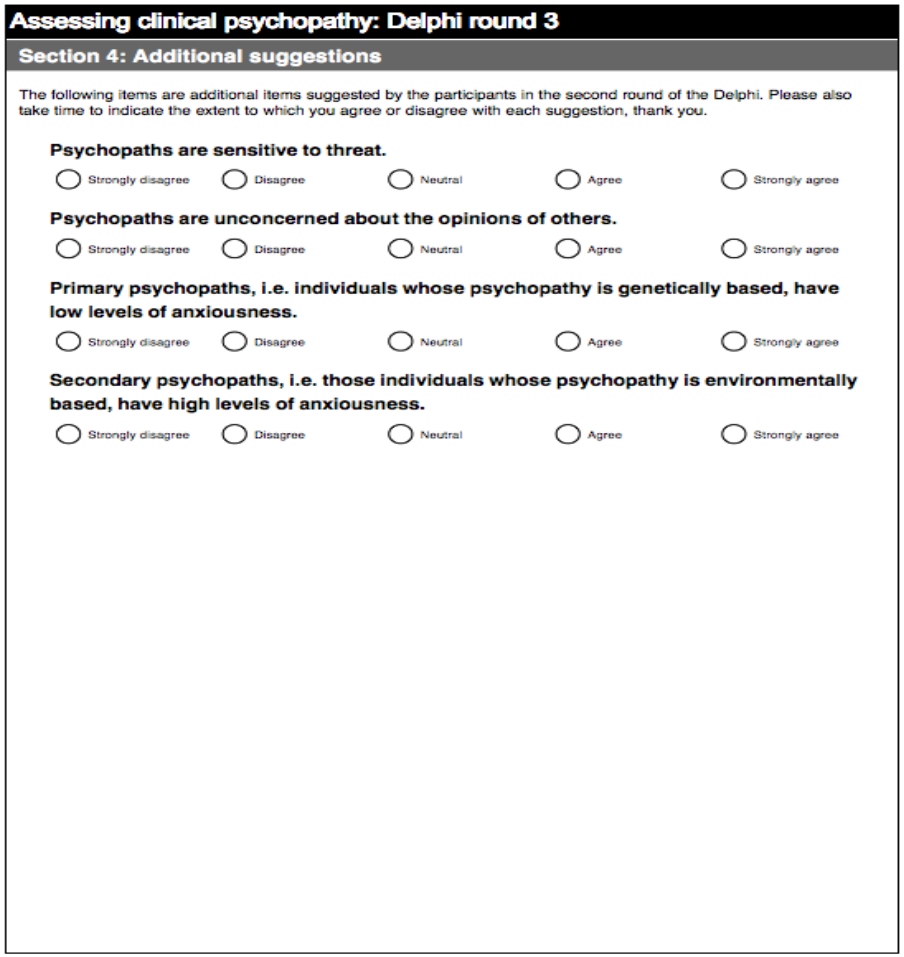
(13.3% agree with this statement)

Psychopaths with a substance misuse problem often have a co-occuring mental illness.

Yes No

(33.3% agree with this statement)

Figure 8: Continued.



Assessing clinical psychopathy: Delphi round 3

Section 4: Additional suggestions

The following items are additional items suggested by the participants in the second round of the Delphi. Please also take time to indicate the extent to which you agree or disagree with each suggestion, thank you.

Psychopaths are sensitive to threat.

◯ Strongly disagree ◯ Disagree ◯ Neutral ◯ Agree ◯ Strongly agree

Psychopaths are unconcerned about the opinions of others.

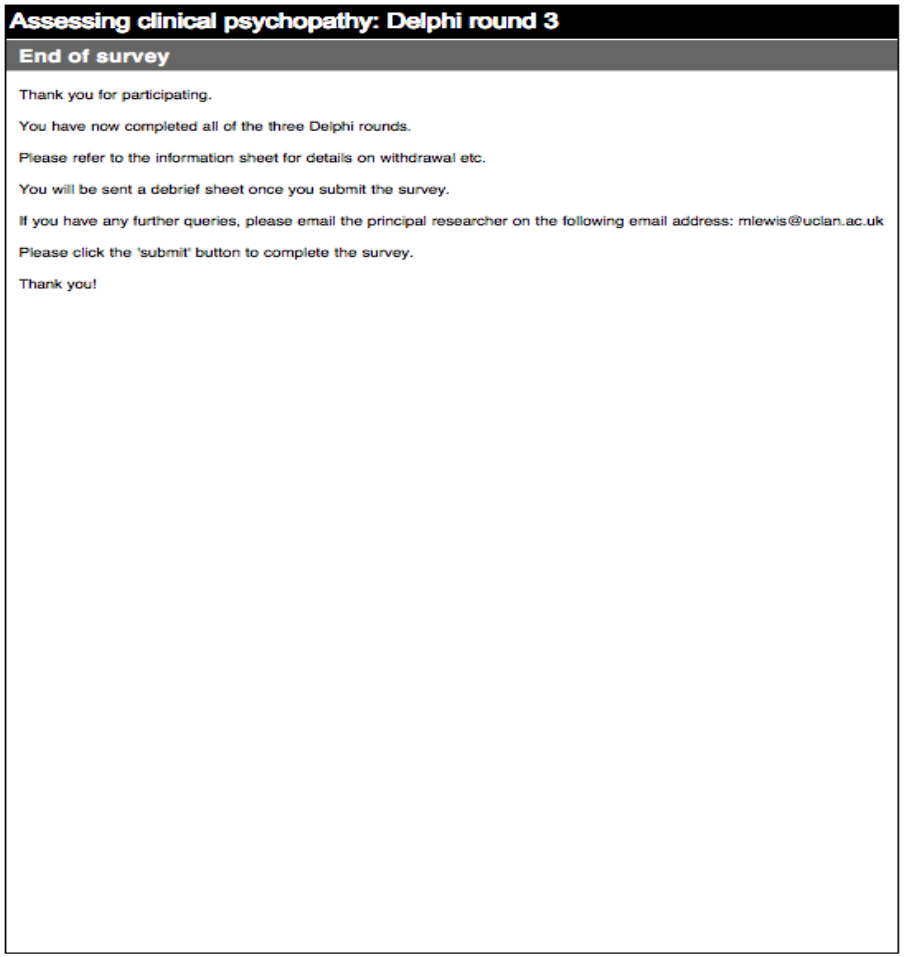
◯ Strongly disagree ◯ Disagree ◯ Neutral ◯ Agree ◯ Strongly agree

Primary psychopaths, i.e. individuals whose psychopathy is genetically based, have low levels of anxiousness.

◯ Strongly disagree ◯ Disagree ◯ Neutral ◯ Agree ◯ Strongly agree

Secondary psychopaths, i.e. those individuals whose psychopathy is environmentally based, have high levels of anxiousness.

◯ Strongly disagree ◯ Disagree ◯ Neutral ◯ Agree ◯ Strongly agree



Assessing clinical psychopathy: Delphi round 3

End of survey

Thank you for participating.

You have now completed all of the three Delphi rounds.

Please refer to the information sheet for details on withdrawal etc.

You will be sent a debrief sheet once you submit the survey.

If you have any further queries, please email the principal researcher on the following email address: mlewis@uclan.ac.uk

Please click the 'submit' button to complete the survey.

Thank you!

Figure 8: Continued

DEBRIEF SHEET: Thank you for participating in the study

Assessing clinical psychopathy: Using an expert Delphi study to examine the areas of importance for a clinical psychopathy measure.

Please retain this sheet for your information.

What was the purpose of the research?
This study primarily aimed to gain an expert consensus on the underlying facets of clinical psychopathy, including a consensus on the role of cognitive and affective processing. The research aimed to incorporate the areas of importance outlined by you and other 'experts' into a new measure of clinical psychopathy. The overall purpose of the PhD is to develop an implicit and explicit measure; a measure that will assist with examining deeper levels of conscious and unconscious processing ability and deficits among psychopaths. An expert in clinical psychopathy was defined as someone who has either: 1) Authored more than one good impact publication on the topic of psychopathy, and/or 2) if you have been identified as having experience in assessing for clinical psychopathy.

What questionnaires did I complete?
You responded to a series of items over 3 rounds. The items all related to the construct of clinical psychopathy, i.e. its associated characteristics, structure, processing, etc. In each round feedback was given to you allowing you to clarify the information developed in the previous round.

Why is this information useful?
Your input has helped develop the foundations of a new measure of clinical psychopathy that will diagnose clinical psychopaths. There is a requirement for a new measure as research has identified that existing clinical psychopathy self-report measures have failed to converge with one another, which in turn suggests that there is an absence of concurrent validity. In addition, the existing self-report measures appear to correlate poorly with the core clinical assessment of psychopathy, the Psychopathy Checklist – Revised (PCL-R).

Further details
You will receive a copy of the developed measure. However, may I remind you that the research is expected to take three years to complete. If you require any further information please contact the principal researcher using the contact details presented below, thank you.

Principal Researcher: Michael Lewis, Department of Psychology, Darwin Building, University of Central Lancashire, Preston, PR1 2HE, mlewis@uclan.ac.uk

Director of Studies: Professor Jane L. Ireland, Department of Psychology, Darwin Building, University of Central Lancashire, Preston, PR1 2HE, jlireland1@uclan.ac.uk

Second Supervisor: Professor Janice Abbott, Department of Psychology, Darwin Building, University of Central Lancashire, Preston, PR1 2HE, jabbott@uclan.ac.uk

Appendix 4.

MATERIALS USED IN STUDY TWO

INFORMATION SHEET: PILOT SAMPLE

Assessing clinical psychopathy: Developing and piloting a new self-report measure

I am doing some research as part of my postgraduate research degree at the University of Central Lancashire. You are being invited to take part in a pilot study to help improve a draft measure of clinical psychopathy. The measure assesses people's unhelpful personality style at one end of the scale, and a caring responsible personality style at the other. It does not diagnose psychopathy.

The pilot study is recruiting 20 university students to improve the layout, readability, and structure of the measure before testing it in a larger student sample, and a prison sample. If you could spare approximately 20 minutes to complete the questionnaire I would be extremely grateful, thank you.

You will be asked to complete the new psychopathy questionnaire and then rate its readability, layout and structure. You will also be asked to suggest any further improvements. Your responses on the psychopathy questionnaire (i.e. PAPA-1) will not be analysed, we are simply only interested in your suggestions and opinions.

The questionnaire is anonymous. Please do not write your name on the questionnaire. Only the research team will see your answers. Your answers will not be singled out.

If the questionnaire upsets or distresses you in any way, please remember that you do not have to fill it in. Please contact the researcher if you have any questions about the research.

Please be aware that by completing the questionnaire and returning it back to the researcher, you are giving consent to be included in the research.

You also have the right to withdraw. However when you have handed back your questionnaire, we will not be able to remove your answers from the study. This is because the questionnaire does not have your name on it.

Please answer all questions as honestly as possible and then place the questionnaire in the envelope provided. Please return your completed questionnaire to the Student information room, DB124, Darwin Building,

POST BOX NUMBER:

Thank you for taking the time to take part in this research.

Contact details of the research team

Researcher: Michael Lewis
Supervisor: Professor Jane L. Ireland
Second supervisor: Professor Janice Abbott
Address: School of Psychology, Darwin Building, University of Central Lancashire, Preston, Lancashire, PR1 2HE.

Please indicate your gender by ticking the appropriate box:

Male ☐ Female ☐

How old are you? Please write your age (in years) in the space provided below:

…….

PILOT QUESTIONNAIRE: PAPA-1
© Lewis, Ireland & Abbott (2011)

Please contact Michael Lewis (mick.lewis04@gmail.com) or Professor Jane Ireland (jlireland1@uclan.ac.uk) for permission to use this measure/request the most recent version.

Instructions
Below are a series of statements that people use to describe themselves. Please read each statement carefully and using the scale provided decide how well each describes you.

	Very unlike me 1	**Not really like me 2**	**Neither agree or disagree 3**	**Somewhat like me 4**	**Very like me 5**
1. I am only interested in myself.	1	2	3	4	5
2. I do not feel guilty when I cause others to feel pain or hurt.	1	2	3	4	5
3. I would describe myself as one of the most confident around.	1	2	3	4	5
4. I will use people to get what I want.	1	2	3	4	5
5. I often experience strong negative emotions, such as anger, sadness, and hatred.	1	2	3	4	5
6. I often take chances that could be risky to me or others.	1	2	3	4	5
7. I often don't think of the consequences of my actions.	1	2	3	4	5
8. As a person, I have always stayed the same.	1	2	3	4	5
9. I have been described as a cruel person who does not worry about hurting others.	1	2	3	4	5
10. I can allow my feelings to interfere with my decisions.	1	2	3	4	5

Very unlike me	Not really like me	Neither agree or disagree	Somewhat like me	Very like me
1	2	3	4	5

11. Others would describe me as an irritable person with problems controlling my temper.	1	2	3	4	5	
12. I have a talent at making people feel good about themselves.	1	2	3	4	5	
13. I see a lot of hostility around me.	1	2	3	4	5	
14. I regularly view others as lazy.	1	2	3	4	5	
15. I have a problem with using alcohol.	1	2	3	4	5	
16. I am not that bothered about others.	1	2	3	4	5	
17. I am described as a ‘charmer’ by those that know me.	1	2	3	4	5	
18. I find most people are weak and not worth bothering with.	1	2	3	4	5	
19. When I feel sad I can quickly make myself happy again.	1	2	3	4	5	
20. Others complain that I never take the blame for my mistakes.	1	2	3	4	5	
21. If others can help me, I expect them to do this without me returning the favour.	1	2	3	4	5	
22. I find it impossible to resist temptation.	1	2	3	4	5	
23. I often get into trouble more than others.	1	2	3	4	5	
24. I tend to keep in touch with those close to me.	1	2	3	4	5	
25. I find it difficult to comfort others when they are upset.	1	2	3	4	5	
26. I would describe myself as someone who is often ‘fearless’ when faced with a threat.	1	2	3	4	5	

Very unlike me	Not really like me	Neither agree or disagree	Somewhat like me	Very like me
1	2	3	4	5

27.	I am a creative person who can think of more than one way of dealing with problems.	1	2	3	4	5
28.	The world is a threatening place, you have to 'watch your back'.	1	2	3	4	5
29.	I often feel in touch with other people's feelings.	1	2	3	4	5
30.	I am able to talk myself out of situations by not answering questions directly.	1	2	3	4	5
31.	If I am caught out on a lie I can quickly think of a way out.	1	2	3	4	5
32.	I often experience strong positive emotion, such as happiness and joy.	1	2	3	4	5
33.	I am often bored.	1	2	3	4	5
34.	I regularly view others as irritating.	1	2	3	4	5
35.	I see no problem in living off the State/ Government.	1	2	3	4	5
36.	I enjoy doing things that are exciting or new.	1	2	3	4	5
37.	I am able to commit a wide number of behaviours that, if caught, would get me into trouble.	1	2	3	4	5
38.	I can often find myself viewing others as nothing more than 'objects'.	1	2	3	4	5
39.	I am an aggressive person in a number of situations.	1	2	3	4	5
40.	I very rarely experience fear.	1	2	3	4	5
41.	I tend to think of one solution to a problem and stick to it.	1	2	3	4	5

Very unlike me	Not really like me	Neither agree or disagree	Somewhat like me	Very like me
1	2	3	4	5

42.	I use illegal drugs more than most people I know.	1	2	3	4	5
43.	I find it difficult to give emotional and personal support to others.	1	2	3	4	5
44.	If I do something wrong I will feel bad about it.	1	2	3	4	5
45.	I often find myself thinking that I am more important than others.	1	2	3	4	5
46.	I have been described as a ‘fraudster’ or a ‘con artist’ by those who know me.	1	2	3	4	5
47.	I always accept responsibility for what I do.	1	2	3	4	5
48.	I don’t see why others can’t take care of me.	1	2	3	4	5
49.	I can be unpredictable.	1	2	3	4	5
50.	I often find people behave aggressively or in a hostile manner towards me.	1	2	3	4	5
51.	Others would describe me as a very intense person who has difficulty getting on with others.	1	2	3	4	5
52.	I find it easy to form strong emotional relationships with others.	1	2	3	4	5
53.	As a child I often got into trouble more than others.	1	2	3	4	5
54.	I have clear goals for my long-term future.	1	2	3	4	5

YOUR OPINION AND SUGGESTIONS

Overall do you think the questionnaire was easy to read?

Yes ☐ No ☐

Overall do you think the questionnaire was easy to understand?

Yes ☐ No ☐

Did you struggle to understand any of the questions? If so, please state which question(s) you struggled in the space provided below:

……..
……..
……..

Did you find the questionnaire instructions easy to understand?

Yes ☐ No ☐

Do you think the response scale is appropriate for the measure?

Yes ☐ No ☐

Do you think the layout and structure of the questionnaire was clear?

Yes ☐ No ☐

If you answered 'no' to any of the above questions, please could you expand on your answer and tell us why. Please use the space provided below:

……
……
……
……
……
……

Please use the space below to indicate what you think we can do to improve the measure:

……
……
……
……
……

DEBRIEF SHEET: PILOT SAMPLE

Thank you for taking the time to complete the questionnaire.

The pilot study simply aimed to improve the readability, layout, and structure of a new self-report measure of clinical psychopathy.

You completed the new psychopathy self-report questionnaire and then rated its readability, layout, and structure. You were also given the opportunity to suggest any further improvements. The new measure cannot diagnose psychopathy; it simply assesses people's unhelpful personality style at one end of the scale, and a caring, responsible personality style at the other. May I remind you that your responses on the psychopathy questionnaire will not be analysed. The pilot study was only interested in your suggestions and opinions on the new questionnaire.

If any of these questionnaires have upset or distressed you in any way, you may find the following support agencies useful:

The Samaritans: Telephone: 08457 90 90 90; Email: jo@samaritans.org.

UCLAN counseling service: Telephone: 01772 892572, Email: CoRecep@uclan.ac.uk.

If you would like a copy of the final report once published, and/or if you have any questions about the study please feel free to contact any of the research team.

Contact details of the research team

Researcher: Michael Lewis
Supervisor: Professor Jane L. Ireland
Second supervisor: Professor Janice Abbott

Address: School of Psychology, Darwin Building, University of Central Lancashire, Preston, Lancashire, PR1 2HE.

INFORMATION SHEET: PRISON SAMPLE

Assessing clinical psychopathy: Developing and piloting a new self-report measure

Invitation
I would like you to take part in a research study. Before you decide I would like you to understand why this piece of research is being carried out and what you would have to do. A member of the research team will go through the information sheet with you and answer any questions that you may have. This will take approximately 10 minutes.

Part 1 of this leaflet tells you about the purpose of the research, whilst *part 2* gives you more information on what you would have to do if you decide to take part. Please feel free to ask us anything that you are unsure about.

PART 1

What is the purpose of the study?
I am doing some research as part of my degree at the University of Central Lancashire (UCLAN). I am looking at the links between personality, thinking styles, and how you feel and react in certain situations. The research looks at people's unhelpful personality style at one end of the scale, and a caring responsible style at the other. Please note that this research does not diagnose clinical psychopathy.

Why have I been invited?
You have been invited to take part as this piece of research aims to pilot and further develop a new self-report measure of clinical psychopathy using both a student and prison sample. The research aims to recruit 300 university students and 300 prisoners.

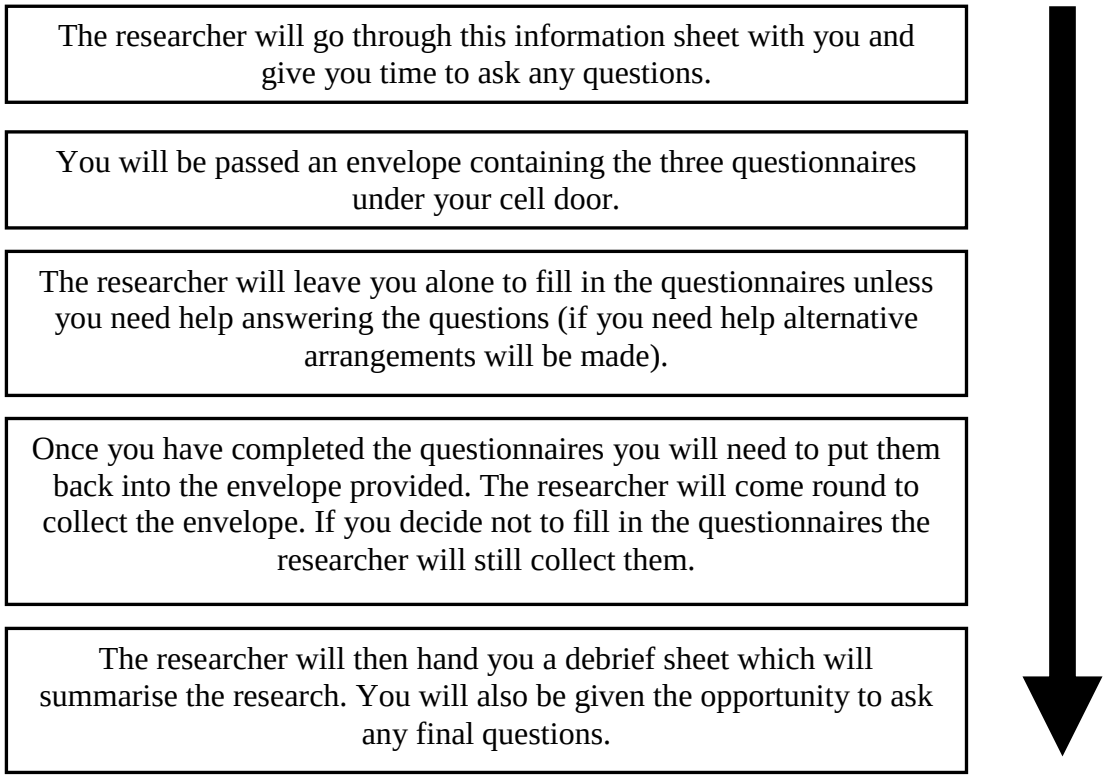
Do I have to take part?
It is up to you to decide whether you wish to take part. The research team will describe the purpose of the research to you and go through this information sheet.

PART 2

What will happen to me if I take part and what will I have to do?
It will take you approximately 50 minutes to complete the questionnaires. In total you will be involved in the research for approximately one hour: 10 minutes to read this information and 50 minutes to fill in the questionnaires. Please note that it may not take you the full hour to finish. Please inform the researcher if you need assistance with reading or writing.

You will be required to fill in three separate questionnaires. Questionnaire 1 and 2 look at some ways that people use to describe themselves, and questionnaire 3 looks at your beliefs and thoughts about yourself and others. You will also be asked to write down your index offence, and indicate your gender and age.

The diagram below gives you a brief overview of exactly what will happen:



Please answer all of the questions as honestly as possible and then place the questionnaires back in the envelope provided.

Consent
Please be aware that by completing the questionnaires and handing them back to the researcher you are giving consent to be included in the research.

Withdrawal
You have the right to withdraw from the research up until you hand your questionnaires back to the researcher. After this point we will not be able to remove your answers from the study as you do not have your name on the questionnaires. We will therefore not know which one is yours. Withdrawing from the research will not affect your care or treatment whilst in prison.

What are the possible advantages and disadvantages for taking part?

- **Advantages:** By completing the questionnaires you will be helping develop a new self-report measure of clinical psychopathy. You will also be adding to existing knowledge in this area of research.
- **Disadvantages:** There are no disadvantages in taking part. It is not expected that any of the questionnaires will cause you any distress or upset. If they do distress you in anyway, please remember that you do not have to fill them in. You may also want to speak to your personal officer.

Will my taking part in the study be kept confidential?
The questionnaires will remain completely anonymous. Please do not write your name or prison number on them. If on the off chance you do write you name or number on them your data will be destroyed. However, if you disclose verbally or write anything on the questionnaire that is deemed to pose a risk to yourself or another person, or if you disclose information about an offence that you have not yet been convicted for, the prison will be informed immediately. Any publication of the data will report group data only, at no point will your responses be singled out. Completed questionnaires will be stored securely in a locked filing cabinet in the researcher's office. Only the research team will have access to your answers.

What will happen to the results of the research study?
Your data will be statistically analysed and presented in the researcher's thesis. Results may also be presented at conferences and in scientific peer-reviewed journals. At no point will your data will be singled out. Only group data will be presented.

What if there is a problem?
If any aspect of this research concerns you please speak to the researcher who will do his best to answer your questions. Alternatively, you may want to write to the research supervisors whose contact details are stated at the end of this leaflet. If you remain unhappy and you wish to make a formal complaint, you can do this by contacting your personal officer who will be able to forward you to the correct organisation.

Who is funding the research?
The University of Central Lancashire (UCLAN) is funding the research.

Who has reviewed the study?
This research has been reviewed by an independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by Northern & Yorkshire Research Ethics Committee.

Further information and contact details
If you require any further information please speak to the researcher, or alternatively you can write to any one of the research team listed below:

Researcher: Michael Lewis
Supervisor: Professor Jane L. Ireland
Second Supervisor: Professor Janice Abbott

Address:
School of Psychology, University of Central Lancashire (UCLAN), Preston, Lancashire, PR1 2HE.

INFORMATION SHEET: STUDENT SAMPLE

Assessing clinical psychopathy: Developing and piloting a new self-report measure

Invitation
I would like you to take part in a research study. Before you decide I would like you to understand why this piece of research is being carried out and what you would have to do. A member of the research team will go through the information sheet with you and answer any questions that you may have. This will take approximately 10 minutes.

Part 1 of this leaflet tells you about the purpose of the research, whilst *part 2* gives you more information on what you would have to do if you decide to take part. Please feel free to ask us anything that you are unsure about.

PART 1

What is the purpose of the study?
I am doing some research as part of my postgraduate research degree at the University of Central Lancashire (UCLAN). I am looking at the links between personality, thinking styles, and how you feel and react in certain situations. The research looks at people's unhelpful personality style at one end of the scale, and a caring responsible style at the other. Please note that this research does not diagnose clinical psychopathy.

Why have I been invited?
You have been invited to take part as this piece of research aims to test and further develop a new self-report measure of clinical psychopathy using both a student and prison sample. The research aims to recruit 300 university students and 300 prisoners.

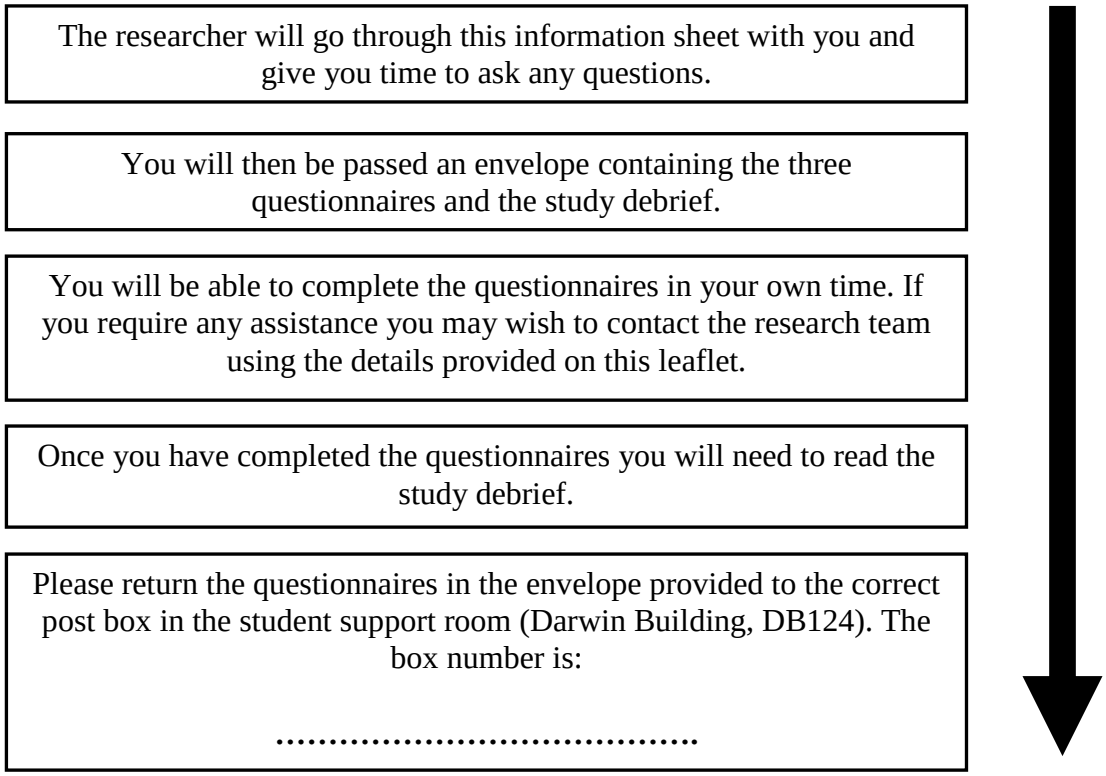
Do I have to take part?
It is up to you to decide whether you wish to take part. The research team will describe the purpose of the research to you and go through this information sheet.

PART 2

What will happen to me if I take part and what will I have to do?
It will take you approximately 30 minutes to complete the questionnaires. In total you will be involved in the research for approximately 40 minutes: 10 minutes to read this information and 30 minutes to fill in the questionnaires. Please note that it may not take you the full 40 minutes to finish.

You will be required to fill in three separate questionnaires. Questionnaire 1 and 2 look at some ways that people use to describe themselves, and questionnaire 3 looks at your beliefs and thoughts about yourself and others. You will also be asked to indicate your gender and age.

The diagram below gives you a brief overview of exactly what will happen:



Please answer all of the questions as honestly as possible and then place the questionnaires in the envelope provided, thank you.

Consent
Please be aware that by completing the questionnaires and returning them back to the researcher, you are giving consent to be included in the research.

Withdrawal
You have the right to withdraw from the research up until you return your questionnaires back to the researcher. After this point we will not be able to remove your answers from the study as you do not have your name on the questionnaires. We will therefore not know which one is yours.

What are the possible advantages and disadvantages for taking part?
- **Advantages:** By completing the questionnaires you will be helping develop a new self-report measure of clinical psychopathy. You will also be adding to existing knowledge in this area of research.
- **Disadvantages:** There are no disadvantages in taking part. It is not expected that any of the questionnaires will cause you any distress or upset. If they do distress you in anyway, please remember that you do not have to fill them in. You may also want to speak to the student counselling service offered by the University.

Will my taking part in the study be kept confidential?
The questionnaires will remain completely anonymous. Please do not write your name or student number on them. If on the off chance you do write you name or number on them your data will be destroyed. Any publication of the data will report group data only, at no point will your responses be singled out. Completed questionnaires will be

stored securely in a locked filing cabinet in the researcher's office. Only the research team will have access to your answers.

What will happen to the results of the research study?
Your data will be statistically analysed and presented in the researcher's thesis. Results may also be presented at conferences and in scientific peer-reviewed journals. At no point will your data will be singled out. Only group data will be presented.

What if there is a problem?
If any aspect of this research concerns you please speak to the researcher who will do his best to answer your questions. Alternatively, you may want to write to the research supervisors whose contact details are stated at the end of this leaflet. If you remain unhappy and you wish to make a formal complaint, you can do this by contacting Dr Mike Eslea, Chair of the Psychology ethics committee, School of Psychology, University of Central Lancashire, Preston, PR1 2HE.

Who is funding the research?
The University of Central Lancashire (UCLAN) is funding the research.

Who has reviewed the study?
This research has been reviewed by an independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by Northern & Yorkshire Research Ethics Committee.

Further information and contact details
If you require any further information please speak to the researcher, or alternatively you can write to any one of the research team listed below:

Researcher: Michael Lewis
Supervisor: Professor Jane L. Ireland
Second Supervisor: Professor Janice Abbott

Address:
School of Psychology, University of Central Lancashire (UCLAN), Preston, Lancashire, PR1 2HE.

Thank you for taking time to read this information sheet. Please feel free to ask any questions.

Please indicate your gender by ticking the appropriate box:

Male ☐ Female ☐

How old are you? Please write your age (in years) in the space provided below:

…….

Whether you believe yourself to be guilty or not, please state your index offence below, i.e. the offence you were convicted of/or are charged with that led to your current time in prison? **(Prison sample only)**

……..

QUESTIONNAIRE: PAPA-1
© Lewis, Ireland & Abbott (2011)

Please contact Michael Lewis (mick.lewis04@gmail.com) or Professor Jane Ireland (jlireland1@uclan.ac.uk) for permission to use this measure/request the most recent version.

Instructions
Below are a series of statements that people use to describe themselves. Please read each statement carefully and using the scale provided decide how well each describes you.

Scale:

Very unlike me 1	**Not really like me 2**	**Neither agree or disagree 3**	**Somewhat like me 4**	**Very like me 5**

1.	I am only interested in myself.	1	2	3	4	5
2.	I do not feel guilty when I cause others to feel pain or hurt.	1	2	3	4	5
3.	I would describe myself as one of the most confident around.	1	2	3	4	5
4.	I will use people to get what I want.	1	2	3	4	5
5.	I often experience strong negative emotions, such as anger, sadness, and hatred.	1	2	3	4	5
6.	I often take chances that could be risky to me or others.	1	2	3	4	5
7.	I often don't think of the consequences of my actions.	1	2	3	4	5

Very unlike me	Not really like me	Neither agree or disagree	Somewhat like me	Very like me
1	2	3	4	5

8.	As a person, I have always stayed the same.	1	2	3	4	5
9.	I have been described as a cruel person who does not worry about hurting others.	1	2	3	4	5
10.	I can allow my feelings to interfere with my decisions.	1	2	3	4	5
11.	Others would describe me as an irritable person with problems controlling my temper.	1	2	3	4	5
12.	I have a talent at making people feel good about themselves.	1	2	3	4	5
13.	I see a lot of hostility around me.	1	2	3	4	5
14.	I regularly view others as lazy.	1	2	3	4	5
15.	I have a problem with using alcohol.	1	2	3	4	5
16.	I am not that bothered about others.	1	2	3	4	5
17.	I am described as a ‘charmer’ by those that know me.	1	2	3	4	5
18.	I find most people are weak and not worth bothering with.	1	2	3	4	5
19.	When I feel sad I can quickly make myself happy again.	1	2	3	4	5
20.	Others complain that I never take the blame for my mistakes.	1	2	3	4	5
21.	If others can help me, I expect them to do this without me returning the favour.	1	2	3	4	5
22.	I find it impossible to resist temptation.	1	2	3	4	5
23.	I often get into trouble more than others.	1	2	3	4	5
24.	I tend to keep in touch with those close to me.	1	2	3	4	5
25.	I find it difficult to comfort others when they are upset.	1	2	3	4	5

Very unlike me	Not really like me	Neither agree or disagree	Somewhat like me	Very like me
1	2	3	4	5

26.	I would describe myself as someone who is often 'fearless' when faced with a threat.	1	2	3	4	5
27.	I am a creative person who can think of more than one way of dealing with problems.	1	2	3	4	5
28.	The world is a threatening place, you have to 'watch your back'.	1	2	3	4	5
29.	I often feel in touch with other people's feelings.	1	2	3	4	5
30.	I am able to talk myself out of situations by not answering questions directly.	1	2	3	4	5
31.	If I am caught out on a lie I can quickly think of a way out.	1	2	3	4	5
32.	I often experience strong positive emotion, such as happiness and joy.	1	2	3	4	5
33.	I am often bored.	1	2	3	4	5
34.	I regularly view others as irritating.	1	2	3	4	5
35.	I see no problem in living off the State/ Government.	1	2	3	4	5
36.	I enjoy doing things that are exciting or new.	1	2	3	4	5
37.	I am able to commit a wide number of behaviours that, if caught, would get me into trouble.	1	2	3	4	5
38.	I can often find myself viewing others as nothing more than 'objects'.	1	2	3	4	5
39.	I am an aggressive person in a number of situations.	1	2	3	4	5
40.	I very rarely experience fear.	1	2	3	4	5
41.	I tend to think of one solution to a problem and stick to it.	1	2	3	4	5

Very unlike me	Not really like me	Neither agree or disagree	Somewhat like me	Very like me
1	2	3	4	5

42.	I use illegal drugs more than most people I know.	1	2	3	4	5
43.	I find it difficult to give emotional and personal support to others.	1	2	3	4	5
44.	If I do something wrong I will feel bad about it.	1	2	3	4	5
45.	I often find myself thinking that I am more important than others.	1	2	3	4	5
46.	I have been described as a ‘fraudster’ or a ‘con artist’ by those who know me.	1	2	3	4	5
47.	I always accept responsibility for what I do.	1	2	3	4	5
48.	I don’t see why others can’t take care of me.	1	2	3	4	5
49.	I can be unpredictable.	1	2	3	4	5
50.	I often find people behave aggressively or in a hostile manner towards me.	1	2	3	4	5
51.	Others would describe me as a very intense person who has difficulty getting on with others.	1	2	3	4	5
52.	I find it easy to form strong emotional relationships with others.	1	2	3	4	5
53.	As a child I often got into trouble more than others.	1	2	3	4	5
54.	I have clear goals for my long-term future.	1	2	3	4	5

QUESTIONNAIRE: LSRP

Instructions
Listed below are 26 statements that a person might use to describe themselves. Please read each statement carefully and decide how well it describes you. When you are not sure, base your answer on what you emotionally **feel**, rather than what you **think** to be true. Choose the **highest rating from 1 to 4** that best describes you and circle the number where:

Strongly disagree	**Disagree**	**Agree**	**Strongly agree**
1	**2**	**3**	**4**

1.	Success is based on survival of the fittest; I am not concerned about the losers.	1	2	3	4
2.	For me, what's right is whatever I can get away with.	1	2	3	4
3.	In today's world, I feel justified in doing anything I can get away with to succeed.	1	2	3	4
4.	My main purpose in life is getting as many goodies as I can.	1	2	3	4
5.	Making a lot of money is my most important goal.	1	2	3	4
6.	I let others worry about higher values; my main concern is with the bottom line.	1	2	3	4
7.	People who are stupid enough to get ripped off usually deserve it.	1	2	3	4
8.	Looking out for myself is my top priority.	1	2	3	4
9.	I tell other people what they want to hear so that they will do what I want them to do.	1	2	3	4
10.	I would be upset if my success came at someone else's expense.	1	2	3	4
11.	I often admire a really clever scam.	1	2	3	4
12.	I make a point of trying not to hurt others in pursuit of my goals.	1	2	3	4
13.	I enjoy manipulating other people's feelings.	1	2	3	4
14.	I feel bad if my words or actions cause someone else to feel emotional pain.	1	2	3	4

Strongly disagree 1	Disagree 2	Agree 3	Strongly agree 4

15. Even if I were trying very hard to sell something, I wouldn't lie about it.	1	2	3	4
16. Cheating is not justified because it is unfair to others.	1	2	3	4
17. I find myself in the same kinds of trouble, time after time.	1	2	3	4
18. I am often bored.	1	2	3	4
19. I find that I am able to pursue one goal for a long time.	1	2	3	4
20. I don't plan anything very far in advance.	1	2	3	4
21. I quickly lose interest in tasks I start.	1	2	3	4
22. Most of my problems are due to the fact that other people just don't understand me.	1	2	3	4
23. Before I do anything, I carefully consider the Possible consequences.	1	2	3	4
24. I have been in a lot of shouting matches with other people.	1	2	3	4
25. When I get frustrated, I often "let off steam" by blowing my top.	1	2	3	4
26. Love is overrated.	1	2	3	4

QUESTIONNAIRE: SPANA-2
© Wilks-Riley & Ireland (2012)

Instructions
This questionnaire looks at beliefs that people can have about themselves and others. Please read each statement carefully and answer how you have thought and felt **recently**. **Please contact Professor Jane Ireland (jlireland1@uclan.ac.uk) for permission to use this measure.** You have a choice of answers so please circle how much you agree or disagree with each statement using the following scale:

	Strongly disagree	**Disagree**	**Neither agree or disagree**	**Agree**	**Strongly agree**
	1	**2**	**3**	**4**	**5**

1.	I get on well with other people in general	1	2	3	4	5
2.	The only real feelings I have are anger	1	2	3	4	5
3.	I am a caring person	1	2	3	4	5
4.	I can be trusted	1	2	3	4	5
5.	I am assertive	1	2	3	4	5
6.	I am fairly 'cut off' from my feelings	1	2	3	4	5
7.	I am not cared for	1	2	3	4	5
8.	I am fairly outgoing	1	2	3	4	5
9.	Other people are a pain	1	2	3	4	5
10.	When it comes to the 'crunch', I am on my own	1	2	3	4	5
11.	I am fairly relaxed about things in general	1	2	3	4	5
12.	Other people try to advantage of me	1	2	3	4	5
13.	I would describe myself as content	1	2	3	4	5
14.	As a person I have a lot of positive things to offer	1	2	3	4	5
15.	I am an easygoing person	1	2	3	4	5
16.	Other people are demanding	1	2	3	4	5
17.	I think about things before acting	1	2	3	4	5
18.	I am suspicious of others	1	2	3	4	5

	Strongly disagree	**Disagree**	**Neither agree or disagree**	**Agree**		**Strongly agree**
	1	**2**	**3**	**4**		**5**
19.	I feel in control of my actions	1	2	3	4	5
20.	People are not really there for me	1	2	3	4	5
21.	I am a good listener	1	2	3	4	5
22.	I am isolated	1	2	3	4	5
23.	I work hard at things I want to do	1	2	3	4	5
24.	I do not seem to get as upset as others	1	2	3	4	5
25.	I don't trust others easily	1	2	3	4	5
26.	I am a good person	1	2	3	4	5
27.	I have goals for the future	1	2	3	4	5
28.	I tend to take things in my stride	1	2	3	4	5
29.	I have a 'laid back' approach to life	1	2	3	4	5
30.	I am useless	1	2	3	4	5
31.	I let myself down	1	2	3	4	5
32.	Other people are uncaring	1	2	3	4	5
33.	I can control my behaviour	1	2	3	4	5
34.	Other people are abusive	1	2	3	4	5
35.	I am not in touch with my emotions	1	2	3	4	5
36.	I am wary of others	1	2	3	4	5
37.	Other people are unreliable	1	2	3	4	5
38.	I am a good person in general	1	2	3	4	5
39.	I am a decent person	1	2	3	4	5
40.	Other people don't value me	1	2	3	4	5
41.	Other people are forgiving	1	2	3	4	5

		Strongly disagree 1	Disagree 2	Neither agree or disagree 3	Agree 4	Strongly agree 5
42.	Other people are irritating	1	2	3	4	5
43.	I am a worthless person	1	2	3	4	5
44.	I can do some things well	1	2	3	4	5
45.	I know the kinds of things I want to achieve in the future	1	2	3	4	5
46.	Other people are inferior of me	1	2	3	4	5
47.	Other people lack responsibility	1	2	3	4	5
48.	People think that I am emotionally cold	1	2	3	4	5
49.	Other people are hostile	1	2	3	4	5
50.	I am a calm person in most situations	1	2	3	4	5
51.	I hate myself	1	2	3	4	5
52.	Other people are confrontational	1	2	3	4	5
53.	I try to be understanding with people	1	2	3	4	5
54.	Other people are annoying	1	2	3	4	5
55.	People tend to abandon me	1	2	3	4	5
56.	Other people are selfish and only care for themselves	1	2	3	4	5
57.	I am a much nicer person than I used to be	1	2	3	4	5
58.	I am a friendly person	1	2	3	4	5
59.	Other people cause conflict	1	2	3	4	5
60.	I am enthusiastic	1	2	3	4	5
61.	Other people are ignorant	1	2	3	4	5
62.	I am a happy person in most situations	1	2	3	4	5
63.	I am a hardworking person	1	2	3	4	5

	Strongly disagree 1	**Disagree 2**	**Neither agree or disagree 3**	**Agree 4**	**Strongly agree 5**	
64.	Things have to build up before I get emotional	1	2	3	4	5
65.	I am a loyal person	1	2	3	4	5

DEBRIEF SHEET: PRISON SAMPLE

Thank you for taking the time to complete the questionnaires.

People in prison and university students were asked to fill in the questionnaires. The study used both an old (questionnaire 2) and new questionnaire (questionnaire 1) to look at how people describe themselves. Both of these questionnaires looked at where you are on a scale that has an antisocial type of personality at one end, and a caring and responsible type of personality at the other. The questionnaires looked at some behaviour that is linked to psychopathy. They also looked at caring and responsible behaviour. These two questionnaires cannot diagnose psychopathy.

The research simply wanted to find out how good the new questionnaire (questionnaire 1) is by comparing it with the old questionnaire (questionnaire 2). The new questionnaire was also compared with questionnaire 3, which looked at your thoughts and beliefs about yourself and others.

If any of these questionnaires have upset or distressed you in any way, you may find the following support agencies useful: Your personal officer; The prison health centre; The listener service; or The Samaritans. Please see the wing notice board for contact details. If you do not have a personal officer see the wing principal officer.

If you would like a copy of the final report once published, and/or if you have any questions about the study please feel free to write to any of the research team.

Contact details of the research team

Researcher: Michael Lewis, School of Psychology, University of Central Lancashire, Preston, Lancashire, PR1 2HE.

Supervisor: Professor Jane L. Ireland, School of Psychology, University of Central Lancashire, Preston, Lancashire, PR1 2HE.

Second supervisor: Professor Janice Abbott, School of Psychology, University of Central Lancashire, Preston, Lancashire, PR1 2HE.

Thank you once again for taking the time to take part in this piece of research.

DEBRIEF SHEET: STUDENT SAMPLE

Thank you for taking the time to complete the questionnaires.

People in prison and university students were asked to fill in the questionnaires. The study used both an old (questionnaire 2) and new questionnaire (questionnaire 1) to look at how people describe themselves. Both of these questionnaires looked at where you are on a scale that has an antisocial type of personality at one end, and a caring and responsible type of personality at the other. The questionnaires looked at some behaviour that is linked to psychopathy. They also looked at caring and responsible behaviour. These two questionnaires cannot diagnose psychopathy.

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If any of these questionnaires have upset or distressed you in any way, you may find the following support agencies useful:

The Samaritans: Telephone: 08457 90 90 90; Email: jo@samaritans.org.

UCLAN counseling service: Telephone: 01772 892572, Email: CoRecep@uclan.ac.uk.

If you would like a copy of the final report once published, and/or if you have any questions about the study please feel free to contact any of the research team.

Contact details of the research team

Researcher: Michael Lewis, School of Psychology, University of Central Lancashire, Preston, Lancashire, PR1 2HE. Email: mlewis@uclan.ac.uk.

Supervisor: Professor Jane L. Ireland, School of Psychology, University of Central Lancashire, Preston, Lancashire, PR1 2HE. Email: JLIreland1@uclan.ac.uk.

Second supervisor: Professor Janice Abbott, School of Psychology, University of Central Lancashire, Preston, Lancashire, PR1 2HE. Email: JAbbott@uclan.ac.uk

Thank you once again for taking the time to take part in this piece of research.

Appendix 5.

MATERIALS USED IN STUDY THREE[87]

[87] Due to copyright regulations, the Psychopathy Checklist-Revised: Screening Version (PCL:SV) and the Affect, Cognitive and Lifestyle Assessment (ACL) are not included in this appendix. However, an overview of both measures has been provided to aid readers' understanding.

POSTER: STUDENT SAMPLE

Interested in Forensic Psychology?
Would you like to take part in a PhD psychology research study?

What is the purpose of the research?
The research aims to explore the role of functioning in individuals with challenging personality traits. At the other end of the scale, the research will also be examining functioning in individuals with a caring responsible personality style. The research aims to develop a new self-report measure to assist with this.

What will I have to do?
Participants will participate in a 1.5 hour interview based psychological assessment and complete a self-report measure. All assessments will take place across approximately two sessions, which will be conducted in the School of Psychology, University of Central Lancashire. You will be compensated for the inconvenience of taking part in the study.

Please note that the research is entirely anonymous and individual results will not be disclosed. Prior to conducting the assessment, you will be provided with a study information sheet.

Can I take part?
You are invited to take part if you are a registered student at University of Central Lancashire and you are male. All participants have to be aged 18 years or older.
If you would like to take part in the research, please contact Michael Lewis (Postgraduate Research Student) via email to arrange a suitable time for the research to take place: mlewis@uclan.ac.uk.

Thank you!

INFORMATION SHEET: STUDENT SAMPLE

Exploring explicit and implicit cognitive and affective processing in psychopathy: Examining student and clinical samples

Introduction

You are being invited to take part in a research study, which forms part of a PhD degree in Psychology. Please read this information sheet carefully and discuss it with others if you wish. If you have any questions, please feel free to speak to the researcher or contact the research team on the emails provided at the end of this sheet. Please note that you are not eligible to take part in this study if you are already participating in three or more research projects. Thank you for taking the time to read the study information.

What is the purpose of the research?

The purpose of the research is to provide a more in-depth understanding of the role of people's functioning, i.e. their thoughts, beliefs, and feelings, particularly in those with challenging personality traits. At the same time, the research aims to explore the role of functioning in those individuals who demonstrate a caring, responsible personality style. The research also aims to develop a new self-report measure to assist with this understanding.

What will the study involve?

Taking part in the research will involve you participating in a 1.5 hour interview-based assessment and completing one self-report questionnaire. As part of the interview assessment, you will be asked a series of questions on the following topics: Personal interests; employment and lifestyle; intimate relationships; childhood background (including education and behaviour); future aspirations; responsibilities; relationships with others; and criminal history (if you have one). You may also be asked about your beliefs, views, and feelings on particular situations or contexts. This interview will take place across approximately two sessions. If you wish you can complete it in one session.

Following the interview you will be scored on the Psychopathy Checklist: Screening Version (PCL:SV; Hart, Cox, & Hare, 1995; see below). You will also be scored on, and asked to complete a number of timed tasks on the Affect, Cognitive, and Lifestyle assessment (ACL; Ireland & Ireland, 2012; see below). At the end of the interview you will then be asked to complete a self-report measure, the Psychopathic Processing and Personality Assessment – version two (PAPA-2).

Please note that the assessment is being conducted for research purposes only and it is NOT a clinical assessment by any means.

Details of the measures

PCL:SV

This interview assessment explores if you have personality and behavioural traits related to clinical psychopathy. We are just collecting this information for research purposes.

ACL
Like the PCL:SV, the ACL also explores whether you have traits that relate to clinical psychopathy. As part of this measure, you will be interviewed and asked to complete a number of timed tasks.

PAPA-2
This measure looks at the ways people use to describe themselves. It also examines people's beliefs, views, emotions, and feelings. At one end of the scale the measure looks at a challenging personality style, and at the other, a responsible caring personality style. You will have to respond to a series of statements by circling the appropriate response on a five-point likert type scale ranging from very unlike me (1) to very like me (5). There are 45 items in total.

Time scale
Your involvement in the research will take approximately 1.5 hours in total. The assessment will take place across approximately two sessions. You will be given a total of £10.00 for your time. This will be paid to you in cash once you have completed the research and have been debriefed. You will not receive the money if you only complete part of the research.

What will happen to the results of the research study?
Your data will be statistically analysed and presented in the researcher's thesis. Results may also be presented at conferences and in scientific peer-reviewed journals. At no point will your data will be singled out. Only group data will be presented.

What are the benefits of taking part?
Taking part in the research will help forward the clinical assessment, management, and treatment of those individuals with challenging personality traits. It will also help further develop and refine psychological theories that focus on the role of functioning in such individuals.

What are the risks?
It is unlikely that you will experience any distress when taking part in this piece of research. However, please be aware that the interview assessment examines several sensitive topics, such as relationship history and childhood background. Please consider this when deciding whether you wish to take part.

Do I have to take part in the study?
It is completely your choice whether or not you take part in the study and the information provided here is to help you make that decision.

What about my consent?
You will be asked to sign a consent form to say that you agree to take part in the research and are happy with what is being asked of you. You will also receive a copy of the consent form.

Withdrawal
Please note that you are free to withdraw from the study at any time and without giving a reason. The only time that you can no longer withdraw is when the data collected and has been inputted and analysed – you will be anonymous, and it will not be possible to identify you.

Confidentiality and anonymity
Everyone who takes part will be given a 'research number', which will appear on the information collected instead of your name. Only the research team (i.e. the lead researcher and the academic supervisors) will know which number matches to which name. The lead researcher will keep this list secure on his office computer, which is password protected. This list will be destroyed once the research has been completed (i.e. the data has been inputted and analysed). You will not be identified in any formal write-up of the results; the research is totally anonymous.

Exceptions to anonymity
Information provided by you during the consent or data collection process may be disclosed to the appropriate organisation if it includes anything indicating a threat to others or yourself (e.g. if you disclose a crime that you are about to commit, or tell the researcher you are about to hurt yourself or another). You are not being asked about this but please be mindful of it.

Security of information obtained
The research team will hold copies of research information. It will be kept secure in a locked filing cabinet in the lead researcher's office at the university.

What if I become upset?
Although not expected, if you find some elements of the assessment distressing and you feel you would like support you may want to contact one of the support agencies listed below:

- University Counselling Service (a free professional and confidential counseling service offered by UCLAN). Tel: 01772 892572; Email: CoRecep@uclan.ac.uk
- Samaritans (a confidential free support service). Tel: 08457 90 90 90; Email: jo@samaritans.org

What if there is a problem?
If any aspect of this research concerns you please speak to the researcher who will do his best to answer your questions. Alternatively, you may want to write to the research supervisors whose contact details are stated at the end of this information sheet. If you remain unhappy and you wish to make a formal complaint, you can do this by contacting Dr Mike Eslea, Chair of the Psychology ethics committee, School of Psychology, University of Central Lancashire, Preston, PR1 2HE.

Insurance
The study is covered by insurance provided by the University of Central Lancashire.

Who is funding the research?
Mersey Care NHS Trust; High Secure Psychiatric Services is funding the research.

Who has reviewed the study?
This research has been reviewed by an independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favorable opinion by Greater Manchester South Research Ethics Committee.

Contact details for the lead researcher and academic supervisors
If you would like more information about this study, please contact the lead researcher on the details below. The contact details of the academic supervisors are also listed:

- Michael Lewis (PhD student; Lead researcher): mlewis@uclan.ac.uk
- Professor Jane Ireland (Director of studies): JLIreland1@uclan.ac.uk
- Professor Janice Abbott (Second supervisor): JAbbott@uclan.ac.uk

Address of the research team:
School of Psychology, Darwin Building, University of Central Lancashire, Preston, PR1 2HE

Thank you for taking the time to read this information sheet. Please feel free to ask any questions.

CONSENT FORMS: STUDENT SAMPLE

REC reference: ……..

Participant identification number for this study: (……..)

STUDENT COPY

Title of the Project: Exploring explicit and implicit cognitive and affective processing in psychopathy: Examining student and clinical samples.

Research Team

Lead Researcher: Michael Lewis

Academic Supervisors: Professor Jane Ireland & Professor Janice Abbott

1. I have read and understood the information sheet dated **(**…**)** for the above study and have had the opportunity to ask questions.

2. I understand that I do not have to agree immediately, but I can consider the information that I have received and ask the researcher to come and see me at a later date.

3. I understand that my participation is voluntary and that I am free to withdraw at any time up until my data has been inputted and analysed and it is no longer identifiable as my data, without giving any reason.

4. I understand that I will be paid £10.00 for my time in the research. I understand that I will only receive this if I complete the research in full, i.e. the interview-based assessment and self-report measure.

5. I understand that no personal information obtained during the course of the study relating to myself will be disclosed to other students or anybody outside of the research team.

6. I understand that all information relating to myself obtained as part of the study will remain anonymous to those outside of the research team, and that I will not be personally identified in the final report of the study. However, I understand that if I report information indicating a threat to myself or others, e.g. If I disclose a previously unreported crime or a possible future crime, or that I intend to harm myself, then this information will be disclosed to the appropriate personnel.

7. I understand that this consent form may be seen by responsible individuals from the University for the purposes of monitoring research procedures. I understand that this is for audit purposes only to ensure that my consent has been sought and that the study if being carried out correctly.

8. I agree to take part in the above study carried out by Michael Lewis (Doctoral student), University of Central Lancashire and ARC (Ashworth Research Centre), and I am satisfied that the purpose and procedures of the study have been fully explained to me.

Name of Participant	**Date**	**Signature**
Name of Person taking consent.	**Date**	**Signature**

REC reference: ……..

Participant identification number for this study: (……..)

STUDENT FILE COPY

Title of the Project: Exploring explicit and implicit cognitive and affective processing in psychopathy: Examining student and clinical samples.

Research Team

Lead Researcher: Michael Lewis

Academic Supervisors: Professor Jane Ireland & Professor Janice Abbott

1. I have read and understood the information sheet dated (…) for the above study and have had the opportunity to ask questions.

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6. I understand that all information relating to myself obtained as part of the study will remain anonymous to those outside of the research team, and that I will not be personally identified in the final report of the study. However, I understand that if I report information indicating a threat to myself or others, e.g. If I disclose a previously unreported crime or a possible future crime, or that I intend to harm myself, then this information will be disclosed to the appropriate personnel.

7. I understand that this consent form may be seen by responsible individuals from the University for the purposes of monitoring research procedures. I

understand that this is for audit purposes only to ensure that my consent has been sought and that the study if being carried out correctly.

8. I agree to take part in the above study carried out by Michael Lewis (Doctoral student), University of Central Lancashire and ARC (Ashworth Research Centre), and I am satisfied that the purpose and procedures of the study have been fully explained to me.

Name of Participant	**Date**	**Signature**
Name of Person taking consent.	**Date**	**Signature**

LETTER: RESPONSIBLE CLINICIAN

Dear (….),

I am a PhD student currently based at the Ashworth Research Centre (ARC). I am conducting a piece of research as part of my PhD degree, which is funded by Mersey Care NHS Trust, High Secure Psychiatric Services. The research aims to explore cognitive and affective processing in psychopathy across different populations. The research has already investigated psychopathic functioning in a student and prison population. It is now being extended to include a secure psychiatric sample. In order to further our understanding of cognition and affect in psychopathy within different populations I would like to sample patients at Ashworth Hospital High Secure Hospital.

The research aims to sample all those patients residing on low and medium dependency wards. I will not be including patients on neurocognitive wards and those who are deemed not well enough by their Responsible Clinician.

I have enclosed the study information sheet; please take time to read through this as it details exactly what the patient will be asked to consent to and complete. I have also enclosed consent forms for you to sign and return should you deem the patient well enough to take part and that they are residing on low and medium dependency wards.

Please could you confirm that you are happy for me to approach your patients by signing the consent forms attached and returning no later than (….)

If you have any questions about the research or would like to discuss it further please contact me on ext. …..

Kind regards,

Michael Lewis
Doctorate Student and Research Assistant

INFORMATION SHEET: RESPONSIBLE CLINICIAN

Exploring explicit and implicit cognitive and affective processing in psychopathy: Examining student and clinical samples

Introduction

You are being asked to be involved in the selection of participants for a piece of research, which forms part of a PhD degree in Psychology. Please read this information sheet carefully before making a decision on whether you feel that your patients would be suitable. If you have any questions, please feel free to speak to the researcher or contact the research team on the emails provided at the end of this sheet. Thank you for taking the time to read the study information.

What is the purpose of the research?

The research aims to understand cognitive and affective processing in psychopathy across community, clinical, and forensic populations. The work also aims to develop and evaluate a new self-report measure to assist with this process. The new measure will allow for greater examination of cognitive and affect in psychopathy and in doing so, may help further develop theoretical models of psychopathic processing.

The new self-report has already been partially developed and administered across students and prisoners to explore explicit cognitive and affective processing in psychopathy. To extend the research, the current study aims to explore cognition and affect in more detail (i.e. examine implicit as well as explicit processing). This should allow a new theory of affective and cognitive processing in psychopathy, to be proposed which should account for differences in the samples. A sample of students will also be recruited alongside a psychiatric sample, allowing for an understanding of psychopathic functioning across a variety of different populations.

What is my role in the research?

You will be involved in the selection of participants for the research. You will be asked to give your expert opinion on whether you feel that your patients are suitable to take part in the study. This will take the form of written consent. Please consider the study design when deciding whether you deem a patient to be suitable or not.

Patients will not be invited to take part in the research without prior consent from you. Following RC consent, patients will receive a copy of the study information, which will invite them to take part.

Engagement/Expectations

As part of the study, both populations will take part in an assessment process that will include a self-report approach and a one and a half-hour interview. This will mirror approaches like the Psychopathy Checklist – Revised (PCL-R) and therefore allow for the results to be compared to other clinical methods of assessing psychopathy.

The interview will follow the structure of the Affect, Cognitive, and Lifestyle Assessment. In addition to the data obtained during the interview, a file trawl will also be conducted for the patient sample in order to complete the Psychopathy Checklist: Screening Version (PCL:SV). Consent will be obtained from the patient to allow the access to their health records. All patients will also complete a self-report measure, the

Psychopathic Processing and Personality Assessment, the PAPA-2. Details of the three measures can be found below:

Psychopathy Checklist: Screening Version (PCL:SV; Hart, Cox, & Hare, 1995): The PCL-SV is a screening assessment of clinical psychopathy. This represents a pattern of interpersonal, affective and behavioural symptoms comprised of two factors: Factor I relates to interpersonal style and Factor II to criminal history and lifestyle.

Affect, Cognitive, and Lifestyle Assessment (ACL; Ireland and Ireland, 2012): The ACL provides an assessment of general functioning across three broad domains: affect, cognitions, and lifestyle. The assessment examines cognition and affect at both an explicit and implicit level, and can be scored to determine levels of psychopathy. It is a new measure. The ACL assesses functioning via collateral information and an interview, which includes some varied tasks, such as case scenarios. It also includes an evaluation of presentation during the interview assessment. Scores are generated to provide a general functioning profile.

Psychopathic Processing and Personality Assessment – Version 2 (PAPA-2): This is a 45 item self-report measure, which looks at an individual's unhelpful, antisocial/psychopathic personality style at one end of the scale, and a caring responsible personality style at the other. The measure has also been designed to explicitly examine psychopathic processing (both cognitive and affective processing). Participants have to indicate the extent to which item applies to them via a five-point likert type scale ranging from very unlike me (1) to very like me (5).

The participant information sheet makes the participants aware that the interview-based assessment is not a clinical assessment by any means, and they will not receive a diagnosis.

Who is conducting the assessment?
The lead researcher, Michael Lewis, will be conducting the interview-based assessment. Please find the contact details for Michael at the end of this sheet. In addition to the lead researcher, a member of ward staff will be present during the interview-based assessment. A member of ward staff will be present to answer any questions that the lead researcher cannot. The member of ward staff will be briefed about the research. They will also be informed that they are not allowed to disclose any information that the participant provides during the assessment (with the exception of the issues highlighted on page 5). The lead researcher is employed by the University of Central Lancashire, but supported in their studies by Mersey Care NHS Trust.

Time scale
It is important to note that the research will not be completed all at once. It will be separated over approximately two sessions. It is expected that the assessment will take approximately one and a half hours to complete, with sessions lasting around 30 - 45 minutes.

What will happen to the results of the research study?
Participants' data will be statistically analysed and presented in the researcher's thesis. Results may also be presented at conferences and in scientific peer-reviewed journals. At no point will individual responses be singled out. Only group data will be presented.

What are the benefits of taking part?
Taking part in the research will help forward the clinical assessment, management, and treatment of those individuals with challenging personality traits. It will also help further develop and refine psychological theories that focus on the role of functioning in such individuals.

What are the risks?
It is unlikely that participants will experience any distress when taking part in this piece of research. However, please be aware that the interview assessment examines several sensitive topics, such as relationship history and childhood background. Please consider this when deciding whether your patients will be suitable for the research.

Participation
There will be no negative outcomes for patients not wanting to take part and this will be made clear to them. Participation will be purely voluntary. Participants will be paid £10.00 for their time in the research. This is because the research does not directly benefit them and the measures are quite time consuming. The £10.00 will be paid directly into the patient's bank account held by the hospital. Participants will only receive the money if they complete the research in full.

Withdrawal
Please note that participants are free to withdraw from the study at any time and without giving a reason. The only time that they can no longer withdraw is when the data collected and has been inputted and analysed – all participants will remain anonymous.

Confidentiality and anonymity
All patients who take part will be given a 'research number', which will appear on the data that the research team collects instead of their name. Only the research team will know which number matches to which name. The information collected is purely for research purposes only. Patients will not be identified in any formal write-up of the results; the research is totally anonymous. At the same time, participants are reminded on their information sheet that their results will not be discussed with their clinical team.

Exceptions to anonymity
Information provided by patients during the consent or data collection process may be disclosed to staff if it includes anything indicating a threat to others e.g. if they report information about a previously unreported crime or about a possible or future crime this information will be disclosed to staff. Patients will be informed about this. No information will be disclosed to other patients.

Security of information obtained
The research team will store the raw data. It will be kept secure in a locked filing cabinet in the ARC. Mersey Care NHS Trust or NHS Ethics may audit the information held (e.g. checking that the research team have written consent from everyone who has agreed to take part), but this is focused on protecting research participants and checking that researchers have completed everything that they have agreed to.

What if patients become distressed?
Although not expected, if patients find some elements of the assessment distressing and feel that they would like support, they have been instructed by the study information sheet to contact any of the following support agencies:

- Their Internal Care Coordinator (ICC) or a member of ward staff
- Their ward psychologist
- Patient advocacy service

Complaints
If the patients have any complaints throughout the duration of the study they have been instructed to speak to the Lead Researcher (Michael Lewis) or Professor Jane Ireland (Academic Supervisor). If they do not wish to speak to the researcher the participant information sheet instructs them to contact their ICC, RC, and/or patient's complaints department.

Insurance
The study is covered by insurance provided by the University of Central Lancashire.

Who is funding the research?
Mersey Care NHS Trust, High Secure Psychiatric Services is funding the research.

Who has reviewed the study?
This research has been reviewed by the Health Research Authority, National Research Ethics Service. The study has been given favorable opinion by Greater Manchester South Research Ethics Committee.

Contact details for the lead researcher and academic supervisors
If you would like more information about this study, please contact the lead researcher on the details below. The contact details of the academic supervisors are also listed:

- Michael Lewis (PhD student; Lead researcher)
  Michael.lewis2@merseycare.nhs.uk
- Professor Jane Ireland (Director of studies)
  Jane.ireland@merseycare.nhs.uk
- Professor Janice Abbott (Second supervisor)
  JAbbott@uclan.ac.uk

Address of the research team:
Ashworth Research Centre, Ashworth High Secure Hospital, Mersey Care NHS Trust.

Thank you for taking the time to read this information sheet. Please feel free to ask any questions.

CONSENT FORM: RESPONSIBLE CLINICIAN

Exploring explicit and implicit cognitive and affective processing in psychopathy: Examining student and clinical samples

Patient Name: … Hospital No:…

Research Title: Exploring explicit and implicit cognitive and affective processing in psychopathy: Examining student and clinical samples

Lead Researcher:	Michael Lewis
Academic Supervisors:	Professor Jane Ireland
	Professor Janice Abbott

I (…) RC to (…) hereby give my approval to the involvement of the above-named patient in the research project conducted by Michael Lewis, Doctoral Student, ARC (Ashworth Research Centre) and the University of Central Lancashire. I have received a written explanation of the study and I am also satisfied that the participant is capable of giving his consent for his involvement in the study.

Signed..... Date.....

INFORMATION SHEET: PATIENT SAMPLE

Exploring explicit and implicit cognitive and affective processing in psychopathy: Examining student and clinical samples

Introduction

You are being invited to take part in a research study, which forms part of a PhD degree in Psychology. Please read this information sheet carefully and discuss it with others if you wish. If you require assistance with your reading, please speak to a member of ward staff who will go through this information sheet with you. Please note that you are not eligible to take part in this study if you are already participating in three or more research projects. Thank you for taking the time to read the study information.

What do I do if I wish to take part or have any questions?

If you have any questions or would like to take part in the research please ask a member of ward staff to get in contact with the lead researcher who will then visit your ward.

What is the purpose of the research?

The purpose of the research is to provide a more in-depth understanding of the role of people's functioning, i.e. their thoughts, beliefs, and feelings, particularly in those with challenging personality traits. At the same time, the research aims to explore the role of functioning in those individuals who demonstrate a caring, responsible personality style. The research also aims to develop a new self-report measure to assist with this understanding.

What will the study involve?

Taking part in the research will involve you participating in a 1.5 hour interview-based assessment and completing one self-report questionnaire. As part of the interview assessment, you will be asked a series of questions on the following topics: Personal interests; employment and lifestyle; intimate relationships; childhood background (including education and behaviour); future aspirations; responsibilities; relationships with others; and criminal history. You may also be asked about your beliefs, views, and feelings on particular situations or contexts. This interview will take place across approximately two sessions.

Following the interview you will be scored on the Psychopathy Checklist: Screening Version (PCL:SV; Hart, Cox, & Hare, 1995; see below). You will also be scored on, and asked to complete a number of timed tasks on the Affect, Cognitive, and Lifestyle assessment (ACL; Ireland & Ireland, 2012; see below). A review of your collateral information (i.e. your health records) will be used to help score the PCL:SV and ACL. At the end of the interview you will then be asked to complete a self-report measure, the Psychopathic Processing and Personality Assessment – version two (PAPA-2).

Please note that the assessment is being conducted for research purposes only and it is NOT a clinical assessment by any means. You will not receive a diagnosis from taking part in the research.

Details of the measures

PCL:SV
This interview assessment explores if you have personality and behavioural traits related to clinical psychopathy. We are just collecting this information for research purposes.

ACL
Like the PCL:SV, the ACL also explores whether you have traits that relate to clinical psychopathy. As part of this measure, you will be interviewed and asked to complete a number of timed tasks.

PAPA-2
This measure looks at the ways people use to describe themselves. It also examines people's beliefs, views, emotions, and feelings. At one end of the scale the measure looks at a challenging personality style, and at the other, a responsible caring personality style. You will have to respond to a series of statements by circling the appropriate response on a five-point likert type scale ranging from very unlike me (1) to very like me (5). There are 45 items in total.

Time scale
Your involvement in the research will take approximately 1.5 hours in total. The assessment will take place across approximately two sessions (lasting 30 to 45 minutes each). You will be given a total of £10.00 for your time. This will be paid directly into your personal account held by the hospital once you have completed the research and have been debriefed. You will not receive the money if you only complete part of the research.

Who will be present during the interview?
The lead researcher and a member of ward staff will be present during the interview-based assessment. A member of ward staff will be present to answer any questions that the lead researcher cannot. The member of ward staff will be briefed about the research. They will also be informed that they are not allowed to disclose any information that you provide during the assessment (with the exception of the issues highlighted on page 4). The lead researcher is employed by the University of Central Lancashire, but supported in their studies by Mersey Care NHS Trust.

What will happen to the results of the research study?
Your data will be statistically analysed and presented in the researcher's thesis. Results may also be presented at conferences and in scientific peer-reviewed journals. At no point will your data will be singled out. Only group data will be presented. Please also note that your results will not be discussed with your clinical team.

Do I have to take part in the study?
Please note that your Responsible Clinician (RC) has been approached to check your suitability for the research. It is completely your choice whether or not you take part in the study and the information provided here is to help you make that decision.

What are the benefits of taking part?
Taking part in the research will help forward the clinical assessment, management, and treatment of those individuals with challenging personality traits. It will also help

further develop and refine psychological theories that focus on the role of functioning in such individuals.

What are the risks?
It is unlikely that you will experience any distress when taking part in this piece of research. However, please be aware that the interview assessment examines several sensitive topics, such as relationship history and childhood background. Please consider this when deciding whether you wish to take part.

What about my consent?
You will be asked to sign a consent form to say that you agree to take part in the research and are happy with what is being asked of you. You will also receive a copy of the consent form.

Withdrawal
Please note that you are free to withdraw from the study at any time and without giving a reason, without my medical care or legal rights being affected. The only time that you can no longer withdraw is when the data collected and has been inputted and analysed – you will be anonymous, and it will not be possible to identify you.

Confidentiality and anonymity
Everyone who takes part will be given a 'research number', which will appear on the information collected instead of your name. Only the research team (i.e. the lead researcher and the academic supervisors) will know which number matches to which name. The lead researcher will keep this list secure on his office computer, which is password protected. This list will be destroyed once the research has been completed (i.e. the data has been inputted and analysed). You will not be identified in any formal write-up of the results; the research is totally anonymous.

Exceptions to anonymity
Information provided by you during the consent or data collection process may be disclosed to the appropriate organisation if it includes anything indicating a threat to others or yourself (e.g. if you disclose a crime that you are about to commit, or tell the researcher you are about to hurt yourself or another). You are not being asked about this but please be mindful of it.

Security of information obtained
The research team will hold copies of research information. It will be kept secure in a locked filing cabinet in the lead researcher's office at the hospital.

What if I become upset?
Although not expected, if you find some elements of the assessment distressing and you feel you would like support you may want to contact one of the support agencies listed below:

- Your Internal Care Coordinator (ICC) or a member of ward staff
- Your ward psychologist
- Patient advocacy service

What if there is a problem?
If any aspect of this research concerns you please speak to the researcher who will do his best to answer your questions. Alternatively, you may want to write to the research

supervisors whose contact details are stated at the end of this information sheet. If you remain unhappy and you wish to make a formal complaint, you may like to speak to your ICC, RC, or patient complaints department at the hospital who will advise you on how to deal with your concerns.

Insurance
The study is covered by insurance provided by the University of Central Lancashire.

Who is funding the research?
Mersey Care NHS Trust; High Secure Psychiatric Services is funding the research.

Who has reviewed the study?
This research has been reviewed by an independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favorable opinion by Greater Manchester South Research Ethics Committee.

Contact details for the lead researcher and academic supervisors
If you would like more information about this study, please contact the lead researcher on the details below. The contact details of the academic supervisors are also listed:

- Michael Lewis (PhD student; Lead researcher)
- Professor Jane Ireland (Director of studies)
- Professor Janice Abbott (Second supervisor)

Address of the research team:
Ashworth Research Centre (ARC), Ashworth High Secure Hospital, Mersey Care NHS Trust.

Thank you for taking the time to read this information sheet.

CONSENT FORMS: PATIENT SAMPLE

REC reference: ……

Participant identification number for this study: (……..)

PATIENT COPY

Title of the Project: Exploring explicit and implicit cognitive and affective processing in psychopathy: Examining student and clinical samples.

Lead Researcher: Michael Lewis

Academic Supervisors: Professor Jane Ireland & Professor Janice Abbott

1. I have read and understood the information sheet dated (……..) for the above study and have had the opportunity to ask questions.

2. I understand that I do not have to agree immediately, but I can consider the information that I have received and ask the researcher to come and see me at a later date.

3. I understand that my participation is voluntary and that I am free to withdraw at any time up until my data has been inputted and analysed and it is no longer identifiable as my data, without giving any reason, without my medical care or legal rights being affected.

4. I understand that I will be paid £10.00 for my time in the research. I understand that this will be paid directly into my personal account held by the hospital. I also understand that I will only receive this if I complete the research in full, i.e. the interview-based assessment and self-report measure.

5. I understand that no personal information obtained during the course of the study relating to myself will be disclosed to other patients.

6. I understand that all information relating to myself obtained as part of the study will remain anonymous to those outside of the research team, and that I will not be personally identified in the final report of the study. However, I understand that if I report information indicating a threat to myself or others, e.g. If I disclose a previously unreported crime or a

possible future crime, or that I intend to harm myself, then this information will be disclosed to the appropriate personnel.

7. I understand that this consent form may be seen by responsible individuals from Mersey Care NHS Trust for the purposes of monitoring research procedures. I understand that this is for audit purposes only to ensure that my consent has been sought and that the study if being carried out correctly.

8. I give my approval for the research team to access my hospital records for research purposes only.

9. I agree to take part in the above study carried out by Michael Lewis (Doctoral student), ARC (Ashworth Research Centre) and the University of Central Lancashire, and I am satisfied that the purpose and procedures of the study have been fully explained to me.

Name of Participant	**Date**	**Signature**
Patient's Hospital Number		
Name of Person taking consent.	**Date**	**Signature**

REC reference: ……

Participant identification number for this study: (…….)

PATIENT FILE COPY

Title of the Project: Exploring explicit and implicit cognitive and affective processing in psychopathy: Examining student and clinical samples.

Lead Researcher: Michael Lewis

Academic Supervisors: Professor Jane Ireland & Professor Janice Abbott

1. I have read and understood the information sheet dated (……..) for the above study and have had the opportunity to ask questions.

2. I understand that I do not have to agree immediately, but I can consider the information that I have received and ask the researcher to come and see me at a later date.

3. I understand that my participation is voluntary and that I am free to withdraw at any time up until my data has been inputted and analysed and it is no longer identifiable as my data, without giving any reason, without my medical care or legal rights being affected.

4. I understand that I will be paid £10.00 for my time in the research. I understand that this will be paid directly into my personal account held by the hospital. I also understand that I will only receive this if I complete the research in full, i.e. the interview-based assessment and self-report measure.

5. I understand that no personal information obtained during the course of the study relating to myself will be disclosed to other patients.

6. I understand that all information relating to myself obtained as part of the study will remain anonymous to those outside of the research team, and that I will not be personally identified in the final report of the study. However, I understand that if I report information indicating a threat to myself or others, e.g. If I disclose a previously unreported crime or a possible future crime, or that I intend to harm myself, then this information will be disclosed to the appropriate personnel.

7. I understand that this consent form may be seen by responsible individuals from Mersey Care NHS Trust for the purposes of monitoring research procedures. I understand that this is for audit purposes only to ensure that my consent has been sought and that the study if being carried out correctly.

8. I give my approval for the research team to access my hospital records for research purposes only.

9. I agree to take part in the above study carried out by Michael Lewis (Doctoral student), ARC (Ashworth Research Centre) and the University of Central Lancashire, and I am satisfied that the purpose and procedures of the study have been fully explained to me.

Name of Participant	**Date**	**Signature**
Patient's Hospital Number		
Name of Person taking consent.	**Date**	**Signature**

QUESTIONNAIRE: PAPA-2
© Lewis, Ireland & Abbott (2012)

Please contact Michael Lewis (mick.lewis04@gmail.com) or Professor Jane Ireland (jlireland1@uclan.ac.uk) for permission to use this measure/request the most recent version.

Instructions

Below are a series of statements that people use to describe themselves. Please read each statement carefully. Using the scale provided decide how well each statement describes how you have generally been throughout your life.

Scale:

Very unlike me	Not really like me	Neither agree or disagree	Somewhat like me	Very like me
1	2	3	4	5

1.	I am only interested in myself.	1	2	3	4	5
2.	I do not feel guilty when I cause others to feel pain or hurt.	1	2	3	4	5
3.	I would describe myself as one of the most confident people around.	1	2	3	4	5
4.	I will use people to get what I want.	1	2	3	4	5
5.	I often experience strong negative emotions, such as anger, sadness, and hatred.	1	2	3	4	5
6.	I often take chances that could be risky to me or others.	1	2	3	4	5
7.	I often don't think of the consequences of my actions.	1	2	3	4	5
8.	As a person, I have never changed.	1	2	3	4	5
9.	I have been described as a cruel person who does not worry about hurting others.	1	2	3	4	5
10.	I can allow my feelings to interfere with my Decisions (e.g. "cloud my judgement").	1	2	3	4	5
11.	Others would describe me as an irritable person with problems controlling my temper.	1	2	3	4	5
12.	I am talented at making people feel good about themselves.	1	2	3	4	5

Very unlike me 1	Not really like me 2	Neither agree or disagree 3	Somewhat like me 4	Very like me 5

13. I see a lot of hostility around me.	1	2	3	4	5
14. I regularly view others as lazy.	1	2	3	4	5
15. I find most people are weak and not worth bothering with.	1	2	3	4	5
16. When I feel sad I can quickly make myself happy again.	1	2	3	4	5
17. I am quick to respond in a hostile manner to threats or insults.	1	2	3	4	5
18. I find it impossible to resist temptation.	1	2	3	4	5
19. I often get into trouble more than others.	1	2	3	4	5
20. I find it difficult to comfort others when they are upset.	1	2	3	4	5
21. I would describe myself as someone who is often ‘fearless’ when faced with a threat.	1	2	3	4	5
22. I often feel socially close to others.	1	2	3	4	5
23. I am a creative person who can think of more than one way of dealing with problems.	1	2	3	4	5
24. I am not that bothered about others.	1	2	3	4	5
25. The world is a threatening place, you have to ‘watch your back’.	1	2	3	4	5
26. I often feel in touch with other people’s feelings.	1	2	3	4	5
27. If I am caught out on a lie I can quickly think of a way out.	1	2	3	4	5
28. I often experience strong positive emotions, such as happiness and joy.	1	2	3	4	5
29. I am often bored.	1	2	3	4	5
30. I enjoy doing things that are exciting or new.	1	2	3	4	5

Very unlike me	Not really like me	Neither agree or disagree	Somewhat like me	Very like me
1	2	3	4	5

31.	I am able to commit a wide number of behaviours that, if caught, would get me into trouble.	1	2	3	4	5
32.	I can often find myself viewing others as nothing more than 'objects' or things to be used.	1	2	3	4	5
33.	I am an aggressive person in a number of situations.	1	2	3	4	5
34.	I use illegal drugs, or those that are not prescribed to me, more than most people I know.	1	2	3	4	5
35.	I find it difficult to give emotional and personal support to others.	1	2	3	4	5
36.	If I do something wrong I will feel bad about it.	1	2	3	4	5
37.	If I behave in an aggressive manner I often feel bad about it afterwards.	1	2	3	4	5
38.	I often find myself thinking that I am more important than others.	1	2	3	4	5
39.	I have been described as a 'fraudster' or a 'con artist' by those who know me.	1	2	3	4	5
40.	I always accept responsibility for what I do.	1	2	3	4	5
41.	I can be unpredictable.	1	2	3	4	5
42.	I often find people behave aggressively or in a hostile manner towards me.	1	2	3	4	5
43.	Others would describe me as a very intense person who has difficulty getting on with others.	1	2	3	4	5
44.	As a child I often got into trouble more than others.	1	2	3	4	5
45.	I often feel emotionally close to others.	1	2	3	4	5

PCL:SV
© Hart, Cox & Hare (1995)

The PCL:SV can be obtained from Multi-Health Systems, Psychological Assessments and Services, 83 Baker Street, London, W1U 6AG.

Participants rate items such as 'Superficial', 'Grandiose' and 'Deceitful' on a three-point likert scale, where '0' indicates that the trait is not present, '1' that it maybe present, and '2' that 'yes' it is present. Raters also have the option of omitting an item. Ratings should be made while reviewing the diagnostic criteria in the PCL-R rating booklet.

This is a 12 item measure.

Table 51: Content of the ACL. © Ireland & Ireland (2012).

ACL area	Theme identified from literature	Implicit, explicit or observation	How assessed	Collateral item?	ACL composite item
Affective	Difficulty in recognising emotions	Explicit	Interview	N	1A (3)
Affective	Callousness/lack of empathy	Explicit	Interview	Y	1B (4)
Affective	Emotional impulsivity	Explicit	Interview	Y	IC (1)
Affective	Anger/irritability	Explicit	Interview	Y	1D (3)
Affective	Problems in identifying emotions	Implicit	Puzzle plus response time	N	1E
Affective	Problems in feeling emotions	Implicit	Event stories plus response time	N	1F
Affective	Lack of guilt/remorse & willingness to exploit	Explicit	Interview	Y	2A (3)
Cognitive	Cognitive impulsivity	Explicit	Interview	Y	2B (1 item)
Cognitive	Difficulties with moral judgements/ reasoning	Implicit	Moral scenarios plus response time and number of reasons	N	2C
Cognitive	Hostile responding	Implicit	Conditional reasoning scenarios	Y	2D
Lifestyle	Poor quantity of interpersonal relationships	Explicit	Interview	Y	3A

(Continued)

Table 51: Continued.

ACL area	Theme identified from literature	Implicit, explicit or observation	How assessed	Collateral item?	ACL composite item
Lifestyle	General poor quality of interpersonal relationships	Explicit	Genogram patterns	Y	3B
Lifestyle	Poor quality of interpersonal relationships, characterised by aggression	Explicit	Genogram patterns	Y	3C
Lifestyle	Tendency towards being aggressive	Explicit	Interview	Y	3D (2 items)
Cognitive	Uncaring/callous view towards aggression use	Explicit	Interview	Y	3E (2 items
Lifestyle	Tendency to be cruel or humiliate others	Explicit	Interview	Y	3F (2 items)
Cognitive	Uncaring/callous view towards use of cruelty/humiliation	Explicit	Interview	Y	3G (2 items)
Lifestyle	Tendency to manipulate	Explicit	Interview	Y	3H (2 items)
Cognitive	Tendency towards narcissism	Explicit	Interview	Y	3I (2 items)
Lifestyle	Irresponsibility/poor planning	Explicit	Interview	Y	3J (6 items)
Lifestyle	Thrill and adventure seeking	Explicit	Self-report scale	Y	3K (6 items)
Lifestyle	Susceptibility to boredom	Explicit	Self-report scale	Y	3N (6 items)
Lifestyle	Criminal tendency	Explicit	Interview	Y	3P (2 items)

(Continued)

Table 51: Continued.

ACL area	Theme identified from literature	Implicit, explicit or observation	How assessed	Collateral item?	ACL composite item
Lifestyle	Inability to learn from punishment	Explicit	Interview	N	3Q (1 item)
Interpersonal	Paucity of emotional content	Implicit	Observational	-	4A
Interpersonal	Superficial content/style	Implicit	Observational	-	4B
Interpersonal	Controlling style	Implicit	Observational	-	4C
Interpersonal	Aggressive/hostile style	Implicit	Observational	-	4D
Interpersonal	Manipulative style	Implicit	Observational	-	4E
Interpersonal	Less than honest style	Implicit	Observational and collateral	Y	4F
Interpersonal	Self-important style	Implicit	Observational	-	4G
Interpersonal	Susceptibility to boredom	Implicit	Observational	-	4H
Interpersonal	Impulsive style	Implicit	Observational	-	4I

For further details on the ACL, please contact Professor Jane Ireland (jlireland1@uclan.ac.uk). Please note that this measure is copyrighted.

DEBRIEF SHEET: STUDENT SAMPLE

Exploring explicit and implicit cognitive and affective processing in psychopathy: Examining student and clinical samples

I would like to take this opportunity to thank you for participating in the research. If you have any questions relating to the research, please do not hesitate to contact the lead researcher on the contact details located at the bottom of this form.

What did I complete?

The study recruited a sample of university students as well as patients at a High Secure Psychiatric Hospital to examine their thoughts, beliefs, emotions, and feelings, on a scale that has a psychopathic personality style at one end, and a caring responsible personality style at the other. At the same time, the research was conducted to further develop and refine a new self-report measure, the Psychopathic processing and personality assessment – version two (PAPA-2).

You took part in an interview-based assessment. As part of this, the Affect, Cognitive, and Lifestyle (ACL) assessment was completed. This measure provided a profile of your functioning, i.e. it looked at your personality as well as your thoughts, beliefs, feelings, and emotions, at a conscious (explicit) and unconscious (implicit) level. A second measure, the Psychopathy Checklist: Screening Version (PCL:SV) was also scored using your responses during the interview. Finally, you also completed the PAPA-2. This self-report questionnaire examined how people generally describe themselves. It also looked at where you are on a scale that has antisocial personality traits at one end, and caring responsible traits at the other. Like the other two measures, this questionnaire also examined your beliefs and thoughts, and your feelings and emotions.

Please note, the assessment was conducted for research purposes only and it is NOT a clinical assessment by any means.

Support

If the research has upset or distressed you in any way, you may find the following support agencies useful:

- University Counselling Service (a free professional and confidential counselling service offered by UCLAN)
  Tel: 01772 892572; Email: CoRecep@uclan.ac.uk
- Samaritans (a confidential free support service)
  Tel: 08457 90 90 90; Email: jo@samaritans.org

Complaints

If you have any complaints regarding the research you may first want to contact the lead researcher. Alternatively you may want to speak to the academic supervisor, Professor Jane Ireland, on the contact details listed at the bottom of this form. If you would like to contact somebody independent from the research, you may like to contact the Dean of the School of Psychology.

Results

A summary of the results will be available in due course. Should you wish to receive a copy, please make the lead researcher aware as soon as possible.

Payment
You will now receive the £10.00 payment for your time and effort.

Thank you once again for taking part in the research.

Research team: Contact details

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School of Psychology, University of Central Lancashire, Preston, PR1 2HE

DEBRIEF SHEET: PATIENT SAMPLE

Exploring explicit and implicit cognitive and affective processing in psychopathy: Examining student and clinical samples

I would like to take this opportunity to thank you for participating in the research. If you have any questions relating to the research, please do not hesitate to contact the lead researcher on the contact details located at the bottom of this form.

What did I complete?

The study recruited a sample of university students as well as patients at a High Secure Psychiatric Hospital to examine their thoughts, beliefs, feelings, and emotions on a scale that has a psychopathic personality style at one end, and a caring responsible personality style at the other. At the same time, the research was conducted to further develop and refine a new self-report measure, the Psychopathic processing and personality assessment – version two (PAPA-2).

You took part in an interview-based assessment. As part of this, the Affect, Cognitive, and Lifestyle (ACL) assessment was completed. This measure provided a profile of your functioning, i.e. it looked at your personality as well as your thoughts, beliefs, feelings, and emotions, at a conscious (explicit) and unconscious (implicit) level. A second measure, the Psychopathy Checklist: Screening Version (PCL:SV) was also scored using your responses during the interview. If you provided consent for your health records to be examined, they were also used to score these two measures. Finally, you also completed the PAPA-2. This self-report questionnaire examined how people generally describe themselves. It also looked at where you are on a scale that has antisocial personality traits at one end, and caring responsible traits at the other. Like the other two measures, this questionnaire also examined your beliefs, thoughts, feelings, and emotions.

Please note, the assessment was conducted for research purposes only and it is NOT a clinical assessment by any means.

Support

If the research has upset or distressed you in any way, you may find the following support agencies useful:

- Spiritual care
- Advocacy service
- Psychology
- Befriender scheme
- Your ICC nurse

Complaints

If you have any complaints regarding the research you can ask a member of staff to first contact the lead researcher. Alternatively you may want to speak to the academic supervisor, Professor Jane Ireland, on the details at the bottom of this form. If you would like to contact somebody independent from the research, you may like to contact the patient's complaints department who will advise you on how to deal with your concerns.

Results
A summary of the results will be available in due course. Should you wish to receive a copy please make the lead researcher aware as soon as possible.

Payment
The £10.00 payment for your time and effort will now be paid directly into your personal bank account held by the hospital.

Thank you once again for taking part in the research.

Research team: Contact details

Michael Lewis (Lead researcher)
Ashworth Research Centre (ARC), Ashworth Hospital

Professor Jane Ireland (Lead academic supervisor)
Ashworth Research Centre (ARC), Ashworth Hospital

Professor Janice Abbott (Academic supervisor)
School of Psychology, University of Central Lancashire