

Investigating the Internal Consistency and the Convergent, Discriminant and Criterion Validity
of Self-Report Measures for the DSM-5 Alternative Model for Personality Disorder in a Male
Australian Prisoner Population

Ms Natasha Mahony

A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of
Psychology (Clinical and Forensic Psychology)

Centre for Forensic Behavioural Science
Swinburne University of Technology

2022

Under the supervision of
Professor Michael Daffern & Doctor Ashley Dunne

© Ms. Natasha Mahony

All rights reserved

Notice 1

Under the *Copyright Act 1968*, this thesis must be used only under the normal conditions of scholarly fair dealing. In particular, no results or conclusions should be extracted from it, nor should it be copied or closely paraphrased in whole or in part without the written consent of the author. Proper written acknowledgement should be made for any assistance obtained from this thesis.

Notice 2

I certify that I have made all reasonable efforts, where necessary, to obtain copyright permissions for third party copyright content reproduced in this thesis (such as artwork, images, unpublished documents), or to use any of my own published work (such as journal articles) in which the copyright is held by another party (such as publisher, co-author), and have not knowingly added copyright content to my work without the owner's permission.

ABSTRACT

Contemporary understanding of personality disorders (PDs) has been shaped by 19th and 20th century conceptualisations and clinical developments. Although classification and clinical conceptualisations of PD has evolved, the predominant categorical diagnostic approach prevails. However, a multitude of disadvantages have been noted with this categorical approach, such as a lack of diagnostic reliability, extensive co-occurrence among PD subtypes, large heterogeneity within subtypes, and temporal instability. To overcome these significant shortcomings, many scholars of PD have explored the utility of dimensional models of PD, which postulate that personality pathology exists on a spectrum – rather than a dichotomy. Dimensional models aim to improve the clinical utility of PD diagnoses and to understand the characteristics of different PDs. The Diagnostic and Statistical Manual – Fifth Edition's (DSM-5) alternative model for personality disorders (AMPD) is a relatively recent hybrid system, which encompasses both categorical and dimensional model features. It encourages evaluation of the severity of impairment in personality dysfunction (self and interpersonal) and measurement of 25 pathological personality trait facets, organised into five broad trait domains. This new conceptualisation of impairments and traits redefines PDs in terms of personality dysfunction and personality traits, which provides clinicians with information on the different features of personality and a methodology to assess and diagnose PDs. This allows for an organised and stepwise approach to PD assessment. According to the DSM-5 AMPD the level of impairment in self and interpersonal dysfunction is measured first, to determine the presence of a PD; secondly, personality traits are assessed to determine the type of trait personality pathology that the person may be experiencing, and; thirdly, the clinician determines whether one or more of the six PD categorical types in the AMPD are present (antisocial PD, avoidant PD, borderline PD, narcissistic PD, obsessive-compulsive PD, and schizotypal PD). If not, a dimensional diagnosis

of PD – trait specified can be made based on the traits specific to the individual.

Previous research using the traditional categorical assessment approach to PD has established that a large proportion of male prisoners convicted of violent offending, or who have a history of aggression, meet criteria for a minimum of one PD, with rates as high as 62% to 84% (Blackburn & Coid, 1998; Coid, 2002). Despite such high rates of PD within violent offender populations, the relationship between PDs and aggression remains unclear, with empirical research struggling to definitively understand and establish which PDs are associated with aggression and which features of PDs (i.e., self and interpersonal functioning, pathological personality traits) are associated with aggression. Given the prevalence of PDs within violent offender populations, valid and reliable conceptualisation, assessment, and treatment of PD is crucial. As such, research has begun to explore the possibility that dimensional PD features may be better utilised to explore the PD-aggression relationship, rather than diagnoses alone (Gilbert & Daffern, 2011).

Accordingly, the present research aimed to explore the internal consistency, and the convergent, discriminant and criterion validity of two novel self-report assessment measures – the Level of Personality Functioning Scale – Self-Report (LPFS-SR; Morey, 2017), and the Personality Inventory for DSM-5 (PID-5; Krueger et al., 2013b) – that are intended for use with the AMPD, within a male Australian prisoner population. The first aim was to compare how accurately these new questionnaires reliably and validly measure PDs when compared to an established measure of PD – the Personality Diagnostic Questionnaire - 4th Edition (PDQ-4; Hyler, 1994). Two different scoring methods were utilised in order to calculate the presence of a PD when using the PID-5 (Samuel et al., 2013). The first was the sum method, which sums an individual's mean traits that characterise each PD outlined within the AMPD. Secondly, the

count method was used, which counts the number of assigned traits that are elevated past the threshold. The second aim was to explore the relationship between the AMPD level of impairment (self and interpersonal dysfunction) and pathological personality traits with the participants' history of aggression. Aggression was measured using a self-report measure – the Life History of Aggression, Aggression subscale (LHA-S-A; Coccaro et al., 1997) and the presence of violence in participants' official police records.

Results identified inconsistencies in PD diagnoses and prevalence rates when using the novel AMPD measures (LPFS-SR and PID-5) compared to the established categorical measure of PDs (PDQ-4). However, when the PID-5 alone was used, without consideration of the LPFS-SR, PDs were able to be diagnosed in the present sample at a rate that is consistent with previous research, whilst the PDQ-4 appeared to possibly over-diagnose PDs. In terms of the relationship between the various measures of PD and aggression, the results demonstrated a non-significant relationship between the four LPFS-SR constructs and aggression. However, consistent with previous literature the PDQ-4 total score, and the PID-5 Hostility facet significantly predicted LHA-S-A scores, as did the LPFS-SR total score. The PID-5 Distractibility facet significantly predicted the presence of violence in official police records, a finding that has not been observed in previous literature. Altogether, the findings suggest that when the LPFS-SR and the PID-5 are used together, they potentially under-diagnose AMPD PDs, at least within male Australian prison populations.

Overall, the findings suggest that Criterion A may be redundant to the diagnosis of PD and more accurate diagnosis may be made with reference to Criterion B alone. The inclusion of impairment in personality dysfunction within the AMPD may either be superfluous or may need refinement. Alternatively, impairment in self and interpersonal functioning may be better

assessed using different methods, including clinical interview and review of collateral information, in addition to self-report questionnaires. These findings reiterate the importance of PD to aggression, and maladaptive personality facets to both self-reported and official police records of aggression. However, as highlighted in this thesis, the study of the PD-aggression relationship is complicated by the use of different measures of aggressive behaviour (such as self-report, informant report, and official records). Consequently, researchers should be mindful that different means of measuring aggression can influence the nature and extent of the relationship between PD and aggression.

ACKNOWLEDGEMENTS

No woman is an island, and one writing a thesis is no exception to that. Behind the scenes so many people have helped contribute to this project, and there are too many to name. However, I will endeavour to include you all.

Many thanks to my esteemed supervisor, Professor Michael Daffern, who provided me with this life-changing opportunity. The content has been generated, data gathered, and it has been quite a journey along the way! Thank you for all your help, and suggestions. It has been much appreciated.

To Dr Ashley Dunne, my secondary supervisor. Such a title does not give credit to all of the help and kindness that you have provided me with on this journey. You have been an organised angel in the face of my newly found chaos (that only a thesis can instil!). Thank you for always having time, always guiding me, and always being a source of wisdom on this long journey.

To my grandparents – even though you are on the other side of the world, you have continually been there for me. You have always believed in me, and been a constant source of encouragement. I cannot wait to be back on your side of the world soon!

To all of my Dpsych girls – Alice, Anna, Bianca, Emily, and Veronica (honorary mentions for Maddy and Vicki) – we did it! Thanks to all of you for the laughs, the support, and the rants. To all other friends and family, all over the world, you have all helped me in this journey and I will treasure that forever. To anyone I have missed, you are forgotten on paper only, and not in spirit.

Finally, to my wonderful fiancé, David. You met me at the start of this crazy journey, and

I could not be happier that you are here to see its conclusion. Thank you for all of the love, meals, comfort, laughs, strength, and care that you have provided along the way. I love you more than I can say, and cannot wait to start the next chapter of our life together. Now, let's go get married!

DECLARATIONS

In accordance with the Swinburne University of Technology Statement of Practice for the completion of a Higher Degree by Research, the following declarations are made:

I, Natasha Mahony, hereby declare that this thesis, titled, 'Investigating the Internal Consistency and the Convergent, Discriminant and Criterion Validity of Self-Report Measures for the DSM-5 Alternative Model for Personality Disorder in a Male Australian Prisoner Population,' contains no material which has been accepted for the award to myself, the candidate, of any other degree or diploma, except where due reference is made in the text of the examinable outcome. I declare that, to the best of my knowledge, this thesis contains no material previously published or written by another person, except where due reference is made in the text of the examinable outcome.

Signature of Candidate:

Natasha Mahony

Doctor of Psychology (Clinical and Forensic) Candidate

Faculty of Health, Arts and Design Swinburne University of Technology

Date: 22/2/2022

TABLE OF CONTENTS

| | |
|--|----|
| ABSTRACT | 3 |
| ACKNOWLEDGEMENTS | 7 |
| DECLARATIONS..... | 9 |
| TABLE OF CONTENTS..... | 10 |
| INDEX OF TABLES | 18 |
| INDEX OF FIGURES | 21 |
| LIST OF ABBREVIATIONS | 22 |
| PART I: INTRODUCTION AND THESIS OVERVIEW | 24 |
| Chapter One: Overview and Background to Thesis | 25 |
| 1.1 Thesis Premise and Outline | 25 |
| 1.2 Research Aims | 27 |
| 1.2.1 Research Aim One | 27 |
| 1.2.2 Research Aim Two | 28 |
| PART II: LITERATURE REVIEW | 31 |
| Chapter Two: History of Personality Disorders | 32 |

| | |
|---|----|
| | 11 |
| 2.1 Nineteenth Century Conceptualisations of Personality Disorders | 32 |
| 2.1.1 Summary | 37 |
| 2.2 Twentieth Century Psychiatric Conceptualisations of Personality Disorders | 37 |
| 2.3 Shortcomings of the Medical Model for Conceptualising Personality Disorders | 45 |
| 2.3.1 Summary | 51 |
| 2.4 The Influence of 20th Century Developments on 21st Century Conceptualisations of Personality Disorders | 51 |
| 2.4.1 Core Features of DSM-5 Section II Personality Disorders | 53 |
| 2.4.2 DSM-5 Section II Personality Disorders | 55 |
| 2.5 Criticisms of the DSM-5 Categorical Approach | 57 |
| 2.5.1 Limited Diagnostic Reliability and Validity | 57 |
| 2.5.2 Co-occurrence of Personality Disorders | 57 |
| 2.5.3 Heterogeneity of Personality Disorders..... | 60 |
| 2.5.4 Temporal Instability | 60 |
| 2.5.5 Inadequate Coverage | 61 |
| 2.5.6 Arbitrary Diagnostic Thresholds | 61 |
| 2.5.7 Clusters | 62 |
| 2.5.8 Benefits of the Categorical Approach | 62 |
| 2.5.9 Summary | 62 |
| 2.6 How Personality Disorders Are Measured in DSM-5 Section II | 63 |
| 2.6.1 Diagnostically Based Interviews | 64 |
| 2.6.2 Trait Based Interviews | 65 |

| | |
|---|----|
| | 12 |
| 2.6.3 Diagnostically Based Self-Report Instruments | 66 |
| 2.6.4 Trait Based Self-Report Instruments | 68 |
| 2.6.5 Summary | 69 |
| 2.7 The Alternative Model for Personality Disorder | 69 |
| 2.7.1 Core Personality Experiences Within the Alternative Model for Personality Disorder | 70 |
| 2.7.1.1 Level of Personality Functioning (Criterion A) | 70 |
| 2.7.1.2 Pathological Personality Traits (Criterion B) | 74 |
| 2.7.2 Categorical Diagnoses Within the Alternative Model for Personality Disorders | 77 |
| 2.7.2.1 Antisocial Personality Disorder Within the Alternative Model for Personality Disorders | 79 |
| 2.7.2.2 Avoidant Personality Disorder Within the Alternative Model for Personality Disorders | 80 |
| 2.7.2.3 Borderline Personality Disorder Within the Alternative Model for Personality Disorders | 80 |
| 2.7.2.4 Narcissistic Personality Disorder Within the Alternative Model for Personality Disorders | 80 |
| 2.7.2.5 Obsessive-Compulsive Personality Disorder Within the Alternative Model for Personality Disorders | 81 |
| 2.7.2.6 Schizotypal Personality Disorder Within the Alternative Model for Personality Disorders | 81 |
| 2.7.2.7 Personality Disorder – Trait Specified Within the Alternative Model for Personality Disorders | 81 |
| 2.7.3 Additional Criteria in the Alternative Model for Personality Disorders | 84 |

| | |
|---|-----|
| | 13 |
| 2.8 Evaluation of the Alternative Model for Personality Disorder | 86 |
| 2.8.1 Criticisms of The Alternative Model for Personality Disorders | 87 |
| 2.8.2 Strengths of The Alternative Model for Personality Disorders | 92 |
| 2.8.3 Summary | 97 |
| 2.9 The Alternative Model for Personality Disorder Measurement Approaches | 98 |
| 2.9.1 Interviews for Measuring Criterion A – Level of Personality Functioning | 99 |
| 2.9.2 Self-Report Instruments for Measuring Criterion A – Level of Personality Functioning | 102 |
| 2.9.3 Critique of Criterion A Measures | 109 |
| 2.9.4 Summary of Criterion A Measures | 110 |
| 2.9.5 Interviews for Measuring Criterion B – Pathological Personality Traits | 111 |
| 2.9.6 Self-Report Instruments for Measuring Criterion B – Pathological Personality Traits | 112 |
| 2.9.7 Critique of Criterion B Measures | 117 |
| 2.9.8 Summary of Criterion B Measures | 120 |
| 2.9.9 Critique of Measures to Assess the Six Diagnostic Categories | 121 |
| 2.10 Chapter Two Summary | 122 |
| Chapter Three: Personality Disorders and Aggression | 124 |
| 3.1 Personality Disorders in Forensic Settings | 124 |
| 3.1.1 International Personality Disorder Prevalence Rates | 124 |
| 3.1.2 Australian Personality Disorder Prevalence Rates | 127 |
| 3.1.3 Factors Impacting on the Study of Personality Disorders in Forensic Settings | 130 |

| | |
|---|-----|
| | 14 |
| 3.1.4 Summary | 131 |
| 3.2 Personality Disorders and Aggression | 131 |
| 3.3.1 Personality Disorders and Violent Recidivism | 139 |
| 3.3.2 Summary | 140 |
| 3.4 Categorical Conceptualisations of Personality Disorders and Their Relationship With Aggression | 140 |
| 3.4.1 Summary | 143 |
| 3.5 Trait-Based Personality Models and Aggression | 144 |
| 3.5.1 Level of Personality Functioning and Aggression | 144 |
| 3.5.2 Pathological Trait Domains and Aggression | 152 |
| 3.5.3 Pathological Trait Facets and Aggression | 155 |
| 3.6 Chapter Three Summary | 158 |
| 3.7 Research Aims Recap | 159 |
| 3.7.1 Research Aim One | 159 |
| 3.7.2 Research Aim Two | 159 |
| PART III: METHODOLOGY AND RESEARCH PROCEDURE | 162 |
| Chapter Four: Research Methodology | 163 |
| 4.1 Research Design | 163 |

| | |
|---|-----|
| | 15 |
| 4.2 Site Identification | 166 |
| 4.3 Procedure | 164 |
| 4.3.1 Recruitment Procedure | 164 |
| 4.3.2 Data Collection Procedure | 165 |
| 4.3.3 Ethical Considerations | 166 |
| 4.3.4 COVID-19 Pandemic | 167 |
| 4.4 Measures | 169 |
| 4.4.1 Demographic Information | 169 |
| 4.4.2 Assessment of Level of Personality Functioning | 169 |
| 4.4.3 Assessment of Pathological Personality Traits | 170 |
| 4.4.4 Assessment of Past Aggression | 173 |
| 4.4.5 Established Measure for Categorical Personality Disorders | 174 |
| 4.4.6 Assessment of Impression Management | 176 |
| 4.4.7 Official Police Records | 177 |
| 4.5 Characteristics of the Sample | 181 |
| 4.6 Data Preparation and Approach to Statistical Analysis | 181 |
| PART IV: EMPIRICAL ANALYSIS | 185 |

| | |
|--|-----|
| | 16 |
| Chapter Five: Results | 186 |
| 5.1 Research Aim One | 186 |
| 5.1.1 Level of Personality Functioning (Criterion A) | 186 |
| 5.1.2 Pathological Personality Traits (Criterion B) | 188 |
| 5.1.3 Overlap Between Criteria A and B | 195 |
| 5.2 Research Aim Two | 201 |
| 5.2.1 Self-Reported Aggression | 201 |
| 5.2.2 Official Police Records | 206 |
| PART V: INTEGRATED DISCUSSION | 210 |
| Chapter Six: General Discussion | 211 |
| 6.1 Overview of Main Findings | 211 |
| 6.2 Research Aim One: Ability of the Alternative Model for Personality Disorders to Identify Personality Disorders in a Prisoner Sample | 212 |
| 6.2.1 Convergent Validity of the Alternative Model and the Personality Diagnostic Questionnaire - 4th Edition in a Prisoner Sample | 213 |
| 6.2.2 Discriminant Validity of the Novel Measures | 223 |
| 6.2.3 PID-5 Diagnoses | 224 |

| | |
|--|-----|
| | 17 |
| 6.2.4 Severity of Impairment in Personality Functioning and Trait Profiles | 226 |
| 6.3 Research Aim Two: Ability of the Alternative Model to Predict Aggression | 229 |
| 6.3.1 Criterion A and Aggression | 230 |
| 6.3.2 Criterion B and Aggression | 233 |
| 6.4 Limitations | 235 |
| 6.5 Implications | 238 |
| 6.5.1 Research and Theoretical Implications | 238 |
| 6.5.2 Practice Implications | 241 |
| 6.6 Future Research | 243 |
| 6.7 Conclusions,,,,,, | 244 |
| REFERENCES | 248 |
| APPENDICES | 311 |

INDEX OF TABLES

| | |
|---|-----|
| Table 1 Personality Disorder Clusters in Section II of the Diagnostic and Statistical Manual – Fifth Edition | 56 |
| Table 2 Instruments for the Measurement of Personality Disorders in the Categorical Model of Personality Disorder | 66 |
| Table 3 Definitions of Level of Personality Functioning Constructs | 71 |
| Table 4 Alternative Model for Personality Disorders Trait Domains and Facets | 75 |
| Table 5 Specific Personality Functioning Impairments Within the Alternative Model for Personality Disorders | 82 |
| Table 6 Specific Personality Disorders Traits Within the Alternative Model for Personality Disorders | 85 |
| Table 7 Instruments for the Measurement of Personality Disorders in the Alternative Model for Personality Disorder | 98 |
| Table 8 Charges Included Within the Serious Violence Present, and Intermediate Violence Present Variables | 178 |
| Table 9 Mean (M), Standard Deviation (SD), Range, and Reliability (α) for the Level of Personality Functioning-Self Report | 187 |

| | |
|---|-----|
| Table 10 Spearman's Rank-Order Correlation Coefficients among the Level of Personality Functioning – Self-Report Constructs and Total Score | 188 |
| Table 11 Mean (M), Standard Deviation (SD), Range, and Reliability (α) for the Personality Inventory for DSM-5 | 189 |
| Table 12 Individual Diagnoses of the Alternative Model for Personality Disorder Using the Sum Method, and Diagnoses for the Personality Diagnostic Questionnaire - 4th Edition | 190 |
| Table 13 Individual Diagnoses of the Alternative Model for Personality Disorder Using the Count Method, and Diagnoses for the Personality Diagnostic Questionnaire - 4th Edition | 193 |
| Table 14 Mean (M), Standard Deviation (SD), Range, and Reliability (α) for the Personality Diagnostic Questionnaire - 4th Edition | 195 |
| Table 15 Spearman's Rank-Order Correlation Coefficients between the Level of Personality Functioning- Self Report and Personality Inventory for DSM-5 Domain | 196 |
| Table 16 Spearman's Rank-Order Correlation Coefficients between the Level of Personality Functioning- Self Report and Personality Inventory for DSM-5 Facets | 198 |
| Table 17 McNemar Chi-Square Test for Paired Samples Comparing the Novel Measures to The Personality Diagnostic Questionnaire - 4th Edition | 200 |
| Table 18 McNemar Chi-Square Test for Paired Samples Comparing Criteria A and B Diagnoses to Criterion B Alone | 200 |
| Table 19 Mean (M), Standard Deviation (SD), Range, and Reliability (α) for the Life History of Aggression – Aggression – Self-Report | 201 |

| | |
|---|-----|
| Table 20 Spearman's Rank-Order Correlations between Life History of Aggression - Aggression – Self- Report and the Level of Personality Functioning – Self-Report | 202 |
| Table 21 Spearman's Rank-Order Correlations between Life History of Aggression - Aggression – Self- Report and Personality Inventory for the DSM-5 Facets | 203 |
| Table 22 Hierarchical Multiple Regression Unstandardised Coefficient (B), Standard Error of Beta ($SE\ B$), Standardised Coefficient (β), and R^2 Change | 204 |
| Table 23 Spearman's Rank-Order Correlations between Life History of Aggression - Aggression – Self- Report and Personality Inventory for the DSM-5 Domains | 205 |
| Table 24 Binary Logistic Regression to Explore the Univariate Associations between the Level of Personality Functioning-Self Report and the Any Violence Present Variable | 207 |
| Table 25 Binary Logistic Regression to Explore the Univariate Associations between the Personality Inventory for DSM-5 Facets and the Any Violence Present Variable | 207 |
| Table 26 Binary Logistic Regression to Explore the Univariate Associations between the Personality Inventory for DSM-5 Domains and the Any Violence Present Variable | 209 |
| Table 27 Schizotypal Diagnoses on the Alternative Model for Personality Disorder and the Personality Diagnostic Questionnaire - 4 th Edition | 220 |
| Table 28 Highly Endorsed Eccentricity Items and the Percentage of Participants Who Endorsed Them | 221 |
| Table 29 Comparison of Facets Most Highly Endorsed by Different Samples | 228 |

INDEX OF FIGURES

Figure 1 Stepwise Approach to Diagnosing Using the Alternative Model for Personality

Disorders 79

LIST OF ABBREVIATIONS

| | |
|-------------|---|
| AMPD | Alternative Model for Personality Disorders |
| CALF | Clinical Assessment of the Levels of Personality Functioning Scale |
| DLOPFQ | DSM–5 Levels of Personality Functioning Questionnaire |
| DSM | Diagnostic and Statistical Manual of Mental Disorders |
| FFM | Five Factor Model |
| GAM | General Aggression Model |
| ICD | International Statistical Classification of Diseases And Related Health Problems |
| IPDE | International Personality Disorder Examination |
| LHA-S-A | Life History of Aggression, Aggression subscale |
| LoPF-Q 12 | Levels of Personality Functioning Questionnaire for Adolescents from 12 to 18 Years |
| LPFS | Level of Personality Functioning Scale |
| LPFS–BF 2.0 | Level of Personality Functioning Scale – Brief Form 2.0 |
| LPFS-SR | Level of Personality Functioning Scale – Self-Report |
| NEO PI-R | Revised NEO Personality Inventory |
| OR | Odds Ratio |

| | |
|-------------|---|
| PD | Personality Disorder |
| PDs | Personality Disorders |
| PD-NOS | Personality Disorder-Not Otherwise Specified |
| PDQ-4 | Personality Diagnostic Questionnaire – 4 th Edition |
| PDS-IM | Paulhus Deception Scale – Impression Management |
| PD-TS | Personality Disorder – Trait Specified |
| PID-5 | Personality Inventory for the DSM-5 |
| PID-5-BF | Personality Inventory for DSM-5–Brief Form |
| PID-5-FFBF | PID-5 Forensic Faceted Brief Form |
| PID-5–INC | Personality Inventory for DSM-5 – Inconsistency Scale |
| PID-5–IRF | Personality Inventory for DSM-5 – Informant Report |
| PID-5-ORS | Personality Inventory for DSM-5 – Over-Reporting Scale |
| PID-5-SF | Personality Inventory for DSM-5–Short Form |
| PSY-5 | Personality Psychopathology Five |
| SCID-5-AMPD | Structured Clinical Interview for the DSM-5 Alternative Model for Personality Disorders |
| SCID-II | Structured Clinical Interview for DSM-IV |
| SIFS | Self and Interpersonal Functioning Scale |
| SIPP | Severity Indices of Personality Problems |
| STiP-5.1 | Semi-Structured Interview for Personality Functioning DSM–5 |

PART I: INTRODUCTION AND THESIS OVERVIEW

Chapter One: Overview and Background to Thesis

1.1 Thesis Premise and Outline

Within the Diagnostic and Statistical Manual – Fifth Edition (DSM-5; American Psychiatric Association, 2013a) the official categorical diagnostic criteria and codes for personality disorders (PDs) are located within Section II, whilst the new hybrid model – the alternative model for personality disorders (AMPD) – is contained in Section III – Emerging Measures and Models. The AMPD contains the severity of impairment in personality functioning (Criterion A: self and interpersonal) and 25 pathological personality trait facets, organised into five broad trait domains (Criterion B: Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism). Currently, there are two methods of measuring these criteria: interviews and self-report.

Given the recent development of the DSM-5 AMPD, and the scarcity of research validating dimensional models of PDs in prison populations, this thesis seeks to fill two crucial gaps in the literature. Firstly, the internal consistency, and the convergent, discriminant and criterion validity of the Level of Personality Functioning Scale – Self-Report (LPFS-SR; Morey, 2017) has not yet been investigated within a prison population. Furthermore, whilst the Personality Inventory for DSM-5 (PID-5; Krueger et al., 2013b) has been investigated within a prison setting (Dunne et al., 2018), it has not yet been combined with the LPFS-SR in order to explore PD diagnoses in a prison sample. By combining these two novel measures the present thesis aims to contribute to the PD conceptualisation literature and ensure that the measures can be reliably and validly employed in a prison population. The convergent validity of these novel

AMPD measures will be assessed by examining the convergence between the two novel measures and an established measure of PD – The Personality Diagnostic Questionnaire - 4th Edition (PDQ-4; Hyler, 1994).

Secondly, there will be an exploration of whether the AMPD may help clinicians and researchers better understand the relationship between aggression and PDs. This will be achieved by examining which, if any, of the maladaptive traits and severity in impairment of level of personality functioning within the AMPD is associated with aggression. Limited extant research has explored the relationship between AMPD traits and aggression (Dowgwillo et al., 2016; Dunne et al., 2018; Munro & Sellbom, 2020; Romero & Alonso, 2019), while the relationship between AMPD severity of impairment in personality functioning and aggression has only been examined once (Leclerc et al., 2021).

Altogether, this thesis aims to determine whether the two novel AMPD measures can be reliably and validly used within prison settings. As the AMPD is from the DSM-5, the diagnostic manual most frequently used within forensic practice in Australia and elsewhere (Margo, 2021), it may guide and influence clinicians in their assessment, diagnosis and understanding of PDs (Salerian, 2012). Within the treatment context, certain PD traits may hinder or facilitate therapy (Widiger, 2003). As such, accurate diagnosis of PDs is crucial, to ensure that individuals are offered treatment that aligns with their needs and takes account of their personal strengths and vulnerabilities, in order to ensure the best possible outcomes (Hopwood et al., 2011; Karukivi et al., 2017; Morey et al., 2015). It is also important, with the context of violent offender treatment, that remediation efforts are focussed on those aspects of personality that are most strongly related to violent behaviour.

This thesis follows a traditional approach; it comprises six chapters, which are organised

as follows. Part I provides an overview and background to the thesis, and outlines the research aims. Part II is comprised of two chapters, which establish a theoretical foundation for the subsequent empirical research. Chapter Two describes the expansion of the personality disorder (PD) field since the 19th century and reviews the varying conceptualisations of PDs that have emerged in the literature. Present day conceptualisations are discussed and an introduction to current dimensional models is provided. The benefits and limitations of both categorical and dimensional PD models are presented to provide an equitable exploration of the two differing approaches. Chapter Three explores the literature pertaining to PDs and aggression by discussing the prevalence of PDs in forensic settings and examining what is currently known about the PD-aggression relationship, including the burgeoning research on PD traits and aggression. Finally, this chapter concludes by highlighting the ways in which the AMPD conceptualisations may aid researchers and clinicians in understanding the relationship between PDs and aggression.

Part III is comprised of one chapter, which presents the research methodology, including the research design, ethical considerations, the recruitment and data collection procedures, and measures employed. This chapter also includes an exploration of the characteristics of the sample and details of the data preparation and approach to statistical analysis.

Part IV contains one chapter, which reports the empirical analysis and results of the research. This is followed by Part V, which contains one chapter, and presents an integrated discussion and final concluding comments of the present thesis.

1.2 Research Aims

The present thesis is defined by two research aims:

1.2.1 Research Aim One

The first research aim is to explore the internal consistency, and the convergent and discriminant validity of measures developed to assess the AMPD within an Australian male prisoner sample. This will be achieved by investigating whether two AMPD measures, namely the LPFS-SR and the PID-5, reliably and validly measure PDs, as compared to an established, validated measure: the PDQ-4. It is hypothesised that the novel measures will adequately assess for AMPD PDs in prisoners, at the same rate as the categorical measure assesses Section II PD diagnoses.

Previous research has suggested that a large proportion of prisoners, particularly those with histories of violent offending, will meet diagnostic criteria for antisocial PD, and/or borderline PD. Consequently, the first research aim will also investigate the prevalence of PDs within the Victorian prison system. Based on prior research (Black et al., 2007; Brinded et al., 1999; Daniel et al., 1988; Fazel & Danesh, 2002; Harsch et al., 2006; Rotter et al., 2002) it is hypothesised that the most prevalent PDs will be antisocial PD, borderline PD, narcissistic PD, and paranoid PD (paranoid PD will be measured using only the PDQ-4, as it is not included in the AMPD).

1.2.1 Research Aim Two

Extant literature (Blackburn & Coid, 1998, 1999; Coid, 1998, 2002; Coid et al., 1999; Coid et al., 2009; Coid et al., 2006; Dunne et al., 2017, 2018; Esbec & Echeburúa, 2010; Fountoulakis et al., 2008; Gilbert & Daffern, 2017; Gilbert et al., 2013; Howells et al., 2008; Munro & Sellbom, 2020; Putkonen et al., 2003) demonstrates a relationship between certain PDs and aggression, but this research is based on a potentially flawed categorical approach to diagnosing PDs. The second research aim is to investigate the criterion validity of the AMPD severity of impairment in personality functioning, and maladaptive personality trait domains and

facets with participant's histories of aggression (as assessed via self-report and official police records). Consistent with previous research (Dunne et al., 2017), it is hypothesised that the strongest relationships will emerge between aggression and the facets of Hostility and Risk Taking. Furthermore, although some previous research has reported relationships between higher order personality domains and aggression, these are inconsistent, and the relationships are not as strong as those between certain traits and aggression (Dunne et al., 2018; Dunne et al., 2021; Leclerc et al., 2021; Romero & Alonso, 2019). As such, it is hypothesised that the PID-5 domains will not significantly predict aggression.

As the present research is the first to explore the relationship between the LPFS-SR and aggression, the following hypotheses are made based on limited extant literature and are exploratory in nature. First, it is hypothesised that the LPFS-SR total score will be related to aggression, as previous research has suggested that overall PD severity is associated with aggression (Hopwood et al., 2011; Leclerc et al., 2021). Second, consistent with previous findings (Leclerc et al., 2021; Morsünbül, 2015; Schwartz et al., 2011), it is expected that participants who score higher on the LPFS-SR Identity construct (which indicates lower levels of security in their identity) will be more likely to engage in aggression. Third, consistent with previous research (Carlo et al., 2014; Mischkowski et al., 2012; Padilla-Walker et al., 2015), it is hypothesised that participants in the present research sample who score higher on the LPFS-SR Self-Direction construct (which suggests lower levels of self-direction) will be more likely to engage in aggression. Fourth, as the research regarding empathy and aggression is both limited and inconclusive, the present research will take an exploratory approach in examining the relationship between LPFS-SR Empathy and aggression. Lastly, in line with previous findings (Cross & Campbell, 2012; Felson et al., 2003), it is hypothesis that those with lower levels of LPFS-SR Intimacy will have higher levels of violent offending.

Finally, the relationship between the PDQ-4 and aggression will also be investigated. Currently, no research has investigated the predictive validity of the PDQ-4 with aggression. However, as PD severity has been shown to be an important predictor of dysfunction (Hopwood et al., 2011), it is hypothesised that the PDQ-4 total score will be positively associated with aggression.

PART II: LITERATURE REVIEW

Chapter Two: History of Personality Disorders

This chapter provides an overview of the conceptualisation of PDs, beginning with their 19th century history and tracing through to modern classifications. Current conceptualisations reviewed in this chapter include the medical model and the categorical model of PD, presented within Section II of the DSM-5. Limitations of these models are discussed, which leads to an overview and critique of the AMPD. To prepare both the literature review and design of the empirical investigation a comprehensive search was conducted via the following databases: Google Scholar, Elsevier, Cochrane Systematic Library, Sage Journals, and ProQuest. The search used various combinations of key words, including “personality disorder,” “prevalence of personality disorder in the general population,” “prevalence of personality disorder in forensic settings,” “measurement of personality disorders,” “antisocial personality disorder,” “borderline personality disorder,” “narcissistic personality disorder,” “forensic personality disorder” “forensics” “trait personality disorders,” “dimensional personality disorder models,” “trait measurement,” “trait classification,” “aggression,” “violence,” “recidivism,” “DSM-5,” “level of personality functioning,” “LPFS-SR,” “PID-5,” “SCID-AMPD,” “PDQ,” “The Personality Diagnostic Questionnaire – 4th Edition” and “categorical classification.” Additional sources of information included journal articles and book chapters from the reference lists of the reviewed literature – when the first article identified an important concept and referenced another article to explain the information. Additionally, documents were obtained from the websites of the American Psychiatric Association, the Australian Bureau of Statistics, and the World Health Organization.

2.1 Nineteenth Century Conceptualisations of Personality Disorders

Early 20th century conceptions of PD were influenced by the work of physicians

including Schneider (Berrios, 1988; Kawa & Giordano, 2012), which were in turn derived from medical and psychoanalytic developments in the 19th century (Livesley & Jang, 2000). At the beginning of the 19th century two principal psychological schools of thought fought for supremacy: faculty psychology and associationism (Albrecht, 1970; Berrios, 1988, 1993). Faculty psychology, considered the mind to be a set of functions, i.e. intellectual (cognitive), emotional (orectic), and volitional (conative), and was a theory that had been in existence since the Classical period (Berrios, 1993). On the other hand, associationism was influenced by British philosophers such as John Locke (1632 -1704), and asserted that the mind was a *tabula rasa*, i.e. a person is born with no knowledge with ideas obtained from the external world (Locke, 1689). By the late 19th century, faculty psychology had come to the fore, as associationism was unable to explain innate behaviours and survival skills (Berrios, 1993). Phrenology, the study of the cranium as an indicator of character and mental abilities, was influenced by faculty psychology, and led to new concepts of both brain localisation and personality (Berrios, 1993). The growth of faculty psychology challenged the long-held belief that personality was innate and expanded definitions to include the influence of the individual's environment on their development. Maine de Biran (1766 – 1824) introduced the concept of *habitude* (habit) to explain the origin of persistent behaviours, which appeared to be innate (Moore, 1970). De Biran emphasised the learning aspect of *habitude*, thus helping to provide an important explanatory mechanism for the development of character (Moore, 1970). By the second half of the 19th century, *habitude* had been adopted into medical language (Berrios, 1993).

Despite faculty psychology becoming the more prominent theoretical school, associationism was not completely forgotten. The use of measurement in associationism inspired the development of psychophysics and quantification in psychology (Berrios, 1993). Thus, whilst faculty psychology initially gained more popularity, by the end of the 19th century both schools

of thought influenced the creation of taxonomy and concepts such as character, type, and traits (Berrios, 1993). During the 19th century, character was the word used to denote the stable and unchanging features of a person and their behaviour by both associationism and faculty psychology (Livesley, 2018). Alongside character, types also began to be referred to during this time (Livesley, 2018). The concept of types proposed that both behaviour and the mind could be divided into discernible parts (Berrios, 1993). For the first time, character was being broken down into smaller, distinct portions, rather than being described as a uniform entity (Berrios, 1984, 1993). Accordingly, types became the norm for analysing and describing human behaviour (a usage which remains to the present day in the form of traits; Berrios, 1993). As types gained traction, this paved the way for the acceptance of cerebral localisation theories (Berrios, 1984), which in turn, led to the development of new measurement scales to assess types themselves and discover the brain sites of these types (Boring, 1961).

Whilst type was used to denominate patterns of behaviours, the word personality had long been used in philosophy to refer to the expression of appearance of a person – which was derived from the Greek term for mask (Berrios, 1993; Hopwood & Thomas, 2012). This usage slowly began to change in the 18th century, with the writings of David Hume (1711 - 1776) and Immanuel Kant (1724 - 1804), where the word began to take on a more psychological meaning, i.e. it began to relate to the inner feelings of a person, rather than their outward appearance (Hume, 1739; Kant, 1788). However, by the 19th century, whilst the phrase personality had changed in its literal meaning, it still retained its former subjective leanings, referring to the internal aspects of the self. It was not until the turn of the century that personality was defined in objective terms, built on observations and material gained from new sources – such as the study of individuals with mental illness (Berrios, 1993; Livesley, 2018). Due to the retainment of the philosophical definition of personality throughout the 19th century, writings from this period

about personality pattern disorders refer to disorders of consciousness, as well as mechanisms of self-awareness (Livesley, 2018). As such, personality literature from the 1800s examined automatic writing, hallucinations, hysterical anaesthesia (a loss of tactile sensation), memory disorders, multiple personalities, and somnambulism (sleepwalking; Berrios, 1993). Nineteenth century writers viewed personality as the internal self (Berrios, 1993). Consequently, the behavioural patterns that are contemporarily recognised as PDs were not examined, or were seen only as manifestations of these underlying personalities (Livesley, 2018).

Although there were many developments in the field of personality during the 19th century, with the concept of PDs evolving during this time, the definitions were often blurred and progress was not linear. The emergence of PD diagnoses during the 19th century was largely influenced by the British physician, James Prichard (1786 - 1848) and his studies on moral insanity. This is despite Prichard's work not actually including any focus on, or form of, PDs; Prichard used moral insanity to describe insanity that was not accompanied by delusions (Prichard, 1835; Whitlock, 1982). However, when Prichard asserted this in 1835, delusions were thought to be a crucial component of insanity (Livesley, 2018). Moral insanity was used to describe a wide range of behavioural disorders, including mood disorders (depressive disorders and bipolar disorders) and dementia (Berrios, 1993). Prichard broke away from narrow intellectual definitions and widened the parameters of insanity to encapsulate symptoms that affect a person's mental functioning (Whitlock, 1982). This led to the necessity to differentiate between mood disorders and related conditions, with the enduring traits of PDs being distinguished from more acute symptomatic states. This led to the emergence of PDs as a separate diagnostic group (Livesley, 2018). Interest in moral insanity grew throughout the 19th century, and in 1874 Henry Maudsley (1835 – 1918) furthered Prichard's conception with the observation that certain individuals appeared to lack a moral sense (i.e., the ability to distinguish

right from wrong), and so distinguished what was to become the modern concept of psychopathy (Livesley, 2018; Maudsley, 1874).

In the latter half of the 19th century, the theory of degeneration formed in French psychiatry, led by Bénédict Morel (1809 - 1873), and was used to explain the behaviour of those who lacked moral sense (Berrios, 1993; Livesley, 2018). Degeneration theory postulated that harmful behaviours, such as addiction, caused alterations in an individual's reproductive system, which was later expressed in future generations as manifestations of mental illness (Bynum, 1984). Morel was a Roman Catholic, and his writings were strongly influenced by his faith – especially the concept of The Fall (the belief that when Adam and Eve disobeyed God, they fell from perfection and brought evil into an unspoilt world); later proponents of his theory downplayed this feature, and stressed its neurobiological aspects (Berrios, 1993). Concurrent with the development of degeneration theory, German psychiatrist Julius Koch (1841 - 1908) proposed the term psychopathic, as an alternative to moral insanity.

Terms such as psychopathic personality and psychopathic disorder are not present in contemporary classification systems; the DSM-5 has incorporated the concept into antisocial PD (301.7), and the World Health Organization's International Statistical Classification of Diseases and Related Health Problems – 11th Revision (ICD-11; 6D11.2; World Health Organization, 2019) into dissocial PD (Berrios, 1993). In contemporary vernacular the term psychopathic has come to signify someone with a lack of empathy and antisocial and violent tendencies. However, during the late 19th century the term merely signified the presence of psychopathology and could be applied to any mental disorder (Berrios, 1993). In 1891, Koch narrowed this definition down and asserted that abnormal behavioural states resulted from weakness of the brain. This weakness was not considered to be a disease in the medical sense of acuity or chronicity, nor was

it to be differentiated by acquisition or congenital status, and was termed psychopathic inferiority (Berrios, 1993; Koch, 1891). Koch incorporated degeneration theory into his concept of psychopathic inferiority and postulated that whilst inferiority could range from mild to severe, the severe presentations of it was always the result of degeneration, including antisocial behaviours (Berrios, 1993).

2.1.1 Summary

The 19th century saw a rapid expansion in the study and definitions of mental illnesses and behavioural disorders. During this time there were two principal psychological schools of thought: faculty psychology and associationism. Faculty psychology eventually became the leading theoretical school due to its ability to explain innate behaviours and survival skills. However, associationism inspired the development of psychophysics and quantification in psychology. The 19th century also saw a rise in psychological taxonomy and definitions, such as character, type, and traits. Although there were many developments in the field of personality during the 19th century, the definitions were often blurred and progress was not linear.

2.2 Twentieth Century Conceptualisations of Personality Disorders

During the 19th century the definition of psychopathy had begun to become more specific, a process which continued in the early 20th century when Emil Kraepelin (1856 – 1926) suggested that personality disturbances were *formes frustes* (diminished forms) of the major psychoses (such as schizophrenia – named dementia praecox at the time; Livesley, 2018). Whilst these developments gave rise to the idea that psychopathy may be a distinct mental condition, to be viewed as a separate nosological classification, it was not separated from other mental disorders entirely (Livesley, 2018). In 1925, Ernst Kretschmer (1888 – 1964) furthered

Kraepelin's work by proposing a schizophrenia spectrum, which extended from schizothymia through schizoid, on to schizophrenia. The idea that some PDs (such as borderline PD) are on a continuum with some major mental disorders, rather than distinct nosological classifications, and hence that PDs are not a distinct nosological grouping, is an issue that to this day continues to be raised intermittently, despite considerable empirical evidence to the contrary (Livesley, 2018). In spite of this issue, the prevailing assumption of the past century has been that mental disorders and PDs are distinct from one another (Livesley, 2018).

This distinction between mental disorders and PDs is largely due to the work of Kurt Schneider (1887 – 1967), whose work, *Psychopathic Personalities*, established the contemporary nomenclature of PDs (Livesley, 2018). By using the term personality, Schneider diminished the widespread use of the words temperament and character, which until the 1920s had dominated the terminology of personality and psychopathy, although they have not disappeared from use entirely (Berrios, 1993). In Schneider's work, the psyche was considered to be a harmonious combination of feelings, instincts, intelligence, and personality, with personality being defined as the stable "composite of feelings, values, tendencies and volitions" (Schneider, 1923, p. 25). Abnormal personality was then defined as a deviation from the mean, and Schneider acknowledged that ideal definitions of normal personality were thus also important (Berrios, 1993). Psychopathic personalities formed a sub-class of these abnormal personalities and he described them as those "who themselves suffer, or make society suffer, on account of their abnormality" (Schneider, 1923, p. 27). Schneider proposed 10 psychopathic types: aboulie, asthenic, depressive, explosive, fanatical, hyperthymic, insecure, labile in affect, lacking in self-esteem, and wicked – however, these categories were formulated as forms of being (i.e. they were not pathological in a medical sense, but they were an everyday pattern of existence), and not as diagnostic classifications (Berrios, 1993). Individuals were not prescribed a typical

diagnosis, but instead were compared to contrasting ends of a particular type, to illuminate important aspects of their behaviour and personality (Livesley, 2018). Furthermore, it was noted that types were not stable and that they could be both occasional and reactive (Livesley, 2018). Accordingly, Schneider's system is more similar to a dimensional system, than the current categorical structure seen in modern psychiatry and psychology.

Although Psychopathic Personalities was widely circulated and popularly lauded, its concepts did receive criticism from academics (Berrios, 1993). A professor of criminology in Munich, Professor Edmund Mezger (1883 – 1962), disagreed with Schneider's definition of normality, stating that it was "unworkable in the courts" (p. 60) and that he believed that "in the last instance all psychopathy must be called degeneration" (p. 64). However, it must be noted that Mezger was writing in Germany, at a time when discussions of eugenic extermination moved from being theoretical to a deadly reality, with the devastating occurrence of the holocaust (Müller-Hill, 1988). Consequently, degeneration theory was held to be a truth (Berrios, 1993).

As the 20th century progressed, the narrowing down of definitions continued, and within both British and American psychiatry the concepts of psychopathy and psychopathic personality were integrated into what is now called antisocial PD, despite the two not being synonymous (Livesley, 2018). Simultaneously, psychoanalytic theories also contributed to the classification and conceptualisation of personality pathology. However, in the process they increased diagnostic and descriptive confusion (Livesley, 2018).

Sigmund Freud (1856 – 1939), who is most closely associated with psychoanalysis, was not directly interested in PDs – noting that he was more interested in an individual's symptoms than their character when he stated "when carrying out psychoanalytical treatment the

physician's interest is by no means primarily directed to the patient's character for he is far more desirous to know what the symptom signifies" (Freud, 1925, p. 318). However, his theory of psychosexual development led to descriptions of character types which formed the basis of dependent PD, histrionic PD, and obsessive-compulsive PD (Abraham, 2018). Conversely, Carl Jung (1875 – 1961), the founder of analytical psychology, purposefully explored the concept of personality in the 20th century and suggested that personality was a combination of dimensions (Jung, 1981). He proposed that mental functions, such as feeling, intuition, sensation, and thinking were organised around an extroversion – introversion dimension (Jung, 1981).

These developments shifted the focus on aetiology and conceptualisations of PDs away from the biological mechanisms, stressed by the medical model, toward psychosocial factors (Berrios, 1993; Livesley, 2018). Before exploring these developments further, it is necessary to define what is meant by the term medical model, as it played a significant role in 20th century conceptualisations of PDs and continues to do so. Throughout this thesis, the medical model refers to the traditional disease-as-entity model, whereby symptoms are classified into distinct conditions caused by an underlying impairment that is generally assumed to be biological, such as an infectious agent (Sabbarton-Leary et al., 2015). At the start of the 20th century a common form of psychosis, general paresis, was found to be caused by the syphilis bacterium *treponema pallidum* (Pearce, 2012). Consequently, there was an expectation that singular major causes of other mental disorders would also be identified (Pearce, 2012). This idea of a singular cause for mental disorders remains in the modern medical model, with infectious agents being replaced by causes such as genes (Livesley, 2018). However, as shall be explored thoroughly below, this model does not work well for disorders with complex aetiologies, such as major mental disorders, including PDs. As such, when the term medical model is used in this thesis, it is to this specific point: the diseases-as entity model being applied to the complexity of PDs. It should also

be noted that this thesis does not seek to disparage the medical model. Rather, to explore other models and conceptualisations of PDs that can then be integrated into the medical model, as guided by empirical evidence.

Despite the psychoanalytic developments that shifted the exploration of PD aetiology and conceptualisation toward psychosocial factors, the role that biology plays in personality was not ruled out entirely (Berrios, 1993; Livesley, 2018). In 1922, Berman (1893 – 1946) postulated that “a single gland can dominate the life history of an individual” (p. 202) and accordingly suggested that there were five endocrine personality types; adrenal, gonadocentric, pituitary, thyroid, and thymocentric. However, biological theories such as Berman’s began to wane, and from the 1930s to the 1970s psychology began to reject the medical model, with psychosocial explanations of PDs becoming more prevalent (Berrios, 1993; Livesley, 2018). This was fuelled by the first empirical investigations into PDs during the 1960s and 1970s, (whereby researchers purposefully gathered data in order to answer a specific research question), whereas previous explorations of PDs had been based on clinical observation and theory (Blashfield et al., 2014). These clinical observations and theories became a classification system in the Diagnostic and Statistical Manual of Mental Disorders, First Edition (DSM-I; American Psychiatric Association, 1952), followed by the Diagnostic and Statistical Manual of Mental Disorders, Second Edition (DSM-II; American Psychiatric Association, 1968), which placed PDs into personality pattern disturbances, personality trait disturbances, and sociopathic personality disturbances (Oldham, 2005). Personality pattern disturbances were viewed as resistant to change, even with treatment, and included inadequate personality, schizoid personality, cyclothymic personality, and paranoid personality (Oldham, 2005). Personality trait disturbances were thought to be less disabling, so that without stress these patients could function quite well. However, when under stress, patients with emotionally unstable, passive-aggressive, or compulsive personalities were thought to show

emotional distress and a decline in functioning (Oldham, 2005). Sociopathic personality disturbances described social deviance (American Psychiatric Association, 1968). It included antisocial reaction, dissocial reaction, sexual deviation, and addiction (with sub-categories of alcoholism and drug addiction; American Psychiatric Association, 1968).

The change from clinical observations and theories of PDs in the DSM-I and the DSM-II, to the use of empirical investigation (not only observable, but also measurable, enduring, and consistent over time; Oldham, 2005) resulted in a paradoxical abundance of theories and ideas about PDs, but a dearth of facts. Furthermore, by the time of publication of the Diagnostic and Statistical Manual of Mental Disorders, Third Edition (DSM-III; American Psychiatric Association, 1980) in the late 20th century, there was no unified theory between the medical model and psychosocial explanations of PDs. Additionally, there remained the idea of abnormal personality in the statistical sense, as represented by conceptions of PD derived from normal personality structure, where abnormal personality deviated from the norm (Rutter, 1987). Within the DSM-III, PDs were classified on a separate axis, which remained in place through the Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Text Revision (DSM-III-R; American Psychiatric Association, 1987), the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV; American Psychiatric Association, 2000), and the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR; American Psychiatric Association, 2000), with this approach dominating research and clinical practice (Kawa & Giordano, 2012). Furthermore, the DSM-III implemented the use of categorical diagnostic criteria used with other mental disorders to diagnose PDs, which stimulated clinical interest and empirical research (Kawa & Giordano, 2012). This categorical approach designated PDs as separate disorders, distinct from each other. However, much of the empirical evidence does not support this, with evidence suggesting that similar symptoms may

present across different PD categories (Livesley, 1998). Additionally, an individual is more likely to present with multiple PDs than one alone (Brown et al., 2001; Grant et al., 2005; Zimmerman et al., 2005). Furthermore, despite the prevailing assumption that mental disorders and PDs are distinct from one another, there is overlap between criteria for PDs and other Section II diagnoses, for example, borderline PD and bipolar disorder both involve affective instability (American Psychiatric Association, 2013a; McMurran, 2008). In spite of frequent revisions to the DSM, these innovations have profoundly influenced all aspects of PDs in clinical practice and research, despite lacking reliability and validity (Livesley, 2018). Multi-axial classification was consequently removed from the DSM-5 (Livesley, 2018). Nonetheless, the development of diagnostic criteria for distinct PDs was a critical step in the conceptualisation and classification of PDs as it encouraged the development of semi-structured interviews during the 1980s, which in turn enabled empirical research (Blashfield et al., 2014).

Whilst it is possible to level criticism at the DSM-III with the benefit of hindsight, such as limited diagnostic reliability and co-occurrence of PDs, it must be contextualised that the DSM-III did not develop in a vacuum. During the early 20th century the medical model was the lens through which mental disorders were understood and classified, however, in the decades prior to the publication of the DSM-III, psychiatry had been subject to criticism from a number of directions (Blashfield, 1984). Firstly, the credibility of psychiatry was challenged by concerns of diagnostic reliability, as well as international differences in diagnostic practices (Livesley, 2018). Secondly, multiple psychological fields, such as humanistic psychology and psychoanalysis criticised the medical model and questioned its relevance to psychiatry (Livesley, 2018). Humanistic psychology rejected the medical model's idea that people needed to be cured of mental illness (Rogers, 1951). Instead, humanistic psychology favoured a more holistic psychological approach, that viewed therapy as an interpersonal process characterised by

empathy, therapist congruence, and unconditional caring (Rogers, 1951). Thirdly, sociological criticisms were levelled at diagnostic labels and whether they best served both patients, and non-patients; a criticism that was given strength by Rosenhan's (1973) study, which suggested that mental health professionals could not adequately differentiate severely mentally ill patients from healthy individuals (Livesley, 2018).

Such criticisms led to the formation of the neo-Kraepelinian movement later in the 20th century (named after the aforementioned German psychiatrist, who believed that biological and genetic malfunctions were the sole cause of psychiatric disorders; Engstrom, 2007), which asserted that psychiatry was a branch of medicine, therefore the medical model was the primary model for conceptualising and treating mental disorders (Klerman, 1978). In reference to the neo-Kraepelinian movement, Klerman (1978) suggested nine propositions that influenced the DSM-III, five being instrumental to the classification of PDs: (1) psychiatry is a branch of medicine; (2) there is a division between the normal and the sick; (3) there are discrete mental illnesses; (4) diagnostic criteria should be codified; and (5) research should be directed at improving diagnostic reliability and validity. Whilst psychoanalytic and sociological criticisms diminished the influence of the medical model during the early to mid-20th century, the neo-Kraepelinian movement resulted in the medical model once again coming to the fore, as it had been at the turn of the previous century (Livesley, 2018). The movement's influence on the DSM-III conceptualisation of PDs had two main outcomes. Firstly, an emphasis was placed on discrete disorders and a search for their major causes, as well as particular pathologies for diagnoses (Pearce, 2012). Secondly, although indirect, this first outcome resulted in a disregard for research into other causes and perspectives, notably normal personality research (Pearce, 2012). The neo-Kraepelinian movement is in large part responsible for the development of PD research for the last 30 years, and the consequent lack of amendments for PDs within subsequent

revisions of the DSM (Livesley, 2018).

2.3 Shortcomings of the Medical Model for Conceptualising Personality Disorders

Since the publication of the DSM-III in 1980 there have been a myriad of concerns about the use of the medical model in diagnosing mental disorders, particularly PDs (Livesley, 2018). Firstly, the broad and complex range of aetiological factors that contribute to PDs are more diverse than what is normally observed in most other medical conditions, with each of these factors impacting different aspects of an individual's personality (Livesley, 2018). For example, within the DSM conceptualisations of borderline PD, maltreatment from a primary caregiver may affect both an individual's emotional reactivity and their response to stress. However, invalidation from a primary caregiver may affect the development of the individual's cognitions, and result in self-invalidating thinking (Livesley, 2018). These various contributing factors sit in contrast with many medical conditions, wherein the primary causal factor contributes to most symptoms (Livesley, 2018). Furthermore, in relation to finding a genetic cause for PDs; multiple genes appear to contribute to the heritability and predisposition toward having a PD, but PDs do not appear to be caused by a specific genetic mechanism (Huff, 2004; Turkheimer, 2015). A lack of a singular cause also appears to apply to other biological risk factors for PDs (Livesley, 2018). In this instance a biological factor is one that is found in all individuals with a particular disorder, but not in individuals who do not have that disorder (Meehl, 1972). Whilst some studies have noted reduced hippocampus and amygdala volumes in individuals with antisocial PD and borderline PD (Kaya et al., 2020; Nunes et al., 2009), it has not been demonstrated whether these symptoms preceded the occurrence of a PD, and are thus functional to its aetiology. Nor, are antisocial PD and borderline PD the only disorders with reduced hippocampal volumes – this has been noted in major depression, dementia, diabetes mellitus, post-traumatic stress disorder, and

schizophrenia (Frodl et al., 2006). Similarly, studies have demonstrated that abnormal amygdala volumes are found in individuals with anxiety, depression, and post-traumatic stress disorder, not just antisocial PD and borderline PD (Yan, 2012). The lack of a major biological cause is not exclusive to PDs, and is the case for many mental disorders, such as anxiety and depression (Turkheimer, 2015). However, this does not mean that research into the genetic and biological mechanisms of PDs is irrelevant. This research is necessary to the understanding of the complex aetiology of PDs to form a holistic conceptualisation that can then improve treatments.

The second concern about the use of the medical model in diagnosing mental disorders pertains to the unique nature of mental disorders, which has evoked the suggestion that psychiatry has an idiosyncratic position amongst medical specialities. Notably, psychiatry addresses a far wider range of symptoms, compared to other medical disciplines (Gadamer, 1996; Varga, 2015). Whilst many general medical conditions are diagnosed using issues related to mobility, perceptions, or sensations, mental disorders are diagnosed on less readily observable symptoms, based on actions, beliefs, cognitive processes, emotions, interpretations, motivations, and thoughts. When PDs are considered, the situation becomes even more complex, as PDs are diagnosed on the aforementioned symptoms, as well as attitudes, disturbances in sense of self, identity problems, personal narratives, relationship issues, and traits (Livesley, 2018). Such a varied and complex picture is not fully captured by the disease-as-entity version of the medical model utilised by psychiatric classification (Sabbarton-Leary et al., 2015).

Thirdly, the categorical approach to PDs, based on the medical model, and used in various versions of the DSM, fails to acknowledge the significance of both an individual's primitive defence mechanisms (any internal processes that protect against anxiety, such as denial, idealisation, projection, or splitting; American Psychiatric Association, 2013a), and the

fact that most features of PDs occur in the behaviour of individuals who have not been diagnosed with a PD (Livesley, 2018; Shedler & Westen, 2007). For example, one of the criteria for borderline PD within the DSM-5 states “Frantic efforts to avoid real or imagined abandonment” (American Psychiatric Association, 2013a, p. 663). Many individuals who have not been diagnosed with borderline PD may make attempts to avoid abandonment or the termination of a relationship with a person that they have been close to. In contrast, the symptoms of general medicine usually indicate a change from the normal state of a patient (Livesley, 2018). For example, an individual developing a rash, even if only temporarily, indicates a change in their usual presentation. Consequently, as mentioned previously, the conceptualisation of PDs thus relies upon a statistical difference in behaviour of an individual amongst the larger population, rather than a change from an individual’s usual functioning.

Lastly, the aforementioned problems that arise from the use of the medical model to classify and diagnose PDs are exacerbated by the broadness of both the possible symptoms of PDs and the all-encompassing extension of PDs to every part of an individual’s personality. For example, if a person sprains their wrist, then it is likely that only their wrist will be affected, and only for a short time. However, a person with borderline PD may struggle to contain their emotional dysregulation across a variety of settings, such as work, and home, and this may last many years (Livesley, 2018). As a result, many features of PDs are seen across different diagnoses, with high comorbidity between diagnoses. This is despite the term comorbidity being developed to refer to the co-occurrence of separate conditions (Shedler & Westen, 2007). This contrasts with general medical disorders, where symptoms are often discrete and do not overlap (Livesley, 2018). However, in order to ameliorate this, the DSM has created further problems by manipulating the boundaries of different PDs in order to create distinct disorders between diagnoses (Shedler & Westen, 2007). A pertinent example is the decision to exclude a lack of

empathy and grandiosity from the diagnostic criteria for antisocial PD, in order to minimise comorbidity with narcissistic PD, even though these traits apply to both of these PDs (Shedler & Westen, 2007). As the DSM focuses on behaviours which are more readily measured, in order to increase the reliability of PD diagnoses, this manipulation of boundaries is likely due to the fact that empathy and grandiosity are both difficult to assess.

The influence of the medical model on the DSM has guided both clinical practice and empirical research. This has resulted in the above problems either not being addressed or being reframed within the parameters of the medical model (Livesley, 2018). Accordingly, the diagnostic criteria of PDs are often referred to as symptoms, despite being different in form and content from general medical symptoms, as well as being distinctly inferential (Livesley, 2018). The use of such a constricted form of the medical model for PDs has led to ongoing diagnostic assessment that is not suited to understanding or treating the heterogeneity of PDs, and has not provided a solid basis for a science of PDs (Flanagan & Blashfield, 2006; Hopwood, 2018; Livesley, 2018; Sadler, 2005). The consistent comorbidity of PDs that results when using the DSM criteria is a refutation to the neo-Kraepelinian position that PDs are discrete disorders – a problem which is magnified by the ubiquity of Personality Disorder – Not Otherwise Specified (PD-NOS) present in iterations of the DSM until the DSM-5 (Verheul & Widiger, 2004). A diagnosis of PD-NOS is given when an individual meets the general criteria of a PD, but they do not fulfil specific criteria, or their symptoms do not fit in to a specific diagnosis (American Psychiatric Association, 2000). A meta-analysis reported that PD-NOS is one of the most common PD diagnoses in research settings, and the most commonly diagnosed PD in clinical settings, at nearly 50% of all PD diagnoses (Verheul & Widiger, 2004). Individuals with PD-NOS have considerable functional impairment, such as educational failure, interpersonal difficulties, other co-morbid psychiatric disorders, and engaging in acts of severe physical

aggression by early adulthood (Johnson et al., 2005; Wilberg et al., 2008). Despite this, the diagnosis itself gives little information about the nature of this personality pathology to the patient themselves, nor to treating clinicians (Morey et al., 2015). The DSM-5 replaced the PD-NOS diagnosis with other specified PD and unspecified PD (American Psychiatric Association, 2013a), however, the change in term to two differently named diagnoses does not automatically amend the aforementioned difficulties. As with PD-NOS, these diagnoses are given when an individual meets the general criteria of a PD, but they do not fulfil specific criteria, or their symptoms do not fit in to a specific diagnosis (American Psychiatric Association, 2013a). Whilst the other specified PD diagnosis is given alongside specific traits (from the AMPD) to form a more personalised diagnosis (Waugh et al., 2017), unspecified PD does not give specifiers as to an individual's particular presentation, at the clinician's discretion. Much like PD-NOS, unspecified PD does not communicate specifics about the nature of a person's pathology, either to the patient themselves, nor to their treating clinicians.

Evidence suggests that the medical model works best when applied to disorders with a specified aetiology and pathogenesis, such as an infectious disease (Kendler, 2012a, 2012b). In the case of an infectious diseases, the aetiology of the illness is an attacking organism (Kendler, 2012b). Consequently, the neo-Kraepelinian movement's adoption and advocacy of the medical model was not an inherently, or completely, wrong move. However, the medical model is not best applied to disorders that have complicated and unclear aetiologies, wherein there are several interacting mechanisms, as is the case for PDs (Bolton, 2008; Kendler, 2012a, 2012b). In the past two decades, multiple biological, psychological, and social risk factors have been identified as contributing to the development of PDs (Livesley, 2018).

Despite evidence across nearly three decades consistently suggesting that features of PDs

are distributed along a continuum, rather than separate categories (Eaton et al., 2011; Leising & Zimmermann, 2011; Livesley et al., 1994; Widiger, 1993; Widiger et al., 2009), the prevailing influence of the medical model remained undiminished (Livesley, 2018). Whilst the recent inclusion of dimensional models in both the DSM and ICD suggests a greater openness to evidence contrary to the medical model, and thus a shift in the field toward a dimensional approach to diagnosing PDs, there are still problems in this acceptance being practically applied. The most overt example of this is provided by the DSM-5 Personality and Personality Disorders Work Group (which was set up to explore the possibility of bringing a dimensional model to the DSM-5) who concluded that “personality features and psychopathological tendencies do not tend to delineate categories of persons in nature” (Krueger et al., 2011, p. 170–171). Despite this conclusion, categorical diagnoses were preserved within the official diagnostic criteria and codes (Section II) of DSM-5, with the dimensional AMPD appearing in Section III – Emerging Measures and Models, within which PD subtypes still appear (Livesley, 2018). Despite the DSM-5 Personality and Personality Disorders Work retaining the categorical model as the official diagnostic system in the DSM-5, they also included the AMPD in Section III so that research on the AMPD could accumulate before formal adoption (Krueger et al., 2011).

A further consequence of the ubiquity of the medical model in the classification of PDs is the failure to draw upon research into normal personality, as a comparison for improved taxonomic models (Livesley, 2018). This is inconsistent with other fields that employ the medical model, as disorder is a relative concept that is best understood with reference to a norm (Bolton, 2008). Within medicine, this norm is the usual function and structure of a certain system – thus suggesting that the norm for conceptualising PDs is normal personality (Bolton, 2008; Livesley, 2018). However, within all versions of the DSM, conceptualisations of normal personality are largely absent (Livesley, 2018). This may be attributable to the fact that

personality research is still in its infancy when compared to research in the biological sciences that underpin general medicine, as well as it being a more difficult concept to study empirically (Livesley, 2018).

2.3.1 Summary

During the 20th century competing schools of thought, such as humanistic psychology and psychiatry, began to refine conceptualisations of PDs. These differing schools emphasised different aspects of PDs, their aetiology, and their conceptualisation. The emergence of the neo-Kraepelinian movement in the mid-twentieth century led to all editions of the DSM from DSM-III onwards having a categorical model of PDs. This has led to a number of criticisms of applying the disease-as-entity version of the medical model to PDs. Criticisms include the fact that PDs have a more complex aetiology than other disorders, the difference between diagnosing a PD compared to other mental and physical disorders, a lack of acknowledgement of human primitive defence mechanisms, a lack of reference to normal personality, and the broadness of both the possible symptoms of PDs and the all-encompassing extension of PDs to all parts of an individual's personality.

2.4 The Influence of 20th Century Developments on 21st Century Conceptualisations of Personality Disorders

There are two main classification systems used to diagnose PDs: the DSM and the International Statistical Classification of Diseases and Related Health Problems (ICD). However, these systems do not follow a consistent approach (American Psychiatric Association, 2013a). When PDs were incorporated into the DSM-III (1980) and the International Statistical Classification of Diseases and Related Health Problems – 9th Revision (ICD-9; World Health

Organization, 1978) they shared the requirement that deeply ingrained maladaptive patterns must be present since adolescence and that these give rise to personal distress or social impairment (Rutter, 1987). However, they went on to diverge in their approach to the sub-classification of PDs (Rutter, 1987). The DSM-III (1980) introduced three higher order clusters, formed due to the similar characteristics of certain PDs, which are purportedly alike within clusters, but vary greatly between them (Esterberg et al., 2010). These DSM clusters feature in all DSM publications since DSM-III (see section 2.4.2 DSM-5 Section II Personality Disorders for further detail). In contrast to the DSM-III, the ICD-9 followed the traditional psychiatric system of basing types off of extremes of specific symptoms. Both classification systems were retained in their next publications, DSM-IV (1994) and the ICD – 10th Revision (ICD-10; World Health Organization, 1994). Whilst the ICD is an important component of psychiatric and psychological literature, the present thesis focuses on the AMPD from Section III of the DSM-5. Consequently, the importance of the ICD is acknowledged, however, due to limitations in scope of the present thesis, the conceptualisations of PDs within the ICD will not be examined in the same detail. Notwithstanding this, both the DSM and ICD are taking steps to integrate a dimensional model into their classification systems – as mentioned, the AMPD in Section III of DSM-5 and the ICD-11 (2019) by introducing a dimensional model for diagnosing PDs. Within the ICD-11 model, clinicians determine whether a PD is present or not and then evaluate its severity (ranging from mild to severe), with unspecified PD severity as a residual category (Tyrer et al., 2015; World Health Organization, 2019). Once presence and severity of a PD has been established, it may be specified by one or more personality traits or patterns (World Health Organization, 2019). The ICD-11 includes five trait domains: Negative Affectivity, Detachment, Dissociality, Disinhibition, and Anankastia (World Health Organization, 2019). The World Health Organization introduced the severity markers due to empirical evidence demonstrating that PD

severity is the best predictor of dysfunction and prognosis (Crawford et al., 2011; Hopwood et al., 2011). Accordingly, the DSM-5 AMPD and the ICD-11 dimensional models both deserve to be examined in sufficient detail and future researcher may wish to further explore the validity of PDs as conceptualised by the ICD-11.

2.4.1 Core Features of DSM-5 Section II Personality Disorders

Whilst the conceptualisation of PDs has a fractured and complicated history, there has been a consensus since the mid-20th century that PDs are not a form of mental illness, but a class of mental disorder characterised by enduring patterns of inner experience and behaviour that diverge markedly from the expectations of a person's culture (Berrios, 1993; Butler & Allnutt, 2003). From DSM-III through to the current DSM-5, this enduring pattern is pervasive and inflexible, and onset can be traced back to adolescence or early adulthood. PDs are considered to be stable over time, and can lead to impairment in four areas: affectivity, impulse control, cognition, and interpersonal functioning (American Psychiatric Association, 2013a). However, not all four areas will always be affected in an individual and some people will experience greater impairment across areas than other individuals.

Affect is the appropriateness, intensity, lability (quickness of change), and range of a person's emotional responses (American Psychiatric Association, 2013a). Those with PDs often demonstrate greater experiences of both intensity and lability of emotions, with greater lability in terms of anger and anxiety, and oscillation between depression and anxiety (Koenigsberg et al., 2002). However, this pattern does not appear to repeat itself with more positive emotions, as studies have not identified oscillation between depression and elation in those with a PD (Henry et al., 2001; Koenigsberg et al., 2002).

Issues with impulse control in PDs can be viewed along a spectrum, where there is a lack of control at one end and at the other end there are issues with over-control (Hoermann et al., 2019). At the over-control end of the spectrum are disorders such as avoidant PD, where over-control is used to avoid embarrassment or ridicule. As a result, there is a lack of spontaneity to ensure that actions do not lead to these outcomes (Hoermann et al., 2019). Similarly, those with obsessive-compulsive PD tend to over-control their impulses. They can be meticulous, excessively worried about rules and regulations, and tend to be overly focused on conscientiousness, morals, and ethics. At the other end of the spectrum, a lack of impulse control can manifest as a failure to plan ahead or to consider long-term consequences (Hoermann et al., 2019). This can manifest as assaultive behaviours, excessive risk taking, gambling, impulsive spending, risky sexual behaviours, or substance abuse (Hoermann et al., 2019; Lacey & Evans, 1986). As outlined above, people with a PD often experience issues with affectivity, and disturbances in impulse control can represent maladaptive attempts to cope with these often intense and difficult emotions (Hoermann et al., 2019).

Cognition is a person's means of perceiving and interpreting the self, others, and events, as well as thinking abilities such as attention, concentration, memory, and problem-solving (American Psychiatric Association, 2013a; Ruocco, 2015). Impairments in cognition can be seen in those with a PD in difficulties with logical reasoning, poor focus and concentration, and memory problems and distortions (Kroll, 1988). These deficits can have a variety of negative consequences for individuals with a PD. Most notably, studies have suggested that individuals with a PD who engage in more medically lethal self-injurious behaviours displayed more severe executive function deficits, such as problem-solving and response inhibition, than those who engage in less lethal acts (Williams et al., 2015). Furthermore, individuals with PDs can often hold strong negative views about themselves ("I am unlovable"), other people ("they do not like

me”), and achievement issues (“I am incompetent;” American Psychiatric Association, 2013a; Beck, 1995). These negative views tend to be rigid and pervasive, and become core beliefs when individuals store information consistent with negative thoughts, but ignore evidence that contradicts them (Cully & Teten, 2008). These core beliefs tend to be global and present across multiple situations.

Impairments in cognition can also manifest as issues specifically with social cognition (the mental processes used to interpret and interact with the social world; Beer & Ochsner, 2006). This can then have an effect on interpersonal functioning, as individuals with a PD can then misinterpret other peoples’ social behaviours (Jeung & Herpertz, 2014). Impairments in interpersonal functioning are central to PDs, with distortions in empathy and intimacy being prominent features of these disorders (Jeung & Herpertz, 2014). Consequently, interpersonal dysfunction frequently occurs in both platonic and intimate relationships, due to lower mentalizing and empathy abilities, as well as higher personal distress (Jeung & Herpertz, 2014). These lowered empathising abilities are characterised by alexithymia, a difficulty in recognising and expressing feelings (Nicolò et al., 2011). Interpersonal dysfunction in PDs is a broad category that manifests in a variety of ways, depending on the disorder and traits of an individual. Broadly, interpersonal dysfunction can be characterised by intense and unstable relationships, relationships where there is a strong emotional reliance, rapid attachments, a disinterest and detachments from close relationships, suspiciousness of others, and a need for admiration from others (American Psychiatric Association, 2013a; Jeung & Herpertz, 2014).

2.4.2 DSM-5 Section II Personality Disorders

Since the introduction of the PD clusters and categories in DSM-III they have remained the same throughout further iterations of the DSM, including in Section II of the DSM-5

(American Psychiatric Association, 2013b). Cluster A consists of paranoid PD, schizoid PD, and schizotypal PD, Cluster B consists of antisocial PD, borderline PD, histrionic PD, and narcissistic PD, and Cluster C consists of avoidant PD, dependent PD, and obsessive-compulsive PD (American Psychiatric Association, 2013a). Despite the different characterisations of each cluster, the American Psychiatric Association (2013a) suggests that all PDs will begin by early adulthood and be present in a variety of contexts. Table 1 provides a description of each cluster and the PDs within it.

Table 1

Personality Disorder Clusters in Section II of the Diagnostic and Statistical Manual – Fifth Edition

| Personality Disorder | Dominant Features |
|-------------------------|--|
| Cluster A | View the world as being incorrect, rather than they themselves being out of sync with it. |
| Paranoid PD | Mistrustful of other individuals and interpret their behaviours and motivations as malevolent. |
| Schizoid PD | Lack of interpersonal relationships, absence of desire to seek and form close relationships. |
| Schizotypal PD | Ideas of reference, odd thinking and speech, constricted affect, and paranoid social anxiety. |
| Cluster B | Dramatic, emotional, or erratic behaviour, as well as a lack of empathy. |
| Antisocial PD | Difficulty feeling empathy. As a result, there is a disregard for others, and overdeveloped of combativeness, exploititiveness, and predation. |
| Borderline PD | Interpersonal instability, impulsiveness, unstable identity, emotional problems, and sensitivity to interpersonal rejection. |
| Histrionic PD | Behaviours that are self-centred, seductive, and manipulative. To people outside of themselves they often appear to be in a state of performance. |
| Narcissistic PD | A grandiose sense of self-importance, interpersonal exploitation, preoccupation with fantasies (especially of ideal love, power, or brilliance), and a belief that they are special and should only associate with others who are special. |
| Cluster C | Anxious and fearful presentation, with high levels of worry. |
| Avoidant PD | Sensitivity to social criticism, low self-esteem, and withdrawal from social interactions. |
| Dependent PD | A strong desire to be taken care of by another individual, alongside fear of losing this person. |
| Obsessive-compulsive PD | Preoccupation with orderliness, perfectionism, and control, at the expense of flexibility, openness, and efficiency. |

Note. Adapted from American Psychiatric Association (2013a).

2.5 Criticisms of the DSM-5 Categorical Approach

Whilst the categorical approach remains the most prevalent approach to conceptualising and diagnosing PDs (Margo, 2021), it has several shortcomings, which will be outlined below.

2.5.1 *Limited Diagnostic Reliability and Validity*

The DSM-5 categorical model of PD demonstrates limited diagnostic reliability. A meta-analysis reported poor convergence between structured interviews and personality questionnaires for Section II PD diagnoses, with coefficients of .27 for specific PDs and .29 for any PD (Clark et al., 1997). Furthermore, a study by Perry (1992) combined the results of a large, representative sample of PD reliability studies, and reported a median coefficient of .25. Studies that utilise rigorous methodologies (i.e., independent patient interviews in lieu of ratings derived from an interview record) typically yield the lowest reliability indices (Bernstein, 1998). This may reflect unreliability of the measures themselves, but also likely indicates that reliably defining DSM PD constructs is difficult due to the nature of the constructs themselves (Clark, 2007).

As outlined in section 2.2 (Twentieth Century Conceptualisations of Personality Disorders), during the mid-twentieth century there had been criticisms of psychiatry's credibility in regard to diagnostic reliability and validity. Accordingly, the DSM-III was concerned with addressing these criticism (Klerman, 1978). It was assumed that once the problem of reliability was resolved, attention would turn to improving validity (Klerman, 1986). However, as the coefficients above suggest, this progression has not occurred. Consequently, the DSM-IV, DSM-IV-TR, and DSM-5 do not appear to be more reliable than DSM-III for the diagnosis of PDs (Livesley, 2018). Nevertheless, the DSM is still in widespread use, which may reflect different understandings of diagnostic validity and reliability. For example, validity is often confused with

clinical utility, i.e. whether a diagnosis is useful for communication, treatment selection, and for prognosis (First et al., 2004; Kendell & Jablensky, 2003). Additionally, this widespread use could also reflect the fact that until recently there have been few other alternatives.

2.5.2 Co-occurrence of Personality Disorders

Currently, there is a lack of a clear, coherent, and consistent conceptualisation of PDs. This has led to distinct symptoms being developed for each category of PD, despite evidence demonstrating that similar symptoms may present across different PD categories (Livesley, 1998; Zimmerman et al., 2005). Consequently, there is extensive diagnostic overlap within PDs and, as a result, many individuals who are diagnosed with a PD meet criteria for more than one. The solution to diagnostic overlap has previously been to change the criteria for different disorders – as discussed earlier with reference to antisocial PD. However, this ultimately compounds the problem, as it offers a superficial solution to a fundamental issue, i.e., PDs are not distinct from one another (Livesley, 1998).

This co-occurrence of PDs is exemplified by obsessive-compulsive PD, whereby overlap with other PDs occurs in approximately 70% of cases, despite being the most distinct category, with symptoms that are dissimilar to other PD symptoms (Livesley, 1998). For example, two of the criteria for obsessive-compulsive PD are being over conscientious, scrupulous, and inflexible about matters of morality, ethics, or values (not accounted for by cultural or religious identification) and showing perfectionism that interferes with task completion (American Psychiatric Association, 2013a). This contrasts with many other PDs, which have an emphasis on disregard or disinterest in other people. Conversely, two of the other criteria for obsessive-compulsive PD centre on an inability to effectively interact with other people, and the presence of rigidity and stubbornness (American Psychiatric Association, 2013a). These criteria are more

in line with the emphasis on disregard or disinterest in other people seen in other PDs. Despite some of the diagnostic criteria for obsessive-compulsive PD seeming quite distinct from other PDs, the large diagnostic overlap between it and other PDs suggests a shared underlying symptomology (Fineberg et al., 2014). For example, those with narcissistic PD may also have a tendency towards perfectionism, whilst both schizoid PD and obsessive-compulsive PD can be characterised by formality and social detachment (American Psychiatric Association, 2013a). In obsessive-compulsive PD, this seems to arise from extreme devotion to one's work, whereas in schizoid PD there is a fundamental disinterest in intimacy.

Additionally, there is overlap between criteria for PDs and other Section II diagnoses (McMurran, 2008). For example, schizotypal PD and a number of psychotic conditions share diagnostic criteria (disorganised speech and odd beliefs), as do borderline PD and bipolar disorder (affective instability; American Psychiatric Association, 2013a). As such, there is considerable comorbidity of PDs with each other and with major mental disorders. Whilst this may reflect a connection among co-occurring disorders, it could also be representative of a flaw in the diagnostic system (Livesley, 1998).

2.5.3 Heterogeneity of Personality Disorders

As the criteria for many PDs are wide ranging, different people can meet criteria for the same PD, whilst having few, or even no, diagnostic features in common (Morey et al., 2015). For example, one client with a diagnosis of borderline PD may be in treatment that focuses on suicidal behaviours, whilst another needs to focus on emotional lability and a fear of abandonment. Whilst this would hopefully be addressed if a person presents for individual therapy, if the person only has access to group therapy they may end up focusing on symptoms that are not relevant to them. Furthermore, considering that only five of the nine diagnostic

criteria must be present when diagnosing borderline PD, there are over 250 ways to meet a borderline PD diagnosis (Kendler et al., 2011). Taken altogether, the wide-ranging presentation of PDs questions the clinical utility of such diagnoses (Morey et al., 2015).

2.5.4 Temporal Instability

Studies have suggested that the average short-term (six-week) test-retest correlations for PD diagnoses made by structured interview are between .54 and .56, which indicates poor reliability (Zimmerman, 1994). Moreover, other research has found that, with treatment, schizotypal PD, borderline PD, avoidant PD, and obsessive-compulsive PD can see significant diagnostic change over as little as six months (Shea et al., 2002). This suggests that there is diagnostic instability that is inconsistent with the relative stability of personality traits and of impairment in PDs (Morey et al., 2015), or that there is poor reliability within PD measures. Furthermore, studies have suggested that PDs can change as a result of treatment, as well as without treatment (Cohen et al., 2001; Zanarini et al., 2010). For example, one study that focused on individuals with a diagnosis of borderline PD found that 50% of participants achieved recovery (defined as remission of symptoms, and having good social and vocational functioning during the previous two years) from borderline PD after treatment (Zanarini et al., 2010).

2.5.5 Inadequate Coverage

The classification of DSM categorical PDs is not exhaustive. As shown above, categories seek to be mutually exclusive, and as well as exhaustive, suggesting that all occurrences of PDs can be classified (Livesley, 1998). The DSM-IV achieved exhaustiveness through the use of the PD-NOS diagnosis, and the DSM-5 has replicated this with the other specified PD and unspecified PD diagnoses (American Psychiatric Association, 2013a). Such categories are

justified only when used infrequently, but this is not currently the case (Livesley, 1998). Many studies, whether community or clinical samples, suggest that approximately 20% of PD diagnoses are other specified personality disorder and unspecified personality disorder (Johnson & Levy, 2017).

2.5.6 Arbitrary Diagnostic Thresholds

The use of severity dimensions in diagnosis is common in modern medicine (e.g., multiple stages of cancer). In contrast, PD diagnosis uses dichotomous classification with thresholds set at an arbitrary number of criteria, rather than informed by empirical data (Morey et al., 2015). Consequently, two people who meet the threshold for diagnosis of a certain PD can vary greatly in the severity of their condition, whilst those falling below the threshold might still have greater problems of disorder severity than some meeting diagnostic thresholds (Morey et al., 2015). A 2009 study aimed to explore whether individuals who met the diagnostic threshold for schizoid PD had less severity than individuals who fell short of the diagnostic threshold (Cooper & Balsis, 2009). Item response theory analyses displayed that there were participants who were one symptom below the diagnostic threshold, but had greater severity than did some participants who met the diagnostic threshold (Cooper & Balsis, 2009). Two thousand six hundred and six participants were at the diagnostic threshold, yet 363 (12%) of the individuals who were below the threshold had a higher estimated severity level than those above the threshold (Cooper & Balsis, 2009). Other recent research has suggested that the use of arbitrary diagnostic thresholds causes overlap amongst PD diagnoses, rather than the criteria themselves (Clark et al., 2015; Somma et al., 2019). Furthermore, the present versus not present framework of the categorical model presents PDs as if they are categorical in nature, which current empirical evidence does not support (Hopwood & Sellbom, 2013).

2.5.7 Clusters

As outlined above, the DSM-5 contains three higher order clusters of PDs, which exist largely for heuristic purposes, with little empirical support for their construct validity or their discriminant validity (Widiger et al., 2009; Wilson et al., 2017).

2.5.8 Benefits of the Categorical Approach

Despite the above limitations, there is still support for the use of the categorical model to diagnose PDs (Verheul, 2012). This position rests upon two main arguments. Firstly, that there is a lack of empirical support for the AMPD (discussed in detail below) and a lack of historic continuity between the categorical model and newer dimensional models (Verheul, 2012). Proponents of the categorical model argue that the PD classifications in the AMPD are based on observation rather than on scientific evidence (Verheul, 2012). Furthermore, the PD types included in the AMPD are viewed as being too distinct from previous iterations of the DSM, thus showing little historic continuity with previous PD conceptualisations, except for their naming (Hopwood, 2018; Verheul, 2012). Secondly, many clinicians and researchers believe that the categorical model has valuable clinical utility (Zachar & First, 2015). Newer dimensional models are viewed as overly complex, thereby threatening user acceptability, accuracy, inter-rater reliability, validity, and utility (Verheul, 2012). When PDs are viewed as dimensional, there are a number of complex questions, such as how many dimensions are required for a diagnosis, and to what degree they need to be present. In contrast, the categorical model presents a simpler yes or no dichotomy to diagnosis.

2.5.9 Summary

PDs have been included in every edition of the DSM. Within DSM-I and DSM-II PDs

were placed into personality pattern disturbances, personality trait disturbances, and sociopathic personality disturbances (Oldham, 2005). With the introduction of the DSM-III a PD diagnosis required that deeply ingrained maladaptive patterns must have been present since adolescence and that these give rise to personal distress or social impairment. The DSM-III also included three higher order clusters, formed due to the similar characteristics of certain PDs, which are purportedly alike within clusters, but vary greatly between them. The DSM clusters have featured in all DSM publications since DSM-III.

There is a consensus that PDs are not a form of mental illness, but a class of mental disorder characterised by enduring patterns of inner experience and behaviour that diverge markedly from the expectations of a person's culture. Consistent with past iterations of the DSM, within the DSM-5 this enduring pattern is pervasive and inflexible and onset must be traced back to adolescence or early adulthood. PDs are considered to be stable over time and can lead to impairment in four areas: affectivity, impulse control, cognition, and interpersonal functioning.

Although the categorical approach is still the most prevalent approach to conceptualising and diagnosing PDs, it has several shortcomings, including limited diagnostic reliability and validity, co-occurrence of PDs, heterogeneity of PDs, temporal instability, inadequate coverage, arbitrary diagnostic thresholds, and the use of the aforementioned clusters.

2.6 How Personality Disorders Are Measured in DSM-5 Section II

As discussed, people with a diagnosis of PD can have a broad range of experiences and symptoms. Consequently, researchers have attempted to design instruments that allow the identification, differentiation, and diagnosis of different PDs. For the categorical model, there are two primary modes of instruments used for assessment purposes: interviews and self-report.

These can be further broken down into diagnostically based interviews and trait based interviews, and diagnostically based self-report instruments and trait based self-report instruments (refer to Table 2 for a list of these instruments; Clark & Harrison, 2001). Whilst the name trait based may give the impression of being used for a dimensional model, within the categorical system these instruments are often used for looking in to a specific pathological personality category, e.g., The Diagnostic Interview for Borderline Patients (Gunderson et al., 1981).

2.6.1 Diagnostically Based Interviews

Structured interviews that aim to diagnose PDs are based around a set number of questions, which refer to differing aspects of PDs (Segal et al., 2006). The questions are rated by the interviewer on the basis of both the interviewees direct responses to the questions and their non-verbal behaviour during the interview (Pilkonis et al., 1995). Consequently, the administration of the structured interview ensures that the assessment is comprehensive, objective, and replicable (Widiger & Samuel, 2005). Diagnostically based interviews are usually time consuming to administer (an interview can take up to 120 minutes to complete), with multiple sessions sometimes required (Furnham et al., 2014). Diagnoses resulting from these interviews are designed to fall within one of the 10 DSM categorical diagnoses, although more than one diagnosis may result from the interview. Alternatively, if diagnostic criteria for the categorical diagnoses are not met, a diagnosis of other specified PD or unspecified PD may be given (American Psychiatric Association, 2013a). Many diagnostically based interviews can be preceded with a screening instrument, which are usually in the format of a self-report true-false questionnaire. Notably, studies have suggested that screeners can yield a high number of false positives and are thus best used to screen out cases where no PD is present (Carey, 1994; Clark

& Harrison, 2001; Lenzenweger et al., 1997).

Although the emergence of structured interviews for diagnosing PDs during the late 1980s was hailed as a landmark for reliable diagnosis, empirical evidence regarding the reliability of this approach is mixed. For example, on the two most prominent instruments – The Personality Disorder Examination (Loranger, 1988) and The Structured Interview for DSM-III-R Personality Disorders (Pfohl et al., 1989) - inter-rater reliability coefficients have ranged from poor ($r = 0.41$) to excellent ($r = 0.89$; Pilkonis et al., 1995).

2.6.2 Trait Based Interviews

The structure of trait based interviews is similar to that outlined above for diagnostically based interviews – the key difference being that trait based interviews focus on a specific trait (i.e., category) of PD (Furnham et al., 2014). They also assess the target trait in much greater detail than diagnostically based interviews – as portrayed by the length of administration (Clark & Harrison, 2001). Trait based interviews may require up to 120 minutes to assess as many as 33 elements of a single PD (Clark & Harrison, 2001). This lengthy administration time can be burdensome to both clients and clinicians (Clark & Harrison, 2001). Furthermore, given the high comorbidity between PD diagnoses, a diagnosis founded on a trait based interview may also apply to other PDs that have not been examined (Clark et al., 1997). For example, if a person received a diagnosis of narcissistic PD after being interviewed using The Diagnostic Interview for Narcissism (Gunderson et al., 1990) then they may miss out on a relevant co-morbid diagnosis of antisocial PD.

Table 2

Instruments for the Measurement of Personality Disorders in the Categorical Model of Personality Disorder

| Interviews | Self-reports |
|--|--|
| Diagnostically based measures | |
| The Diagnostic Interview for DSM-IV Personality Disorders (Zanarini et al., 1996) | Coolidge Axis-Two Inventory (Coolidge & Merwin, 1992) |
| International Personality Disorder Examination (Loranger, 1999) | Millon Clinical Multiaxial Inventory-III (Millon, 1983) |
| Personality Disorder Interview (PDI) (Widiger et al., 1995) | Minnesota Multiphasic Personality Inventory (Morey et al., 1985) |
| The Structured Clinical Interview for DSM-5 Personality Disorders (First et al., 2018) | The Personality Diagnostic Questionnaire – 4 th Edition (Hyler, 1994) |
| The Structured Interview for DSM-IV Personality Disorders (Pfohl et al., 1997) | The Personality Diagnostic Questionnaire – Revised (Hunt & Andrews, 1992) |
| The International Personality Disorder Examination Questionnaire (Loranger, 1999) | Schedule for Non-adaptive and Adaptive Personality (Clark et al., 1993) |
| Iowa Personality Disorder Screen (Langbehn et al., 1999) | The Wisconsin Personality Disorder Inventory-IV (Klein & Benjamin, 1996) |
| | Personality Assessment Inventory (Morey & Henry, 1994) |
| | The Omnibus Personality Inventory (Loranger, 1994) |
| | Personality Beliefs Questionnaire (Beck & Beck, 1991) |
| Trait based measures | |
| The Diagnostic Interview for Borderlines (Gunderson et al., 1981) | Dimensional Assessment of Personality Pathology – Basic Questionnaire (Livesley & Jackson, 2009) |
| The Revised Diagnostic Interview for Borderlines (Zanarini et al., 1989) | Inventory of Interpersonal Problems – Personality Disorders Scale (Horowitz et al., 1988) |
| The Diagnostic Interview for Narcissism (Gunderson et al., 1990) | NEO Personality Inventory – Revised (Costa & McCrae, 1985) |
| Hare Psychopathy Checklist- Revised (Hart et al., 1992) | Extended Interpersonal Adjective Scales (Trapnell & Wiggins, 1990) |
| Personality Assessment Schedule (Tyrer, 2000) | |

| Interviews | Self-reports |
|------------|--|
| | Personality Adjective Checklist (Strack, 1987) |
| | Tridimensional Personality Questionnaire (Cloninger, 1987) |

2.6.3 Diagnostically Based Self-Report Instruments

Diagnostically based self-report instruments, often referred to as questionnaires, are the most common method for assessing PDs (Furnham et al., 2014). Diagnostically based self-report instruments usually take less time to administer than interviews, an oft cited benefit of using them to assess PDs (Clark & Harrison, 2001). This is especially useful in settings where time and resources are limited. Ironically, this strength of diagnostically based self-report instruments may also be their weakness. The shorter administration time, which arises from fewer items on these measures, may result in lower reliability and validity (Clark & Harrison, 2001). As described above, many diagnostically based interviews are accompanied by screeners. Studies have suggested that self-report inventories may be more useful as screeners due to their moderate specificity and high sensitivity, alongside good negative predictive power (the likelihood that an individual does not have a PD, given a negative result; Clark & Harrison, 2001; Guthrie & Mobley, 1994; Marlowe et al., 1997; Trull & Larson, 1994). Diagnostically based self-report instruments are usually based on a Likert-scale or a true – false dichotomy (Furnham et al., 2014). Diagnostic scores are obtained by counting the number of criteria met or by summing the items that are relevant to a specific diagnosis (Clark & Harrison, 2001).

Some diagnostically based self-report instruments also have an informant version, for collecting collateral data, such as the PDQ-4 (Clark & Harrison, 2001). Much of the PD literature

(Bernstein et al., 1997; Hirschfeld, 1993; Zimmerman, 1994) makes reference to the lack of insight that occurs in PDs and concludes that people with a PD may not be able to accurately report their own behaviours, emotions, and thoughts (Clark & Harrison, 2001). However, there is little empirical evidence to support this proposition. Some researchers suggest that people with a PD may lack insight into the consequences of their actions or the effect that they may have on other people, but that they are accurately able to report on their own internal feelings and motivations (Clark & Harrison, 2001). Of the small amount of research that has been done in this area, two studies exploring the PDQ-4 in 60 psychiatric patients, alongside informants, suggested that there were significant moderate to strong correlations between the self and informant reports, with the exception of paranoid PD, which was not significant (Dowson, 1992a, 1992b).

2.6.4 Trait Based Self-Report Instruments

Similarly to trait based interviews, trait based self-report instruments may assess either a single dimension of a PD or multiple PD traits (Clark & Harrison, 2001). Accordingly, consideration of the purpose of the assessment is paramount when selecting which measure to administer. For instance, when assessing a range of traits, a multi-scale instrument may be preferable (Clark & Harrison, 2001). However, if exploring a specific element of personality pathology, a single-scale instrument may be more useful (Clark & Harrison, 2001). Nevertheless, when using a single-scale instrument a clinician will need to keep in mind that issues related to comorbidity and discriminant validity will need to be addressed (Widiger & Frances, 1987). Trait based self-report instruments share a disadvantage with diagnostically based self-report instruments, in that their shorter administration time, compared to trait based interviews, may result in lower reliability and validity (Clark & Harrison, 2001).

2.6.5 Summary

There are two primary assessment approaches to diagnose categorical PDs: interviews and self-report instruments. Within these, there are diagnostically based interviews and trait-based interviews, and diagnostically based self-report instruments and trait based self-report instruments. Diagnostically based instruments explore whether a person has one, or more, of the 10 categorical diagnoses in Section II of the DSM-5, whereas trait-based instruments examine a specific pathological personality trait or category in detail.

There are a number of factors that need to be taken into account when a clinician is determining which of the above instruments will be most appropriate for PD assessment, including (1) resource and time constraints (for both clinician and client), (2) whether the 10 diagnoses altogether or a specific trait is of most interest, (3) availability of collateral information, and (4) ability of a client to read and write. Accordingly, there may be no superior instrument or method to use when assessing for PDs in the categorical model, but instead a best method for specific clients and situations.

2.7 The Alternative Model for Personality Disorder

To amend the shortcomings of the categorical approach to PDs, the DSM-5 proposed the AMPD, contained within Section III: Emerging Measures and Models. The AMPD is a new set of diagnostic guidelines to classify and diagnose PDs (Bach & Hutsebaut, 2018). The most notable difference between the AMPD and the categorical model of PD is the move towards a hybrid categorical-dimensional system whereby clinicians can assign a categorical PD, based on the severity of a person's specific impairments in personality functioning and individual patterns of pathological personality traits (Krueger et al., 2013b). Whilst the previously discussed cluster

presentation of PDs assumes that PDs are separate entities, research across several years demonstrates that PD traits are co-occurring (Gilbert & Daffern, 2011; Haslam et al., 2012; Hyler et al., 1992; Zimmerman et al., 2005).

2.7.1 Core Personality Experiences Within the Alternative Model for Personality Disorder

The AMPD characterises PDs in terms of level of personality functioning (Criterion A) and pathological personality traits (Criterion B).

2.7.1.1 Level of Personality Functioning (Criterion A). According to the AMPD, personality functioning is distributed on a continuum (American Psychiatric Association, 2013a; Wilson et al., 2017). An optimally functioning individual has a complex, fully elaborated, and well-integrated psychological world. At the opposite end of the continuum, an individual with severe personality dysfunction has an impoverished, disorganised, and conflicted psychological world (American Psychiatric Association, 2013a). The AMPD conceptualisation of personality functioning emphasises that there are two core impairments that underlie the presence of all PDs: self-functioning and interpersonal problems (Bach & Hutsebaut, 2018; Hopwood et al., 2018; Huprich et al., 2018). Both of these are contained within the level of personality functioning (Criterion A of the AMPD; American Psychiatric Association, 2013a). Within the Self-Functioning domain, there are two lower order constructs: identity and self-direction (see Table 3 for definitions; American Psychiatric Association, 2013a). Disturbances in self-functioning can manifest in a variety of different ways, such as periods of heightened self-doubt, grandiose self-importance, or an inability to set and attain satisfactory and rewarding life goals (Skodol et al., 2011; Smith et al., 2003).

The second core experience relates to interpersonal problems (American Psychiatric

Association, 2013a). Within this domain, there are two lower order constructs: empathy and intimacy (see Table 3 for definitions; American Psychiatric Association, 2013a). Interpersonal problems can manifest in a variety of ways, such as difficulties with empathy, feelings of paranoia, or engagement in impulsive activities (Hopwood et al., 2018; Lieb et al., 2004). Interpersonal difficulties can manifest across real world encounters between actual people, as well as in an individual's mental representation of themselves and others, e.g., perceiving a slight from an innocuous comment, which will then be brooded upon (Blatt et al., 1997).

Table 3

Definitions of Level of Personality Functioning Constructs

| |
|---|
| Self-functioning: |
| <ol style="list-style-type: none"> 1. Identity: Experience of oneself as unique, with clear boundaries between self and others; stability of self-esteem and accuracy of self-appraisal; capacity for, and ability to regulate, a range of emotional experiences. 2. Self-direction: Pursuit of coherent and meaningful short-term and life goals; utilisation of constructive and prosocial internal standards of behaviour; ability to self-reflect productively. |
| Interpersonal: |
| <ol style="list-style-type: none"> 1. Empathy: Comprehension and appreciation of others' experiences and motivations; tolerance of differing perspectives; understanding the effects of one's own behaviour on others. 2. Intimacy: Depth and duration of connection with others; desire and capacity for closeness; mutuality of regard reflected in interpersonal behaviour. |

Note. Adapted from American Psychiatric Association (2013a).

Within the AMPD, impairment in personality functioning determines the presence of a PD. A moderate level of impairment across two of the four constructs is required to diagnose the presence of a PD (American Psychiatric Association, 2013a). In addition, the AMPD also considers the severity of impairment, which determines whether an individual has one, or more,

of the typically severe PDs that the AMPD has retained (antisocial PD, avoidant PD, borderline PD, narcissistic PD, obsessive-compulsive PD, and schizotypal PD; American Psychiatric Association, 2013a). The inclusion of a severity scale with the AMPD was identified as important by the DSM-5 Personality and Personality Disorders Work Group after a study noted that “generalised severity is the most important single predictor of concurrent and prospective dysfunction, but that stylistic elements also indicate specific areas of difficulty” within a PD (Hopwood et al., 2011, p. 1). Consequently, the Personality and Personality Disorders Work Group proposed that the DSM-5 include a scale that allows clinicians to both determine the presence of a PD, but also the severity (Skodol et al., 2011). Accordingly, the AMPD includes the Level Of Personality Functioning Scale (LPFS), which provides markers of severity for each personality functioning construct (Bach & Hutsebaut, 2018). The LPFS contains 60 descriptors of impairment within the categories of Identity, Self-Direction, Empathy, and Intimacy – there are three descriptions in each category, at four levels of impairment (Little or No Impairment, Some Impairment, Moderate Impairment, Severe Impairment, and Extreme Impairment; American Psychiatric Association, 2013a). Information relevant to scoring the LPFS can be ascertained through an interview or a file review. Additionally, the LPFS may be used as a global indicator of personality functioning without reference to a specific PD or in the event that personality impairment is sub-clinical (American Psychiatric Association, 2013a).

As noted earlier, despite the complex history of PD conceptualisation, there has long been agreement that PDs are characterised by enduring patterns of inner experience and behaviour that diverge from the expectations of a person’s culture (Berrios, 1993; Butler & Allnutt, 2003). Throughout different conceptualisations of PDs, self and interpersonal functioning have consistently formed a core part of this divergence (Bender et al., 2011). As such, the level of personality functioning in the AMPD is consistent with previous

conceptualisations of PDs. Where it differs, is it's use as a measure of impairment severity, which had previously been lacking in the DSM (Bender et al., 2011; Hopwood et al., 2011). Furthermore, Criterion A is consistent with multiple models of personality that emphasise self and interpersonal functioning (Pincus & Roche, 2019). Criterion A draws upon interpersonal (a focus on complex social relations), psychodynamic (focuses on internal conflict and mental beliefs), and personological (use of case history and narrative, life story data) models (Waugh et al., 2017). As such, the level of personality functioning is theoretically coherent with other models of both healthy and maladaptive personality functioning (Pincus, 2018; Waugh et al., 2017).

A study in Turkey (Dereboy et al., 2018) used a Turkish language version of the LPFS whilst using the Longitudinal, Expert, All Data approach to examine its reliability and validity. This approach was proposed by Spitzer (1983) as a robust approach to mental health diagnoses, as an alternative to laboratory tests. Firstly, it involves undertaking more than one examination in the evolution of a condition; symptoms that are identified after an initial assessment are also taken into account in diagnosing the entire episode of the condition (Longitudinal). Secondly, diagnoses are made by expert clinicians who have demonstrated their ability to make reliable diagnoses; these diagnoses are independent and based on thorough clinical interviews (Expert). Lastly, clinicians will interview other informants (e.g., family and friends) and will access data provided by other professionals (e.g., hospital staff and previous therapists) (All Data; Spitzer, 1983). The researchers in the Turkish study followed this approach and generated LPFS total scores that showed good internal consistency ($\alpha = .86$) and acceptable test – retest reliability ($\alpha = .58$). Furthermore, LPFS total scores were found to correlate with DSM–III–R PD diagnoses ($\kappa = .68$; Dereboy et al., 2018).

2.7.1.2 Pathological Personality Traits (Criterion B). Once the presence and severity of a PD has been established (Criterion A), Criterion B is used to delineate the unique manifestation of an individual's PD presentation (Bach & Hutsebaut, 2018). Criterion B is made up of five trait domains (Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism) with each domain made up of a set of facets, with 25 trait facets in total (see Table 4; American Psychiatric Association, 2013a; Anderson et al., 2013; Skodol et al., 2011). Not all facets are unique to one domain, with some being present in multiple domains in order to reflect the complex structure of personality (Krueger & Markon, 2014), e.g., Depressivity is featured in both the Negative Affectivity domain and the Detachment domain (American Psychiatric Association, 2013a). The five domains within AMPD Criterion B are maladaptive versions of the five domains of the widely validated and replicated five factor model of personality (FFM; Costa Jr & McCrae, 1990), and are also similar to the domains of the personality psychopathology five (PSY-5; American Psychiatric Association, 2013a; Harkness & McNulty, 1994). The specific 25 facets represent a list of personality facets chosen for their clinical relevance (American Psychiatric Association, 2013a).

Furthermore, whilst the AMPD domains and facets focus on pathological personality traits, there are adaptive, healthy, and resilient personality traits identified as the polar opposites of these traits (e.g., emotional stability versus emotional lability). Their presence can greatly mitigate the effects of a PD and facilitate coping and recovery (American Psychiatric Association, 2013a). This allows clinicians to form person centred, specific PD diagnosis, which then inform treatment approaches (Dunne et al., 2017). As a result, the AMPD allows PDs to be understood as arrangements of maladaptive traits, rather than disorders that are separate and distinct from both one and other, as well as normal behaviour (Hopwood & Sellbom, 2013).

Table 4*Alternative Model for Personality Disorders Trait Domains and Facets*

| Domain/Facets | Description |
|-------------------------------------|---|
| Negative Affectivity | Intense and repeated experiences of high levels of a wide range of negative emotions and their behavioural and interpersonal manifestations |
| Emotional Lability | Instability of emotional experiences and mood |
| Anxiousness | Feelings of nervousness, tenseness, or panic in reaction to diverse situations; frequent worry, fear and apprehensiveness |
| Separation Insecurity | Fears of being alone due to rejection by, and/or separation from significant others; lack of confidence in ability to care for oneself |
| Submissiveness | Adaptation of one's behaviour to the actual or perceived interest and desires of others, at the expense of one's own interest and needs |
| Hostility | Persistent/frequent feelings of anger or irritability in response to minor slights and insults; mean, nasty, or vengeful behaviour |
| Perseveration | Persistence at tasks or a particular way of doing things long after the behaviour has ceased to be functional or effective |
| Depressivity | Feelings of being down, miserable, or hopeless; pervasive shame or guilt, inferior self-worth; thoughts of suicide/suicidal behaviour |
| Suspiciousness | Sensitivity to signs of interpersonal mistreatment or persecution by others; doubts about loyalty and fidelity of others |
| Restricted Affectivity (Lack of) | Constricted emotional experience and expression; indifference and aloofness in typically engaging situations |
| Detachment | Evasion of socioemotional experiences, including both withdrawal from interpersonal interactions and restricted affective experience and expression, with limitations on pleasurable activities |
| Withdrawal | Preference for being alone; reticence in social situation; lack of initiation and avoidance of social contacts and activity |
| Intimacy Avoidance | Avoidance of close or romantic relationships, interpersonal attachments, and intimate sexual relationships |
| Anhedonia | Lack of enjoyment from engaging in life's experiences; deficits in the |

| Domain/Facets | Description |
|------------------------|--|
| | capacity to feel pleasure and take interest in things |
| Depressivity | See Negative Affectivity |
| Restricted Affectivity | See Negative Affectivity |
| Suspiciousness | See Negative Affectivity |
| Antagonism | Opposing and/or hostile behaviours that put the individual at odds with other people |
| Manipulativeness | Use of underhanded tactics, seduction, charm, glibness, or ingratiation to influence or control others or to achieve one's needs |
| Deceitfulness | Dishonesty and fraudulence; misrepresentation of self; embellishment or fabrication when relating events |
| Grandiosity | A belief that one is superior to others and deserves special treatment; self-centeredness; sense of entitlement; condescension toward others |
| Attention Seeking | Engagement in behaviour designed to attract notice and to make oneself the focus of others' attention and admiration |
| Callousness | Lack of concern for others feelings or problems; lack of guilt/remorse about negative or harmful effects of one's actions on others |
| Hostility | See Negative Affectivity |
| Disinhibition | An inclination toward immediate gratification, leading to impulsive behaviour driven by current thoughts, feelings, and external stimuli. Lack of regard for past learning or consideration of future consequences |
| Irresponsibility | Disregard for, and failure to honour obligations, commitments, agreements and promises; carelessness with others property |
| Impulsivity | Acting on the spur of the moment; lack of consideration of outcomes; difficulty following plans; a sense of urgency and self-harming behaviour under emotional distress |
| Distractibility | Difficulty concentrating and focusing on tasks; easily diverted attention; difficulty maintaining goal focused behaviour |
| Risk Taking | Engagement in dangerous, risky, and self-damaging activities; lack of concern for consequences and denial of one's limitations and the reality of personal danger; reckless pursuit of goals |

| Domain/Facets | Description |
|--|---|
| Rigid Perfectionism (Lack Of) | Rigid insistence and preoccupation with everything being flawless and perfect; believing that there is only one right way to do things |
| Psychoticism | Exhibiting a wide range of culturally incongruent odd, eccentric, or unusual behaviours and cognitions |
| Unusual Beliefs and Experiences | The belief that one has unusual abilities (e.g., mind reading) and unusual experiences of reality (e.g., hallucination-like experiences) |
| Eccentricity | Odd or bizarre behaviour, appearance, and/or speech; having strange /unpredictable thoughts; saying unusual/inappropriate things. |
| Cognitive and Perceptual Dysregulation | Odd or unusual thought processes and experiences, including depersonalisation, derealisation, and dissociative experiences; mixed sleep-wake state experiences; thought-control experiences |

Note. Adapted from American Psychiatric Association (2013a).

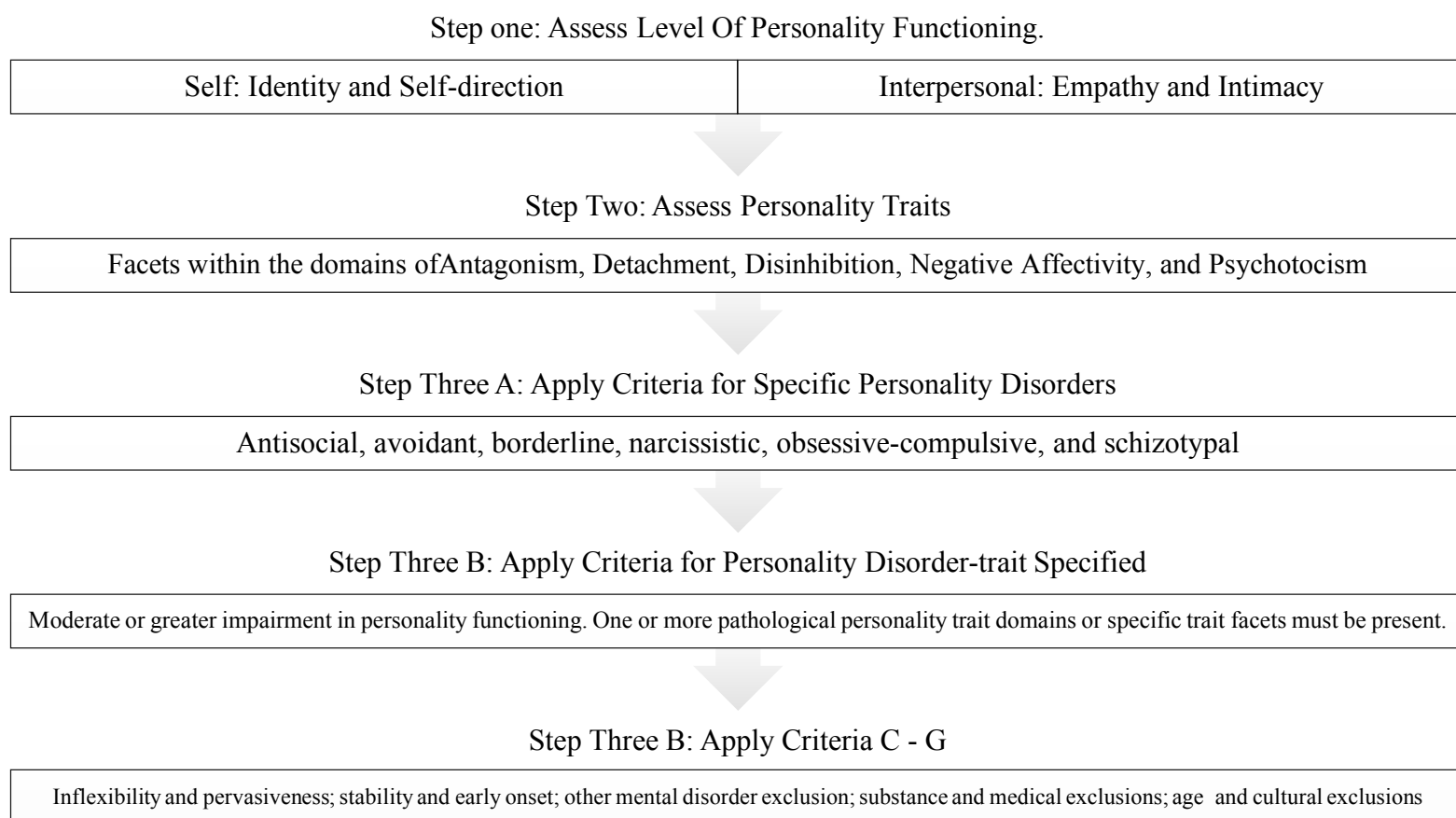
2.7.2 Categorical Diagnoses Within the Alternative Model for Personality Disorders

As a hybrid categorical–dimensional model, the AMPD facilitates the diagnosis of six specific PDs, retained from Section II: antisocial PD, avoidant PD, borderline PD, narcissistic PD, obsessive-compulsive PD, and schizotypal PD. The Personality and Personality Disorders Work Group chose to keep these six PDs on the basis of clinical relevance, prevalence rates of these PDs, and to ensure clinical utility through continuity with previous DSM publications (Vaughn et al., 2017). Furthermore, the Work Group noted that avoidant PD, borderline PD, obsessive–compulsive PD, and schizotypal PD are more likely to impair an individual than other PDs (Zimmerman, 2012). Finally, obsessive–compulsive PD was reported to be retained as it is common in both community (Grant et al., 2004) and clinical samples (Stuart et al., 1998), associated with increased mental health treatment needs (Bender et al., 2001), and has the highest economic burden of all PDs (Soeteman et al., 2008). The DSM-5 Work Group chose to

remove dependent PD, histrionic PD, paranoid PD, and schizoid PD for two main reasons.

Firstly, these PDs were not viewed to have the same empirical support as the retained ones, and secondly, they were removed in order to reduce the above-mentioned diagnostic comorbidity among PDs (Zimmerman, 2012).

Of the six categorical PDs within the AMPD, five are polythetic (multiple traits are needed, such as four of seven traits for borderline PD), whilst narcissistic PD is monothetic (all traits listed are required to be present; American Psychiatric Association, 2013a). The combination of Criteria A through G (see section 2.7.3 Additional Criteria in the Alternative Model for Personality Disorders for further detail) establishes an efficient stepwise methodology for PD assessment and enables the diagnosis of the six specific PDs or the trait specified diagnosis. Figure 1 demonstrates this stepwise approach.

Figure 1*Stepwise Approach to Diagnosing Using the Alternative Model for Personality Disorders***2.7.2.1 Antisocial Personality Disorder Within the Alternative Model for Personality**

Disorders. Within the AMPD, antisocial PD is characterised by a failure to conform to lawful and ethical behaviour, and a lack of concern for other people (American Psychiatric Association, 2013a). Once impairment in personality functioning has been established (see Table 5), six or more of seven pathological personality traits from the domains of antagonism and disinhibition must be present (see Table 6). Similarly to Section II, Section III requires an individual to be over 18 years of age in order to receive a diagnosis of antisocial PD (American Psychiatric Association, 2013a). However, unlike Section II, there is no requirement for the individual to

have exhibited evidence of conduct disorder before the age of 15 years (American Psychiatric Association, 2013a). The AMPD antisocial PD contains a psychopathic specifier (American Psychiatric Association, 2013a), which is characterised by low levels of anxiousness (negative affectivity) and withdrawal (detachment) and high levels of attention seeking (antagonism; American Psychiatric Association, 2013a).

2.7.2.2 Avoidant Personality Disorder Within the Alternative Model for Personality

Disorders. Within the AMPD, avoidant PD is characterised by avoidance of social situations and inhibition in interpersonal relationships related to feelings of ineptitude and inadequacy (American Psychiatric Association, 2013a). Once impairment in personality functioning has been established (see Table 5), three or more of four pathological personality traits from the domains of negative affectivity and detachment must be present (see Table 6).

2.7.2.3 Borderline Personality Disorder Within the Alternative Model for

Personality Disorders. Within the AMPD, borderline PD is characterised by wide-ranging instability in self-image, personal goals, interpersonal relationships, and affect (American Psychiatric Association, 2013a). Once impairment in personality functioning has been established (see Table 5), four or more of seven pathological personality traits from the domains of antagonism, disinhibition, and negative affectivity must be present (see Table 6).

2.7.2.4 Narcissistic Personality Disorder Within the Alternative Model for

Personality Disorders. Within the AMPD, narcissistic PD is characterised by variable and vulnerable self-esteem, combined with both attention and approval seeking behaviours (American Psychiatric Association, 2013a). Once impairment in personality functioning has been established (see Table 5), two pathological personality traits from the antagonism domain must be present (see Table 6).

2.7.2.5 Obsessive-Compulsive Personality Disorder Within the Alternative Model

for Personality Disorders. Within the AMPD, obsessive-compulsive PD is characterised by difficulties in establishing and sustaining close relationships due to perfectionism (American Psychiatric Association, 2013a). Once impairment in personality functioning has been established (see Table 5), three or more of four pathological personality traits from the domains of negative affectivity and detachment must be present (see Table 6).

2.7.2.6 Schizotypal Personality Disorder Within the Alternative Model for

Personality Disorders. Within the AMPD, schizotypal PD is characterised by impairments in the capacity for social and close relationships, as well as eccentricities in cognition, perception, and behaviour (American Psychiatric Association, 2013a). Once impairment in personality functioning has been established (see Table 5), three or more of four pathological personality traits from the domains of psychoticism and detachment must be present (see Table 6).

2.7.2.7 Personality Disorder – Trait Specified Within the Alternative Model for

Personality Disorders. If a PD is considered to be present, but the criteria for one of the six aforementioned disorders is not met, a trait specific diagnosis can be made (Personality Disorder–Trait Specified; PD-TS), which fits the specific presentation of an individual using the trait domains (American Psychiatric Association, 2013a). PD-TS is similar to PD-NOS, and unspecified PD, in that it captures presentations that do not fit into specific categories. The main difference between AMPD PD-TS and PD-NOS and unspecified PD is that the clinical characteristics of the individual are stated in trait terms in PD-TS, rather than just providing an ambiguous idea of a PD being present. It has been suggested that this change should provide a clearer picture for both clients and clinicians for conceptualisation and treatment (Krueger & Hobbs, 2020). Once moderate (or greater) impairment in personality functioning has been

established, one or more pathological personality trait domains or specific trait facets must be present to make a diagnosis of PD-TS (see Table 4).

Table 5

Specific Personality Functioning Impairments Within the Alternative Model for Personality Disorders

| | Antisocial | Avoidant | Borderline | Narcissistic | Obsessive-compulsive | Schizotypal |
|----------------|---|--|---|---|---|--|
| Identity | Egocentrism; self-esteem derived from personal gain, power, or pleasure. | Low self-esteem associated with self-appraisal as socially inept, personally unappealing, or inferior; excessive feelings of shame. | Markedly impoverished, poorly developed, or unstable self-image, often associated with excessive self-criticism; chronic feelings of emptiness; dissociative states under stress. | Excessive reference to others for self-definition and self-esteem regulation; exaggerated self-appraisal inflated or deflated, or vacillating between extremes; emotional regulation mirrors fluctuations in self-esteem. | Sense of self derived predominantly from work or productivity; constricted experience and expression of strong emotions. | Confused boundaries between self and others; distorted self-concept; emotional expression often not congruent with context or internal experience. |
| Self-direction | Goal setting based on personal gratification; absence of prosocial internal standards, associated with failure to conform to lawful or culturally | Unrealistic standards for behaviour associated with reluctance to pursue goals, take personal risks, or engage in new activities involving interpersonal | Instability in goals, aspirations, values, or career plans. | Goal setting based on gaining approval from others; personal standards unreasonably high in order to see oneself as exceptional, or too low based on a sense of | Difficulty completing tasks and realising goals, associated with rigid and unreasonably high and inflexible internal standards of behaviour; overly | Unrealistic or incoherent goals; no clear set of internal standards. |

| | Antisocial | Avoidant | Borderline | Narcissistic | Obsessive-compulsive | Schizotypal |
|----------|---|--|--|--|--|--|
| | normative ethical behaviour. | contact. | | entitlement; often unaware of own motivations. | conscientious and moralistic attitudes. | |
| Empathy | Lack of concern for feelings, needs, or suffering of others; lack of remorse after hurting or mistreating another. | Preoccupation with, and sensitivity to, criticism or rejection, associated with distorted inference of others' perspectives as negative. | Compromised ability to recognise the feelings and needs of others associated with interpersonal hypersensitivity (i.e., prone to feel slighted or insulted); perceptions of others selectively biased toward negative attributes or vulnerabilities. | Impaired ability to recognise or identify with the feelings and needs of others; excessively attuned to reactions of others, but only if perceived as relevant to self; over or underestimate of own effect on others. | Difficulty understanding and appreciating the ideas, feelings, or behaviours of others. | Pronounced difficulty understanding impact of own behaviours on others; frequent misinterpretations of others' motivations and behaviours. |
| Intimacy | Incapacity for mutually intimate relationships, as exploitation is a primary means of relating to others, including by deceit and coercion; use of dominance or intimidation to control others. | Reluctance to get involved with people unless being certain of being liked; diminished mutuality within intimate relationships because of fear of being shamed or ridiculed. | Intense, unstable, and conflicted close relationships, marked by mistrust, neediness, and anxious preoccupation with real or imagined abandonment; close relationships often viewed in extremes of idealisation | Relationships largely superficial and exist to serve self-esteem regulation; mutuality constrained by little genuine interest in others' experiences and predominance of a need for personal gain. | Relationships seen as secondary to work and productivity; rigidity and stubbornness negatively affect relationships with others. | Marked impairments in developing close relationships, associated with mistrust and anxiety. |

| Antisocial | Avoidant | Borderline | Narcissistic | Obsessive- compulsive | Schizotypal |
|------------|----------|---|--------------|--------------------------|-------------|
| | | and devaluation and alternating between over involvement and withdrawal. | | | |

Note. Adapted from American Psychiatric Association (2013a).

2.7.3 Additional Criteria in the Alternative Model for Personality Disorders

Whilst assessment of Criteria A and B are core to diagnosing PDs when using the AMPD, there are an additional five criteria that must also be met (Criteria C – G; American Psychiatric Association, 2013a). Once the level of personality functioning and trait profile have been established (Criteria A and B), it must be demonstrated that the impairments in both of these are inflexible and pervasive across a range of situations (Criterion C). They must be reasonably stable across time, with onset during adolescence or early adulthood (Criterion D). They must not be better explained by a different mental disorder (Criterion E), nor attributable to the effects of any substances or an alternative medical condition (Criterion F). Finally, they must not be better understood as normal for an individual's developmental stage or sociocultural environment (Criterion G; American Psychiatric Association, 2013a).

Table 6*Specific Personality Disorders Traits Within the Alternative Model for Personality Disorders*

| Domain/Facets | Personality Disorders | | | | | |
|----------------------------------|-----------------------|----------|------------|--------------|----------------------|-------------|
| | Antisocial | Avoidant | Borderline | Narcissistic | Obsessive-Compulsive | Schizotypal |
| Negative Affectivity | | | | | | |
| Emotional Lability | | | ✓ | | | |
| Anxiousness | | ✓ | ✓ | | | |
| Separation Insecurity | | | ✓ | | | |
| Submissiveness | | | | | | |
| Hostility | | | | | | |
| Perseveration | | | | | ✓ | |
| Depressivity | | | ✓ | | | |
| Suspiciousness | | | | | | |
| Restricted Affectivity (Lack of) | | | | | | |
| Detachment | | | | | | |
| Withdrawal | | ✓ | | | | ✓ |
| Intimacy Avoidance | | ✓ | | | ✓ | |
| Anhedonia | | ✓ | | | | |
| Depressivity | | | | | | |
| Restricted Affectivity | | | | | ✓ | ✓ |
| Suspiciousness | | | | | | ✓ |
| Antagonism | | | | | | |
| Manipulativeness | ✓ | | | | | |

| Domain/Facets | Personality Disorders | | | | | |
|--|-----------------------|----------|------------|--------------|----------------------|-------------|
| | Antisocial | Avoidant | Borderline | Narcissistic | Obsessive-Compulsive | Schizotypal |
| Deceitfulness | ✓ | | | | | |
| Grandiosity | | | | ✓ | | |
| Attention Seeking | | | | ✓ | | |
| Callousness | ✓ | | | | | |
| Hostility | ✓ | | ✓ | | | |
| Disinhibition | | | | | | |
| Irresponsibility | ✓ | | | | | |
| Impulsivity | ✓ | | ✓ | | | |
| Distractibility | | | | | | |
| Risk Taking | ✓ | | ✓ | | | |
| Rigid Perfectionism (Lack of) | | | | ✓ | | |
| Psychoticism | | | | | | |
| Unusual Beliefs and Experiences | | | | | | ✓ |
| Eccentricity | | | | | | ✓ |
| Cognitive And Perceptual Dysregulation | | | | | | ✓ |

Note. Adapted from American Psychiatric Association (2013a).

2.8 Evaluation of The Alternative Model for Personality Disorders

Whilst a trait-based approach to conceptualising and diagnosing PDs may seem to ameliorate the limitations of the categorical model outlined above, it is not without its own flaws.

The following section shall give an overview of the criticisms and strengths of the AMPD.

2.8.1 Criticisms of The Alternative Model for Personality Disorders

One of the foremost criticisms of the AMPD is that it is lacking in clinical utility, due to its complexity (Few et al., 2013; Garcia et al., 2018; Verheul, 2012; Zimmermann et al., 2014). These concerns mainly centre on the LPFS, and presume that it would require highly-trained clinicians to rate it (Preti et al., 2018). However, in order to address these concerns Garcia et al. (2018) investigated the learnability, inter-rater reliability, and clinical utility of the AMPD using a vignette methodology and 13 clinical psychology doctoral students. In terms of training, the doctoral students read the AMPD, reviewed an article about the AMPD (Bender et al., 2011), and practiced the LPFS on a case of their own. Intraclass correlations suggested that, in a moderate amount of time, doctoral students could learn and apply the LPFS with good to excellent reliability, and that their LPFS ratings corresponded with expert clinician ratings at an excellent level. In terms of level of personality functioning domains, inter-rater reliability ranged from fair for Empathy to excellent for Identity. Across all Criterion B domain ratings, fair inter-rater reliability was reported, as was the median facet rating. The doctoral students also answered a questionnaire regarding clinical utility. Their answers suggested that they found the LPFS especially useful for treatment planning and communicating with other professionals, but less easy to use. Nevertheless, utility ratings were overall moderately favourable. Altogether, the results suggest that modest instruction in the AMPD yields considerable reliability and accuracy in its application, and mostly favourable perceptions of clinical utility (Garcia et al., 2018).

Criticism have also arisen about the possible redundancy of Criterion A. Although Criterion A is designed to indicate the presence and severity of a PD, with Criterion B then designating an individual's particular PD manifestation, there is conflicting evidence as to whether this separation is necessary. Some studies have suggested that Criterion A is largely

redundant once Criterion B traits are accounted for (Calabrese & Simms, 2014; Clark & Ro, 2014; Hentschel & Pukrop, 2014; Sleep et al., 2018), whilst other research has suggested that level of personality function ratings predict functional impairment beyond trait ratings (Calabrese & Simms, 2014; Hopwood et al., 2011; Roche et al., 2016; Simonsen & Simonsen, 2014). Further, some studies have suggested that any redundancy depends on which PDs are being assessed for (Sleep et al., 2018). Few et al. (2013) reported that Criterion B traits, but not Criterion A impairment ratings, demonstrated incremental validity in the prediction of the DSM-IV PDs. Research by Clark and Ro (2014), Hentschel and Pukrop (2014), and Calabrese and Simms (2014) all demonstrated large overlap (determined via moderate to strong correlations) between Criterion A impairment ratings and Criterion B traits. Furthermore, a study by Sleep et al. (2018) conducted on females in prison suggested that the level of personality functioning contributed to the prediction of borderline PD, narcissistic PD, and interpersonal features of psychopathy, but not above Criterion B traits, once they were entered into the model. Additionally, the level of personality functioning did not contribute to the prediction of antisocial PD or the impulsive antisocial features of psychopathy (Sleep et al., 2018). Nevertheless, caution must be used when extrapolating from the results of this study to PDs more generally as only antisocial PD, borderline PD, narcissistic PD, and psychopathy were examined. Furthermore, no official measures of either Criterion A or Criterion B, as conceptualised in the AMPD, were used. Rather, the Measure of Disordered Personality Functioning (Parker et al., 2004) was used to measure Criterion A, and the Computerised Adaptive Test of Personality Disorder – Static Form (Simms, 2013) was used to measure Criterion B. As such, it is unclear whether these measures actually capture the AMPD.

Whilst the moderate to strong correlations observed by Calabrese and Simms (2014) suggest overlap between Criterion A impairment ratings and Criterion B traits, a series of

hierarchical regressions, suggested that general impairment ratings predicted future functional impairment beyond Criterion B trait ratings (Calabrese & Simms, 2014). Further evidence for the incremental validity of Criterion A over Criterion B comes from a study that recorded self-report ratings of Criteria A and B at baseline (Roche et al., 2016). Participants then completed a 14-day diary that recorded daily problems with Identity, Self-Direction, Empathy, and Intimacy. When a gross measure of variability was used in analyses, the LPFS did not appear to possess incremental validity over the trait domains in predicting outcomes within those four constructs. However, when a differential time-varying effect model was used, there was evidence that the LPFS and the trait domains predicted variations in problems with Identity, Self-Direction, Empathy, and Intimacy across different days. These studies suggest that level of personality functioning does reflect features beyond that which can be captured by personality traits alone. Studies have also suggested that severity of PD, not type of PD is the single most important predictor of therapeutic outcomes, and current and future dysfunction (Hopwood et al., 2011; Simonsen & Simonsen, 2014). Furthermore, clinical improvement tends to be predicted by severity of a PD, whereas personality traits tends to be stable over time (Wright et al., 2016). Additionally, the AMPD has only been validated in only a small number of cultures and language groups, and only in a narrow range of settings, usually community and outpatient samples. Consequently, the empirical data is mixed, suggesting that further research is needed within both broader settings, and more diverse populations, to determine the utility of Criterion A. Zimmermann (2022) has suggested that greater distinctions between the *impairments* of level of Criterion A compared to the *maladaptive traits* of Criterion B would provide greater distinction and clarity between these two elements of the AMPD. Consequently, Criterion A could then be used as a non-specific indicator of personality pathology, which is then articulated by the traits of Criterion B.

As well as the possible overlap between Criteria A and B, there have been reports of substantial overlap between both the domains and facets of Criterion B (Crego et al., 2015; Hopwood et al., 2012; Quilty et al., 2013). A study by Crego et al. (2015) reported on the correlations amongst the PID-5, which is used to measure Criterion B of the AMPD (and will be discussed in further detail below). Most facets had medium to large correlations, with the average correlation ranging from $r = .17 - .48$ (Crego et al., 2015). Similarly, at the domain level, all correlations were significant at the $p < .001$ level (Crego et al., 2015). Additionally, a study by Quilty et al. (2013) suggested that all of the domain scales were significantly positively associated ($r = .18 - .69$; mean $r = .46$; Quilty et al., 2013). The authors did not report the correlations for the individual domains. This occurred again when Gore and Widiger (2013) reported that two unnamed domains correlated substantially ($r = .76$; mean $r = .57$).

Furthermore, four of the 25 facets are listed across two domains; Depressivity, Restricted Affectivity, and Suspiciousness appear in both Detachment and Negative Affectivity, whilst Hostility is listed in both Negative Affectivity and Antagonism (American Psychiatric Association, 2013a). Criticisms of the DSM categorical model of PDs have long centred on its lack of discriminant validity, (as outlined above; Widiger et al., 2009; Widiger & Trull, 2007). Consequently, one of the principal motivations for a move towards a dimensional model has been to reduce extensive co-occurrence within the categorical model (Skodol, 2012). As such, in order for the AMPD to replace the categorical model, an improvement in discriminant validity would likely be necessary (Crego et al., 2015).

However, Krueger and Markon (2014) have argued that overlap of facets is to be expected, given that pathological personality domains do not have a simple structure (i.e., a single set of facets is assumed to underlie a particular domain or PD, with items on assessments

then measuring just one trait; Krueger & Markon, 2014). Although PD models usually present facets and domains in this simple structure, research suggests this structure is not true, and that multiple facets can influence a single item on a PD assessment (Hopwood & Donnellan, 2010; Turkheimer et al., 2008). Whilst there are a number of reasons for this, two related influences are often involved: hierarchy and interstitiality (Krueger et al., 2014). Hierarchy refers to the arrangement of personality constructs into different levels (e.g., an overall tendency to experience negative emotions), compared to specificity (e.g., a tendency to experience particular negative emotions of depression; Krueger et al., 2014). Another important way that personality models deviate from simple structure is interstitiality. This is where one indicator can simultaneously reflect multiple different traits (Krueger et al., 2014). For example, depression has been shown to reflect low positive emotion, as well as high negative emotion (Brown & Barlow, 2009; Watson, 2009). Accordingly, it is expected that a model or measure of depression would reflect both factors and exhibit cross-loadings (i.e., when a variable has more than one significant loading; Krueger & Markon, 2014). Hierarchy and interstitiality are related as both can result in cross-loadings and alternate interpretations of a set of test responses (Krueger & Markon, 2014). As such, removing indicators because they do not exhibit simple structure may be psychometrically convenient, but it raises the risk of creating a model, or measure, that is incomplete in its representation of PDs (Krueger & Markon, 2014). Likewise, treating indicators as if they do have simple structure, by ignoring cross-loadings, potentially distorts the nature of the subordinate constructs.

Finally, the AMPD has been criticised for maintaining categorical diagnoses rather than using an entirely dimensional approach (Clark et al., 2015). This is justified on the basis that two individuals could receive the same PD diagnosis through different pathological traits (e.g., schizotypal PD requires elevation on four of six traits). Consequently, although the AMPD is an

improvement over Section II because it has a higher ratio of number of traits required to total number of traits in each diagnosis (72% compared to 56% for the Section II PDs), it still suffers from heterogeneity in diagnostic profiles (Clark et al., 2015). Clark et al. (2015) argue that the PD-TS should be the only diagnosis used in the AMPD and in a mixed sample of outpatients ($n = 165$) and community adults who were determined to be at high-risk for a PD ($n = 215$), results suggested that PD-TS could be used to characterise all participants who met criteria for a PD ($n = 81$).

2.8.2 Strengths of The Alternative Model for Personality Disorders

As outlined above, Criterion A is consistent with interpersonal, psychodynamic, and personological models of personality, whilst Criterion B has demonstrated parallels to the FFM and the PSY-5 models of personality (Pincus, 2018; Pincus & Roche, 2019; Waugh et al., 2017). Despite the fractured history of PDs, impairments in interpersonal functioning (empathy and intimacy) have consistently been regarded as central to PDs (Jeung & Herpertz, 2014; Livesley, 1998; Livesley & Jang, 2000). A meta-analysis that included 127 PD studies conducted between 1994 and 2013 provided evidence of the construct and discriminant validity of impairment in interpersonal functioning being core to the PDs included in both Section II and Section III of the DSM-5 (Wilson et al., 2017). Each of the PDs demonstrated a significant moderate to large association with vindictiveness, suggesting a common tendency toward distrust and suspicion of others, and an inability to care about the needs of others. As such, the inclusion of level of personality functioning in the AMPD is consistent with these past conceptualisations of PDs, whilst also extending this dysfunction to sense of self. The domains and facets of Criterion B were produced through empirical observations of the DSM-5 Work Group, and are strengthened by their aforementioned similarity to other personality models, providing consistency across

various frameworks. Furthermore, since studies have suggested that PD traits are co-occurring (Haslam et al., 2012; Hyler et al., 1992; Zimmerman et al., 2005), rather than separate (as per the categorical model), the inclusion of trait criteria ensures that the AMPD is operating within an empirical and theoretically coherent framework. Additionally, as outlined in section 2.3 (Shortcomings of the Medical Model for Conceptualising Personality Disorders) the influence of the medical model has resulted in a historic failure of categorical models to draw upon normal personality literature to inform PD conceptualisation. However, by drawing upon the FFM to inform the AMPD traits, the DSM-5 has begun to amend this issue. The combination of Criteria A and B, alongside Criteria C through G offers a theoretically coherent, and empirically supported model of PDs. Furthermore, as both Criteria A and B draw upon normal personality (i.e., level of personality functioning is along a continuum, whilst the five domains within Criterion B come from the FFM and the PSY-5), the AMPD provides clinicians with rich information on a patient's strengths and weaknesses (Bach et al., 2015; Fossati et al., 2013). Altogether, the AMPD allows clinicians to define general personality pathology, as well as impairments in self and others, and to highlight person-centred PD traits (Pincus & Roche, 2019). In turn, these allow for individualised treatment plans.

In terms of these treatment plans, initial studies have demonstrated that assessment of the level of personality functioning is useful for treatment planning and prognosis, by providing clinicians with information on the level of PD severity (Krueger et al., 2014; Morey et al., 2013; Skodol et al., 2015). A series of case studies ($N = 6$) by Simonsen and Simonsen (2014) suggested that severity of impairment (Criterion A) could direct the level and intensity of treatment required. The severe personality impairment of three patients suggested the use of working with differentiation (i.e., there is an absence of complex personality, in the sense that sub-systems capable of more dedicated performance have not yet formed; Siegel, 2001;

Simonsen & Simonsen, 2014). For the three remaining patients, who had less severe personality impairment, interventions aimed at improved integration (i.e., the manner in which functionally distinct components of personality come together to form a functional whole; Siegel, 2001; Simonsen & Simonsen, 2014) were implemented.

In terms of Criterion B and treatment, there are currently no empirical examinations of the AMPD domains and facets with treatment outcomes. However, previous research on normal personality suggests that AMPD related constructs can predict responses to certain treatments (Rodriguez-Seijas et al., 2019). In a differential treatment study, high neuroticism scores (i.e., equivalent to AMPD Negative Affectivity domain) were associated with a more positive treatment response to pharmacological therapies compared to cognitive behavioural therapy (Bagby et al., 2008). Comparably, in a study that used a machine learning algorithm, high neuroticism was identified as one predictor of treatment response to selective serotonin reuptake inhibitors (Webb et al., 2019). These results suggest that Criterion B has some benefit for treatment-matching.

When utilising the whole model for treatment, an initial case study used the AMPD (then a proposal) to inform psychotherapy for a patient with severe personality pathology (Morey & Stagner, 2012). According to the DSM-IV, the patient met criteria for avoidant PD, borderline PD, dependent PD, and narcissistic, all of which have varying treatments. For example, cognitive or schema focused therapy for avoidant PD and dependent PD, dialectical behaviour therapy for borderline PD, and self-analysis or transference-focused therapy for narcissistic PD. However, the formulations that used these DSM-IV diagnoses and therapies had yielded few results in therapy. Under the AMPD, the patient met criteria for PT-TS, with personality dysfunction across all Criterion A constructs rated as extreme (level four of impairment), and depressivity,

Emotional Lability, and Separation Insecurity as the main Criterion B facets. When new psychotherapeutic techniques (such as transference-focused psychotherapy) were trialled based on the AMPD formulation, treatment gains were greater than had been achieved in the previous therapy based on DSM-IV formulations. Upon cessation of treatment the patient's global level of personality functioning was rated at level two, reflecting moderate impairment. There was a reduction in all trait domains, with the exception of Detachment (Morey & Stagner, 2012).

A study by Morey and Benson (2016) explored whether the AMPD is more closely related to clinicians' treatment decision-making processes than the DSM-IV or DSM-5 Section II PD categories. Three hundred and thirty-seven clinicians provided complete PD diagnostic information and 11 treatment-related clinical judgments (the appropriateness and/or contraindications regarding four psychotherapeutic modalities, five pharmacological interventions, level of treatment intensity, and long-term prognosis) about one of their patients. Results indicated that the AMPD predicted treatment decisions (i.e., level of treatment intensity, type of psychotherapeutic and/or pharmacological treatment) better than the DSM-IV-TR or DSM-5 Section II PD categories. Of the 11 treatment-related judgments, the variable that was most consistently associated with all three PD conceptualisations (i.e., the AMPD, DSM-IV and DSM-5 Section II) was long-term prognosis, with results suggesting that the presence of any PD (Section II or III) indicators was associated with poorer outcomes. In terms of specific treatment planning, severe impairment in personality functioning (Criterion A) suggested a need for high intensity treatment. The association of the clinician rating of the level of personality functioning with long-term prognosis was the largest single bivariate correlation within the study ($r = -.48$). This emphasises the importance of including a severity dimension within a nosology for PDs. It is important to note that this study examined clinical judgments, and not patient outcomes. Thus, although the results suggest that clinicians view certain AMPD constructs as relevant in

treatment planning, this does not mean that they are accurate. This study, however, does serve as an initial step toward establishing the treatment utility of the AMPD, and warrants further outcome studies. Furthermore, the results are in keeping with those reported in the study on doctoral students by Garcia et al. (2018).

Additionally, Hopwood (2018) has published an introductory step-by-step guide for approaching treatment when using the AMPD. Briefly, this includes:

- 1) Carefully assess Criterion A personality dysfunction using validated assessment tools.
- 2) Carefully assess Criterion B personality traits using validated measures.
- 3) Develop a coherent and holistic formulation of the patient's problems based on these data and an assessment of the patient's social environment and treatment resources.
- 4) Share this formulation with the patient and other treaters to develop a consensual approach to treatment.
- 5) Assess treatment goals regularly (Hopwood, 2018).

Although the model is based on empirical data, it is still a preliminary AMPD treatment framework and merits future research.

The inclusion of a hybrid model within the DSM-5 is consistent with a wider move towards dimensional models, such as the ICD-11 and the National Institute of Mental Health Research Domain Criteria (Cuthbert & Insel, 2013) – a neurobiological dimensional model. Trait-based models of PD, including the AMPD, may be viewed as the next step iteration of a long line of differing conceptualisations of PD. On the one hand, the AMPD is consistent with previous categorical models of PD, as it has kept six of the 10 diagnoses from DSM-5 (American Psychiatric Association, 2013a). Conversely, for the diagnoses that are purely trait based (PD-TS), this hails as a distinct departure from older models. Should this approach prove to be both

clinically appropriate and useful to furthering empirical knowledge, the implementation of the AMPD will take a step towards a client-centred approach to conceptualising, diagnosing, and treating PDs.

2.8.3 Summary

To ameliorate the shortcomings of the categorical approach to PDs, the DSM-5 also includes the AMPD in Section III. The AMPD is a new set of diagnostic guidelines to classify and diagnose PDs. The most notable difference between the AMPD and the categorical model of PD is the move towards a hybrid, dimensional system whereby clinicians can assign a categorical PD diagnosis, based on the level of personality functioning (Criterion A) and pathological personality traits (Criterion B). The level of personality functioning highlights that there are two core impairments that underlie the presence of all PDs: self-functioning and interpersonal problems. These are further broken down into impairments in identity, self-direction, empathy and intimacy. The pathological personality traits are made up of five trait domains (Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism) with each domain made up of a set of facets, with 25 trait facets in total. The combination of Criteria A through G provides an efficient stepwise methodology for PD assessment and enables the diagnosis of six specific PDs (antisocial PD, avoidant PD, borderline PD, narcissistic PD, obsessive-compulsive PD, and schizotypal PD) or a trait specified diagnosis.

Although the AMPD was introduced to ameliorate the shortcomings of the categorical approach, it is not without flaws. Criticisms include; complexity of use resulting in a lack of clinical utility, possible redundancy between Criteria A and B, and overlap between the domains

and facets of Criterion B. However, empirical evidence has also suggested a number of strengths to the AMPD, such as; it can be learnt relatively easily, it draws upon previously validated models and conceptualisations of personality, is useful for treatment planning and prognosis, and is consistent with a wider move towards dimensional models.

2.9 The Alternative Model for Personality Disorder Measurement Approaches

The advent of the AMPD has brought about a need for a new means of assessment of PDs. Table 7 lists the instruments that are currently available to assess AMPD Criteria A and B.

Table 7

Instruments for the Measurement of Personality Disorders in the Alternative Model for Personality Disorder

| Interviews | Self-Report |
|---|--|
| Severity (Criterion A) | |
| Clinical Assessment of the Level of Personality Functioning Scale (Thylstrup et al., 2016) | Level of Personality Functioning Scale – Self-Report (Morey, 2017) |
| Semi-Structured Interview for Personality Functioning DSM-5 (Hutsebaut et al., 2017) | Level of Personality Functioning Scale–Brief Form 2.0 (Bach & Hutsebaut, 2018) |
| Structured Clinical Interview for the Level of Personality Functioning Scale Module I (Bender et al., 2018) | Self and Interpersonal Functioning Scale (Gamache & Savard, 2017) |
| | DSM-5 Levels of Personality Functioning Questionnaire (Huprich et al., 2015) |
| | Levels of Personality Functioning Questionnaire for Adolescents from 12 to 18 Years (Goth et al., 2018b) |
| Traits (Criterion B) | |

| | |
|---|---|
| Structured Clinical Interview for Personality Traits Module II (Skodol et al., 2018) | Personality Inventory for DSM-5 (Krueger et al., 2013b) Personality Inventory for DSM-5 – Brief Form (Krueger et al., 2013a) Personality Inventory for DSM-5 – Short Form (Maples et al., 2015) Personality Inventory for DSM-5 – Informant Report (Markon et al., 2013) |
| Assessment Of The Six Personality Disorder Diagnoses | |
| Structured Clinical Interview for the DSM-5 Alternative Model for Personality Disorders Module III (First et al., 2018) | |

2.9.1 Interviews for Measuring Criterion A – Level of Personality Functioning

Ascertaining information about each of the individual constructs of impairment that are included in the AMPD LPFS can result in a lengthy clinical interview. Consequently, Hutsebaut et al. (2017) developed the Semi-Structured Interview for Personality Functioning DSM–5 (STiP-5.1) to shorten the time spent gathering information when conducting an interview (Hutsebaut et al., 2017). They were motivated by a previous study, which had demonstrated that it took approximately 74 minutes to conduct an interview when attempting to capture the LPFS (Hutsebaut et al., 2017; Zimmermann et al., 2014). The authors developed one item for each of the LPFS constructs, aiming to capture the core impairment of each specific one. Consequently, the average interview length was 50 minutes. Results suggested acceptable inter-rater reliability of the interview-based ratings in their clinical sample ($r = .71$). Furthermore, the interview-based level of personality functioning scores obtained from the STiP-5.1 differentiated between community and clinical participants, as well as participants with and without a PD. A large effect size ($d = 3.27$) was observed for the mean level difference between STiP-5.1 total scores of the

clinical sample ($M = 2.63$, $SD = 0.66$) and the community sample ($M = 0.56$, $SD = 0.51$).

Similarly, within the clinical group, a large group effect ($d = 1.53$) was observed between patients with a PD diagnosis ($M = 2.80$, $SD = 0.54$) and those without a PD diagnosis (Hutsebaut et al., 2017). However, there was one main limitation with this study. The clinical sample consisted mostly of patients with borderline PD, narcissistic PD, avoidant PD, obsessive-compulsive PD, schizoid PD, and PD not otherwise specified. Consequently, the STiP-5.1 has only been examined in a population with specific PD features and therefore it is unclear whether the psychometric properties of the measures would be generalisable to other PD presentations. As such, further research is needed to determine whether the STiP-5.1 is also suitable for use with patients with other PD diagnoses (Hutsebaut et al., 2017).

Another brief interview measure is the Clinical Assessment of the Levels of Personality Functioning Scale (CALF; Thylstrup et al., 2016). It is a structured interview that assesses the level of personality functioning of the AMPD within less than an hour, and it relies on the observation, and thus inference, of the underlying processes during the interview (such as the ability to reflect on cognitive, emotional, and factual topics, and the ability to shift perspective) rather than using the specific content of the participant's responses. The CALF begins with demographic questions, followed by questions about current problems with mental health and current treatments. The main body of the interview consists of four sections, each of which concerns one of the constructs of the LPFS, but some questions within each section also provide information on the level of functioning pertaining to other constructs. Essentially, the CALF prompts interviewees to talk about the four constructs based on their general life situation within the last three to five years. The four sections begin with a question about the specific construct, followed by prompts for specific examples and explanations of the response. All sections close with questions about contentment and concerns for the given construct, and whether recent

changes, events, or times of higher or lower stress have affected functioning within the construct (Thylstrup et al., 2016). The four constructs of the LPFS are rated based on the entirety of the interview, rather than on patient responses to specific questions about personality functioning (Thylstrup et al., 2016). For each construct, the interviewer rates the level of dysfunction by giving a score from zero to four, with zero indicating no impairment and four indicating extremely severe impairment (Thylstrup et al., 2016).

A 2016 study aimed to assess the inter-rater reliability of the CALF, and reported that the inter-rater reliability coefficients varied between the four constructs of the LPFS, to the extent that the CALF was not sufficient for clinical practice (Thylstrup et al., 2016). However, the poor inter-rater reliability results could partially be attributed to the fact that this study purposefully provided no formal training to the raters (four psychologists, two medical doctors, and one supervised psychology student), and the instructions for determining the ratings were limited to providing the raters with written copies of the LPFS (although no rationale was provided for this, the raters were not a random sample of clinicians, but rather an expert group with a special interest in PDs. As such, it may have been expected that they were familiar with the LPFS). Given that one of the criticisms levelled at the AMPD is that it is too complex for clinicians to be able to use (Skodol et al., 2015), this appears to have been a misstep on the part of the authors (who reported the complexity criticism in their background section), whereby the raters may have been able to more proficiently administer and score the CALF and to capture the LPFS had they received formal training.

The final interview schedule that can be used to capture Criterion A is the Structured Clinical Interview for the Level of Personality Functioning Scale (SCID-5-AMPD Module I; Bender et al., 2018). Module I, which captures the LPFS, sits within the larger Structured

Clinical Interview for the DSM-5 Alternative Model for Personality Disorders (SCID-5-AMPD; First et al., 2018). The SCID-5-AMPD is a semi-structured diagnostic interview designed to assess the defining components of personality pathology as presented in the AMPD (First et al., 2018). It is comprised of three modules – Module I, which captures the LPFS; Module II, which measures the dimensional assessment of the five pathological personality trait domains in the AMPD, and their corresponding 25 trait facets; and Module III, which allows for the evaluation of the specific diagnoses listed in the AMPD, following assessment of Criteria A through G (First et al., 2018). Module I takes approximately 80 minutes to administer, and responses are rated on a five-point scale ranging from 0 (*Little or no impairment*) to 4 (*Extreme impairment*; Buer Christensen et al., 2018; First et al., 2018). Using Module I, Buer Christensen et al. (2018) reported that test–retest reliability for the total LPFS score was good ($r = .88$), with a range from acceptable to good for the LPFS constructs ($r = .65 - .87$). Inter-rater reliability for single raters, using videotaped interviews, were found to be excellent at ($r = .96$) for the total LPFS scores and good to excellent across the four constructs ($r = .89$ to $.95$; Buer Christensen et al., 2018). There were no differences within the clinicians level of experience, and reliability was supported via a two-day workshop to train clinicians in using SCID-5-AMPD Module I (Buer Christensen et al., 2018). Lastly, the study also supported Level 2 (moderate) impairment as the diagnostic threshold for PD diagnosis within the AMPD (Buer Christensen et al., 2018).

2.9.2 Self-Report Instruments for Measuring Criterion A – Level of Personality Functioning

Whilst the above interview instruments all aim to measure the LPFS of the AMPD, Morey (2017) noted that no instruments provided simple, time-efficient mapping of the four constructs that make up the LPFS. Accordingly, Morey (2017) developed the LPFS-SR to operationalise the LPFS. The LPFS-SR is an 80-item self-report questionnaire that captures

impairments in each level of personality functioning construct (Identity, Self-Direction, Empathy, and Intimacy) at the five different levels of personality functioning outlined in the AMPD: Little or No Impairment, Some Impairment, Moderate Impairment, Severe Impairment, and Extreme Impairment. It also provides a total score as an indicator of overall personality dysfunction. Responses are rated on a four-point scale ranging from 1 (Totally false, not at all true) to 4 (Very true). Scores are entered into a weighted table, with some scores being negatively weighted, and raw scores are multiplied by these weights (Morey, 2017). The weighted scores are summed to form four construct scores, and a total score, which are then compared to observed norms. Scores exceeding one standard deviation above the mean suggest sub-clinical problems in personality functioning, whilst scores exceeding 1.5 standard deviations above the mean indicate clinically significant personality dysfunction (Morey, 2017).

Within a community sample, the LPFS-SR was examined for internal consistency, unidimensionality, and concurrent validity with four other self-report measures of global personality dysfunction, i.e., the General Assessment of Personality Disorder (Livesley, 2009), the Personality Assessment Inventory (Morey, 2007), the Severity Indices of Personality Problems (Verheul et al., 2008), and the General Personality Pathology scale (Morey et al., 2011). The internal consistency estimate for the LPFS-SR total score was excellent, with an alpha of ($\alpha = .96$). Cronbach's alpha for the four sub-domains scores were good (Identity [$\alpha = .89$], Self-Directedness [$\alpha = .88$], Empathy [$\alpha = .82$], and Intimacy [$\alpha = .88$]; Morey, 2017). In terms of unidimensionality, the four constructs scores demonstrated high intercorrelations, both with each other and with the LPFS-SR total score. The concurrent validity of the LPFS-SR and the four other measures of personality dysfunction were all significant, with moderate to strong correlations. Similar good to excellent internal consistencies were reported by Hopwood et al. (2018), with Identity ($\alpha = .86$), Self-Directedness ($\alpha = .86$), Empathy ($\alpha = .86$), Intimacy ($\alpha =$

.80), and the total score ($\alpha = .95$). Test-retest reliabilities were also good to excellent, with Identity ($\alpha = .84$), Self-Directedness ($\alpha = .88$), Empathy ($\alpha = .87$), Intimacy ($\alpha = .81$), and the total score ($\alpha = .91$). The validity of the LPFS-SR was also explored. The majority of correlations reported were moderate to strong for all of the LPFS-SR constructs and total score with the FFM, the PID-5, and the Computerised Adaptive Test of Personality Disorder (Simms et al., 2011) – a measure of 33 maladaptive personality traits, that also examines a number of traits not included in the AMPD, such as hostile aggression, norm violation, and rudeness. Furthermore, the LPFS-SR scales also correlated moderately to strongly with Section II PD diagnoses, as measured by the PDQ-4. Whilst the results of these two studies may suggest that the LPFS-SR is a valid, reliable and potentially useful means of assessing PDs as outlined in the AMPD, it should be noted that both studies used samples that were comprised entirely of non-clinical community participants, and so may not be generalisable to a population of people with PDs. Consequently, additional research utilising clinical and forensic populations is required to determine the strength of the psychometric properties in populations where PDs are prevalent.

Another study examined the degree to which the LPFS-SR captures the four levels of personality functioning constructs of Identity, Self-Direction, Empathy, and Intimacy, using 23 psychology trained raters who had been educated about the AMPD (Waugh et al., 2021). Inter-rater reliability was high for all four constructs (Identity [$\kappa = .92$], Self-Direction [$\kappa = .97$], Empathy [$\kappa = .96$], and Intimacy [$\kappa = .98$]; Waugh et al., 2020). The study also explored the degree to which the instruments measured severity of impairment, by having raters independently evaluate the items on the LPFS-SR. Rater agreement was assessed using two-way random effects mean consistency intraclass correlations. Results suggested that the items on the LPFS-SR represent lower severity, and as such, the LPFS-SR may be better utilised in populations with less psychopathology (Waugh et al., 2021).

One area where the LPFS-SR has generated considerable debate is its discriminant validity. A recent study exploring measures of Criterion A reported that the four LPFS-SR constructs were highly correlated with one another, with an average ($r = .61$; McCabe, Oltmanns, & Widiger, 2021). The authors of this study, alongside other researchers (Sleep et al., 2019; Sleep et al., 2020) have asserted that this lack of discriminant validity is a limitation of the LPFS-SR. They have argued that the four AMPD level of personality functioning constructs are described as if they are separate entities, that form two higher-order domains of disturbance in self and interpersonal functioning (Sleep et al., 2019). They also noted that there is ongoing discussion of whether the DSM-5 level of personality functioning is meant to measure four related but discrete constructs or a single factor (Sleep et al., 2019). Conversely, other researchers, including the author of the measure, have argued that this is a benefit, as it demonstrates consistency with the theoretical understanding that the four constructs load onto a general measure of impairment (Hopwood et al., 2018; Morey, 2017, 2019).

The Level of Personality Functioning Scale–Brief Form 2.0 (LPFS–BF 2.0) is intended to screen for potential impairments in personality functioning, and as such, contains only 12 items (Weekers et al., 2019). Each item is intended to capture the basic underlying impairment related to the features of functioning in the LPFS. The items are summed to produce a total personality functioning score, as well as Self-Functioning and Interpersonal Functioning scores. The LPFS–BF 2.0 has the same response scale as the LPFS-SR. Whilst the above studies exploring the LPFS-SR have not had samples drawn from clinical and forensic populations, one study that did use these populations, did so to examine the utility of the LPFS–BF 2.0 in measuring features corresponding to personality functioning impairments (Bach & Hutsebaut, 2018). Psychiatric outpatients ($n = 121$) and prisoners with a diagnosis of substance dependence who also displayed personality pathology ($n = 107$) were recruited (Bach & Hutsebaut, 2018). Results demonstrated

that the outpatient participants showed a significantly higher LPFS–BF 2.0 total score than the prisoners (Bach & Hutsebaut, 2018). However, when broken down into the two levels of personality functioning domains, the prisoner sample displayed a higher mean score on Interpersonal Functioning compared to Self-Functioning, whereas the outpatients showed a higher mean score on self-functioning relative to Interpersonal Functioning (Bach & Hutsebaut, 2018). The results of an exploratory factor analysis demonstrated that Item 10 did not load on to Interpersonal Functioning as intended, and did not show significant loadings on any of the constructs (Bach & Hutsebaut, 2018). When the outpatients and prisoners were combined into a total sample Item 11 primarily loaded on Self-Functioning rather than Interpersonal Functioning. (Bach & Hutsebaut, 2018). This was replicated in the prisoner sample, whereas in the outpatient sample Item 11 loaded on to Interpersonal Functioning, with all other items also showing expected loadings (Bach & Hutsebaut, 2018). For the prison sample, Item 4 did not load on to Self-Functioning as expected, but to Interpersonal Functioning (Bach & Hutsebaut, 2018). These factor loadings suggest that the LPFS–BF 2.0 does not provide sufficient coverage to capture the PDs most often seen within forensic samples (e.g., antisocial PD). Further support for this comes from the lower LPFS–BF 2.0 score in the prison sample than the outpatient sample, despite prevalence studies suggesting that forensic patients are as likely to have a PD as outpatients (De Ruiter & Trestman, 2007).

With the aim of developing a scale that was brief, had a straightforward scoring system, and that provided coverage of all key constructs of personality functioning represented in the LPFS, Gamache and Savard (2017) developed the Self and Interpersonal Functioning Scale (SIFS). It was originally developed in French and subsequently translated into English (Gamache et al., 2019). The SIFS is comprised of 24 items that are rated on a five-point Likert scale, ranging from 0 (This does not describe me at all) to 4 (This describes me totally; Gamache &

Savard, 2017). Scores are summed (with Items 1, 6, 8, 12, 17, 19, and 24 being reverse scored) to produce a global score and a score for each personality functioning construct. Higher scores are indicative of greater pathological personality functioning (Gamache et al., 2019). In community participants ($n = 280$) and patients with a PD ($n = 106$), the SIFS has demonstrated excellent internal consistency for the global scale score ($\alpha = .92$) and good internal consistency for the four personality functioning constructs (Identity [$\alpha = .86$], Self-Direction [$\alpha = .73$], Empathy [$\alpha = .71$], and Intimacy [$\alpha = .80$]; Gamache et al., 2019). Test–retest results after a fortnight interval ($n = 111$) were acceptable to excellent: global scale ($r = .89$), Identity ($r = .91$), Self-Direction ($r = .63$), Empathy ($r = .78$), and Intimacy ($r = .92$; Gamache et al., 2019). Altogether, the SIFS appears to be a concise measure of Criterion A. However, the present exploration of psychometrics was limited to a sample of French-speaking Canadians (Gamache et al., 2019). As such, validation of the existing English translation, as well as other language validation is needed across different countries and samples.

Another measure developed to assess the level of personality functioning is the DSM–5 Levels of Personality Functioning Questionnaire (DLOPFQ; Huprich et al., 2015). It was initially developed to explore whether personality functioning might manifest differently in different contexts, namely personal relationships compared to occupational interactions (Huprich et al., 2018). The DLOPFQ contains 132 items, which assess the four constructs of level of personality functioning across work/school and close relationships. Individuals respond to 66 questions on how they function in personal relationships and 66 questions in relation to how they function at work or school (Huprich et al., 2018). Items are answered on a Likert scale, ranging from 1 (Strongly disagree) to 6 (Strongly agree; Huprich et al., 2018). Notably, whilst the DLOPFQ is designed to assess problems on all four constructs, it does so without implying a specific direction to them (Huprich et al., 2018). For example, one of the Intimacy items is,

“Unlike most, I don’t want to depend on another or have someone else depending on me.”

Individuals who are overly dependent, as well as detached people will both endorse this item, whereas those with a healthy sense of dependency will not (Huprich et al., 2018). The direction of the dysfunction would likely be resolved by a thorough exploration of Criterion B traits. In a sample of 140 psychiatric and medical outpatients, internal consistency of the DLOPFQ was found to range from good ($\alpha = .72$) to excellent ($\alpha = .94$; Huprich et al., 2018).

A 2018 study aimed to further examine the convergent and discriminant validity of the DLOPFQ, specifically in primary care and psychiatric outpatient settings, using both patient and medical provider responses (Nelson et al., 2018). Certain DLOPFQ scales were significantly correlated with certain physical and mental health indicators, such as social functioning (Identity; $r = -.40, p < .001$; Self-Direction; $r = -.32, p < .001$; Empathy; $r = -.15, p > .05$; Intimacy; $r = -.15, p < .01$), levels of energy/fatigue (Identity; $r = -.37, p < .001$; Self-Direction; $r = -.42, p < .001$; Empathy; $r = -.22, p < .05$; Intimacy; $r = -.29, p < .01$), and emotional wellbeing (Identity; $r = -.50, p < .001$; Self-Direction; $r = -.47, p < .001$; Empathy; $r = -.21, p < .05$; Intimacy; $r = -.43, p < .001$; Nelson et al., 2018). In contrast, the discriminant validity analysis did not support considering different contexts, such as personal relationships and occupational interactions, in assessing level of personality functioning. However, this study did note that both outpatient mental health care providers and clinicians at an internal medicine clinic could code level of personality functioning with limited patient interactions (as few as two appointments within one year), that yielded important information about patients’ personality functioning, such as low well-being and low social-functioning (Nelson et al., 2018). Further research of the DLOPFQ appears to be both needed and warranted.

The LPFS-SR, LPFS-BF 2.0, SIFS, and DLOPFQ were all designed to be used with

adults, despite Criterion C of the AMPD specifying that the impairments seen in an individual's PD be stable across time, with onset that can be traced back to at least adolescence (American Psychiatric Association, 2013a). Accordingly, the Levels of Personality Functioning Questionnaire for Adolescents from 12 to 18 Years (LoPF-Q 12-18; Goth et al., 2018b) was developed to assess level of personality functioning in adolescents. The authors focused on further elaborating the themes of the four constructs of the LPFS, using content analysis (Goth et al., 2018b). This resulted in the LoPF-Q 12-18 targeting additional constructs, such as passivity, self-acceptance, self-regulation, and self-sabotage, as personality functioning components that are particularly relevant to adolescents (Goth et al., 2018b). The LoPF-Q 12-18 contains 97 items that are answered on a five-point Likert scale ranging from 0 (No) to 4 (Yes; Goth et al., 2018b). The LoPF-Q 12-18 has demonstrated strong internal consistency across constructs (total scale $\alpha = .97$; Identity $\alpha = .92$; Self-Direction $\alpha = .95$; Empathy $\alpha = .8$; and Intimacy $\alpha = .92$; Goth, Birkhölzer, & Schmeck, 2018a). Additionally, good discriminant validity was found, suggesting that the LoPF-Q 12-18 is able to differentiate between healthy individuals, patients with no PD, and those diagnosed with a PD (Goth et al., 2018a).

2.9.3 Critique of Criterion A Measures

With reference to the LPFS contained within the AMPD, empirical research has suggested that it has good internal consistency and acceptable test–retest reliability and construct validity. However, obtaining information about each of the LPFS constructs can result in an extensive clinical interview, which is time and resource intensive. Given this disadvantage, more efficient semi-structured interviews have been developed. Of these, the STiP-5.1 and CALF appear to require further research to determine whether they can sufficiently measure the level of personality functioning of the AMPD. The SCID-5 AMPD Module I appears to evidence acceptable to good test–retest reliability, with good to excellent inter-rater reliability for single

raters using videotaped interviews. Furthermore, empirical evidence has suggested that a two-day workshop is sufficient to train clinicians in how to use the SCID-5-AMPD Module I.

Since conducting clinical or research interviews is not always possible, self-report measures have been developed to operationalise the LPFS. Of these, the LPFS-SR, and the LPFS-BF 2.0 both appear to have acceptable psychometric properties. Whilst the DLOPFQ also appears to demonstrate acceptable internal consistency, empirical evidence has not supported the position of assessing across differing contexts. Conversely, although the SIFS has demonstrated good to excellent internal consistency, alongside acceptable to excellent test–retest reliability, it has only been validated in a French-speaking population. As such, validation of the English translation, as well as other languages, is required. Lastly, the LoPF-Q 12-18 has demonstrated strong internal consistency, as well as good discriminant validity. However, as it has been developed specifically for adolescents, it cannot be used with other populations.

Whilst self-report measures can be useful in terms of saving time and resources they are at risk of being influenced by self-report biases (such as participants wanting responses to show them in the best possible light; Donaldson & Grant-Vallone, 2002). A significant disadvantage to all LPFS self-report measures is that none have internal validity scales.

2.9.4 Summary of Criterion A Measures

The American Psychiatric Association did not initially include, nor release, any measures for capturing an individual's level of personality functioning in the AMPD. However, the model does include the LPFS, which provides markers of severity for each construct, at each level of personality functioning, and is completed by a clinician. The clinician usually conducts an interview or file review to gather relevant information – although this can garner useful data, it can also be cumbersome to do so. Consequently, interest grew in developing both specific

interviews and self-report measures of the level of personality functioning. Whilst both types of measures appear to capture impairment, the aforementioned concerns regarding the level of discriminant validity between the four level of personality functioning constructs remains. Some researchers have argued that this is problematic, with others contending that it is to be expected. Part of this debate may stem from confusion around the level of personality functioning. It was designed to capture the core impairments common to all PDs (and to people in general; Bender et al., 2011), however, breaking the level of personality functioning down into the four constructs of Identity, Self-Direction, Empathy and Intimacy, and requiring a minimum of two of them to be present for a diagnosis, implies that these must be separate, unrelated entities.

2.9.5 Interviews for Measuring Criterion B – Pathological Personality Traits

The Structured Clinical Interview for Personality Traits (SCID-5-AMPD Module II; Skodol et al., 2018) is a semi-structured diagnostic interview that focuses on the dimensional assessment of the five pathological personality trait domains in the AMPD, and their corresponding 25 trait facets (First et al., 2018). Module II sits within the broader instrument of the SCID-5-AMPD (described above) and takes approximately 90 minutes to administer (Somma et al., 2020). Responses are rated on a four-point scale ranging from 0 (*very little or not at all descriptive*) to 3 (*very descriptive*; Skodol et al., 2018). To date, only one study has explored the psychometric properties of the SCID-5-AMPD Module II (using the Italian version; Somma et al., 2020). In this study, Module II was administered to 88 adult psychotherapy participants, alongside SCID-5-AMPD Module I, the LPFS-BF, LPFS-SR, PID-5 (see section 2.9.6 Self-Report Instruments for Measuring Criterion B – Pathological Personality Traits for further details), and the PDQ-4. Module II demonstrated good inter-rater reliability, with median interclass correlation coefficients of $\alpha = .73$ and $\alpha = .82$ for the facet scores and domain scores,

respectively. Regarding convergent validity, Module II produced personality facet and domains scores that were moderately correlated with the corresponding PID-5 facet (median ρ value = .57) and domain scores (median ρ value = .66, SD = .04; Somma et al., 2020). These findings suggest that the Module II moderately measures the same facets and domains that the PID-5 does. Overall, these preliminary findings suggest that the SCID-5AMPD Module II has reasonable psychometric properties. However, given this study utilised the Italian language version of the instrument in a psychiatric facility, future studies will need to explore other language versions.

2.9.6 Self-Report Instruments for Measuring Criterion B – Pathological Personality Traits

The PID-5 is a 220-item, self-report measure designed to assess the 25 lower order trait facet scales that map onto five higher order trait domains: Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism. Much of the research examining Criterion B of the AMPD has used the PID-5 (Bach & Hutsebaut, 2018). With the exception of discriminant validity, the PID-5 has demonstrated largely good psychometric properties in non-clinical, clinical, and forensic samples. When the PID-5 was originally developed, the initial study exploring its psychometrics suggested strong internal consistency scores for both the domains and facets in a community sample of treatment seeking adults (Krueger et al., 2013b). Coefficient alphas for domain scales were: Negative Affectivity ($\alpha = .93$); Detachment ($\alpha = .96$); Antagonism ($\alpha = .94$); Disinhibition ($\alpha = .84$); and Psychoticism ($\alpha = .96$; Krueger et al., 2012). Coefficient alphas for facets ranged from ($\alpha = .72$) for Grandiosity to ($\alpha = .96$) for Eccentricity, with a median of ($\alpha = .86$; Krueger et al., 2012). Subsequent research into the psychometric properties of the PID-5 has yielded similar results. For example, in a university student sample, Wright et al. (2012) reported moderate to strong internal consistencies, with coefficient alphas

for facets ranging from .72 for Suspiciousness to .96 for Eccentricity, with a median of .86 (Wright et al., 2012). Internal consistencies were calculated using McDonald's omega (ω), as it is useful for estimating the reliability of composite scores (McDonald, 1970). Ratings ranged ranging from .60 to .89, with a median of .75 (Wright et al., 2012), however, the authors did not specify which domains these scores related to. When examining the ability of PID-5 facets to predict DSM Section II PDs in a large sample ($N = 808$) of university undergraduates, Hopwood et al. (2012) reported that PID-5 facets explained a substantial proportion of variance in DSM-IV PD diagnoses, as assessed with the PDQ-4, and that trait indicators of the six AMPD PD diagnoses were mostly specific to those disorders. For example, the median correlation between corresponding PID-5 facets and DSM-IV PD diagnoses was .51, whilst the median correlation between non-corresponding PID-5 facets and DSM-IV PD diagnoses was .31. Some minor exceptions were reported, e.g., the correlation between risk taking and borderline PD was lower than expected. Furthermore, some correlations that are not meant to correspond to particular PDs were quite high, such as Anxiousness and schizotypal PD ($r = .39$).

Results from clinical samples have also revealed good internal consistency for the PID-5 facets. A 2013 study that examined the PID-5 using a psychiatric outpatient sample reported coefficient alphas for the facets ranged from .72 for Suspiciousness to .96 for Depressivity, with a mean of .87 (Quilty et al., 2013). The reported McDonald's omegas were moderate to strong, with .84 for Negative Affectivity, .75 for Detachment, .83 for Antagonism, .80 for Disinhibition, and .87 for Psychoticism (Quilty et al., 2013). However, evidence for the discriminant validity of the PID-5 domain and facet scales was varied, when compared to the NEO Personality Inventory (NEO PI-R; Costa & McCrae, 1985; Quilty et al., 2013). The NEO PI-R is a measure of personality aligned to the FFM (see section 3.5.2 Pathological Domains and Aggression, for a more detailed description). Specifically, although the Disinhibition domain (and related facets)

was, as expected, associated with the NEO PI-R Conscientiousness domain, there was also a strong association between PID-5 Disinhibition and NEO PI-R Neuroticism. Additionally, the Negative Affectivity domain (and related facets) was most strongly associated with the expected NEO PI-R Neuroticism domain, but was also strongly related to the NEO PI-R Conscientiousness domain (Quilty et al., 2013). The remaining PID-5 domains were associated with the NEO PI-R as expected (Quilty et al., 2013). Despite this, as both the PID-5 domains and facet were strongly associated with parallel NEO PI-R domains and facets, the results largely support the convergent validity of the PID-5 (Quilty et al., 2013).

When examining the ability of PID-5 facets to predict DSM Section II PDs in an outpatient clinical sample, Few et al. (2013) demonstrated that PID-5 facets accounted for between 24% (histrionic PD) and 49% (paranoid PD and borderline PD) of the variance in PD diagnoses (mean adjusted R-squared [$r^2 = .37$]). The authors also found that the PID-5 domains were moderately to strongly correlated with a range of behavioural and psychological outcomes. For example, the Negative Affectivity domain was significantly related to patient anxiety ($r = .63$) and depression symptoms ($r = .53$), and the Detachment domain was significantly related to depression symptoms ($r = .32$). The Antagonism domain scores were significantly related to problematic drug use ($r = .33$). Conversely, the results suggested that PID-5 facets did not account for any significant variance in antisocial behaviour, and accounted for minimal variance in alcohol consumption ($r^2 = .15$), with no unique relationship between alcohol consumption and any of the PID-5 facets (Few et al., 2013).

In terms of forensic samples, a study by Dunne et al. (2017) evaluated the internal consistency of the PID-5, utilising two different scoring methods for the domains. The first of these calculated domain scores by summing, and then averaging, the three facet scores that

contribute to the specific domain as specified in the PID-5 (e.g., the three facets of Emotional Lability, Anxiousness, and Separation Insecurity form the Negative Affectivity domain; Krueger et al., 2013b). The second method required the researchers to calculate a total domain score by combining the facets that most strongly relate to a specific domain (e.g., the facets of Anxiousness, Emotional Lability, Hostility, Perseveration, Restricted Affectivity [lack of], Separation Insecurity, and Submissiveness form the Negative Affectivity domain; Krueger et al., 2013b). The reported alphas for the first scoring method were acceptable to good, with .80 for Negative Affectivity, .67 for Detachment, .79 for Antagonism, .79 for Disinhibition, and .85 for Psychoticism. For the second scoring method, the reported alphas were acceptable to good, with .73 for Negative Affectivity, .80 for Detachment, .82 for Antagonism, and .85 for Psychoticism. The exception to this was Disinhibition with .46. Acceptable to strong internal consistencies were reported for the facets, with coefficient alphas ranging from .69 for Irresponsibility to .94 for Eccentricity (Dunne et al., 2017).

When taken all together, the PID-5 has demonstrated acceptable to strong psychometric properties in community and outpatient samples. As such, it has the potential to be part of a model that significantly advances the conceptualisation of maladaptive personality (Al-Dajani et al., 2016). Further research is needed to address the mixed research on its discriminant validity, and there is a need for the PID-5 to be validated in more forensic samples, given that PDs are more prevalent in this population (Fazel & Danesh, 2002).

Notably, there are also other versions of the PID-5, including the Personality Inventory for DSM-5–Short Form, which contains 100 items (PID-5-SF; Maples et al., 2015) and the Personality Inventory for DSM-5–Brief Form, which contains 25 items, and measures only the five domains, (PID-5-BF; Krueger et al., 2013a). The PID-5 Forensic Faceted Brief Form was

designed to assess maladaptive personality traits in forensic populations, and is based on the PID-5-SF (PID-5-FFBF; Niemeyer et al., 2021). Finally, the Personality Inventory for DSM-5–Informant Report contains 218 items for evaluating the 25 trait facets from a source outside of the individual being assessed (PID-5-IRF; Markon et al., 2013).

The aforementioned study by Bach and Hutsebaut (2018) also utilised the PID-5-SF, reporting the domains only. The reported alphas were mixed, with .78 for Negative Affectivity, .63 for Detachment, -.49 for Antagonism, .03 for Disinhibition, and .20 for Psychoticism. In contrast, Maples et al (2015) reported more favourable results. This study contained a derivation sample (composed of community and undergraduate participants) and a validation sample (clinical participants; Maples et al., 2015). Alphas for the PID-5-SF domain scores ranged from .89 (Detachment and Disinhibition) to .91 (Antagonism), with a mean of .90, for the derivation sample, and .87 (Antagonism) to .91 (Negative Affectivity), with a mean of .89, for the validation sample (Maples et al., 2015). Taken together, these results suggest that the PID-5-SF may be useful in community and clinical samples but needs further work to reliably capture the AMPD traits in forensic populations.

Bach et al. (2015) suggested that the brief version of the PID-5 may be best used when only a general description of a patient's personality is needed, as compared to a full exploration of PD traits. In such instances the PID-5-BF may prove useful, as initial studies into its psychometric properties have proved favourable. In a sample comprised of community and undergraduate student participants, Anderson et al. (2018) reported adequate to good internal consistencies with .70 for negative Affectivity, .75 for Detachment, .68 for Antagonism, .76 for Disinhibition, and .78 for Psychoticism. Similar results were reported in a clinical outpatient sample with .76 for Negative Affectivity, .66 for Detachment, .64 for Antagonism, .74 for

Disinhibition, and .77 for Psychoticism (Huprich et al., 2018). A recent study has explored the psychometric properties of the PID-5-BF in a prisoner sample ($N = 438$; Dunne et al., 2021). Results suggested acceptable to good internal consistencies with .80 for Negative Affectivity, .75 for Detachment, .78 for Antagonism, .82 for Disinhibition, and .80 for Psychoticism. Furthermore, after accounting for overlap of items within their designated domains, all items were found to be positively correlated with their designated domain, indicating item-convergent validity (Dunne et al., 2021).

To date, only one study has explored the psychometric properties of the PID-5-FFBF. Two-hundred and five male participants were recruited from sociotherapeutic departments of German prisons (sociotherapeutic departments aim to reduce prisoners' risk to the community through psychotherapy or social training; Niemeyer et al., 2021). Reliability was mixed, with stronger results for the domains than the facets. For the domains, reliability was good with .75 for Negative Affectivity, .79 for Detachment, .84 for Antagonism, .81 for Disinhibition, and .81 for Psychoticism. In terms of the facets, results were unacceptable to good with .42 for Irresponsibility to .85 for Risk Taking (Niemeyer et al., 2021). With reference to convergent validity, the domains were substantially associated with their expected FFM counterparts (Niemeyer et al., 2021).

Finally, in terms of the PID-5-IRF, an initial study with a community sample and a normative sample suggested good to strong internal consistencies for the facets (Markon et al., 2013). Alphas ranged from .72 (Submissiveness) to .95 (Eccentricity) in the normative sample, and from .74 (Submissiveness) to .95 (Eccentricity) in the community sample, with mean alphas of .88 across both samples (Markon et al., 2013).

2.9.7 Critique of Criterion B Measures

Currently, the SCID-5 AMPD Module II is the only interview measure intended to capture AMPD traits. Whilst preliminary findings suggest that it has reasonable psychometric properties, the only empirical study that has looked at Module II employed the Italian language version in a psychiatric facility. As such, future studies will need to explore other language versions across a variety of settings.

In terms of self-report measures, the PID-5 was developed by the American Psychiatric Association to measure AMPD domains and traits. The PID-5 has mostly demonstrated good psychometric properties in non-clinical, clinical, and forensic samples. The exception to this being its discriminant validity, which has had mixed empirical results. Altogether, the PID-5 has demonstrated acceptable to strong psychometric properties in community and outpatient samples. However, further research is needed for it to be validated in forensic populations.

Overall, as all varieties of the PID-5 are self-report measures they are at risk of being influenced by self-report biases (such as participants wanting responses to show them in the best possible light; Donaldson & Grant-Vallone, 2002). As such, one prominent criticism of the PID-5 is that it does not include validity scales to detect potentially invalidating response styles, such as non-plausible over- and under-reporting and random responding (Al-Dajani et al., 2016; Bagby & Sellbom, 2018). Furthermore, defensive responding and a lack of insight are characteristic of certain PDs (Ruiter & Greeven, 2000). This may result in under-reporting of symptoms, which leads to inaccurate assessment and diagnosis. Additionally, when self-report measures are used in forensic settings, prison populations often exhibit deceptive, self-protective, and socially desirable responses during evaluation (Ruiter & Greeven, 2000). The lack of validity scales was deemed to be problematic due to response inconsistency within the PID-5 having important implications for the validity of personality test results. In an attempt to address

this issue, Keeley et al. (2016) developed the Personality Inventory for DSM-5–Inconsistency Scale (PID-5-INC) to assess random responding on the PID-5. When developing the PID-5-INC, Keeley et al. (2016) initially identified item pairs based on item-to-item correlations and then examined the content of the item pairs to determine if they were sufficiently similar. They identified 41 item pairs with a correlation of at least .60. This cut-off was determined to allow enough items to be kept on the scale that would be useful for differentiating valid from non-valid responding. This process resulted in a final number of 20 item pairs that were similar in content (Keeley et al., 2016). The inconsistency scale score is produced by “summing the value of the discrepancy for each item in every item pair” (Keeley et al., 2016, p. 353), which generates a scale score ranging from 0 to 60. Higher scores represent a greater probability of random or invalid responding on the PID-5 (Keeley et al., 2016).

A study that used both community ($n = 989$) and clinical samples ($n = 131$) demonstrated that the PID-5-INC was able to reliably differentiate real from random responding (Keeley et al., 2016). Random responses led to inflated scores on the PID-5 facets, indicating the importance of detecting inconsistent responding prior to test interpretation (Keeley et al., 2016). A 2018 study (Bagby & Sellbom, 2018), which aimed to validate the PID-5-INC demonstrated that it can successfully distinguish random from non-random responding and the best cut scores were similar to those reported by Keeley et al. (2016). Furthermore, this study suggested that even 17 random responses out of the 220 questions can compromise the psychometric validity of the PID-5 trait scales (Bagby & Sellbom, 2018).

Additionally, the PID-5-Over-Reporting Scale (the PID-5-ORS; Sellbom et al., 2018) was developed to detect individuals who were exaggerating or fabricating personality pathology symptoms (Sellbom et al., 2018). The authors identified extreme response options on PID-5

items that were not regularly endorsed by students in three different university samples ($n = 1,370$) as well as a psychiatric outpatient sample ($n = 194$; Sellbom et al., 2018). This resulted in a 10-item over reporting scale, and initial psychometric evaluation revealed adequate-to-good estimates of internal reliability, with coefficient alphas ranging from .68 to .77; Sellbom et al., 2018). Additionally, the PID-5-ORS was significantly correlated with the Minnesota Multiphasic Personality Inventory-2 Restructured Form (Ben-Porath & Tellegen, 2008) over reporting validity scales, providing evidence of concurrent validity.

As the full PID-5 is lengthy, briefer measures have been developed to attempt to capture PD traits within a shorter administration time. Of these, the 100-item PID-5-SF has demonstrated mixed results. So far, it appears that the PID-5-SF may be useful in community and clinical samples, and has the major advantage of a reduced administration time compared to PID-5. However, the PID-5-SF needs further work to reliably capture AMPD traits in forensic populations. In contrast, the PID-5-BF has produced favourable results, with adequate to good internal consistencies. Again, it has the major advantage of a reduced administration time compared to the PID-5. Nevertheless, given that facet level data is more informative than domain level data, a significant disadvantage of the PID-5-BF is that it only measures the domains (Dowgwillo et al., 2016; Dunne et al., 2018; Skodol et al., 2011). Similarly, the PID-5-IRF has demonstrated good to strong internal consistencies for AMPD facets. A significant benefit of the PID-5-IRF is that it captures collateral information. Triangulating this information between client and informant is useful for accurate PD assessment, and for screening out any potential biases in self-reports (Markon et al., 2013). The PID-5-FFBF is the only version of the PID-5 that has been designed specifically to be used within a forensic context. So far it has shown mixed results. Furthermore, it has only been tested in one initial development study with German speakers. Accordingly, further research is required to determine if it is a useful tool to measure

Criterion B in forensic settings across a range of languages.

2.9.8 Summary of Criterion B Measures

Currently, there is only one semi-structured interview (the SCID-5 AMPD Module II) and three self-report measures available to measure AMPD Criterion B, with all three measures being a variation on the PID-5. There is also an informant report of the PID-5. The domination of the PID-5 to measure Criterion B may in part be due to the fact that the American Psychiatric Association developed and released the PID-5 at the same time as the AMPD, which prompted research into the PID-5 itself (Adhiatma & Halim, 2016; Anderson et al., 2013; Fossati et al., 2013; Markon et al., 2013), rather than development of other instruments to measure Criterion B. Whilst the SCID-5 AMPD Module II requires further investigation across diverse settings and language groups, the PID-5 has been the subject of a number of empirical studies. It appears to have mostly acceptable psychometric properties in both community and outpatient samples, but needs to be validated in forensic settings, given that PDs are more prevalent in prisoner populations (Fazel & Danesh, 2002). Further research is also needed into the other iterations of the PID-5.

2.9.9 Critique of Measures to Assess the Six Diagnostic Categories

Currently, the SCID-5-AMPD Module III is the only instrument that assesses the six specific PDs in the AMPD. Module III is a semi-structured interview (First et al., 2018) that begins with a general overview, then moves on to Preliminary Questions About View of Self and Quality of Interpersonal Relationships. Following this, the assessor evaluates Criterion A and Criterion B for each of the six PDs. Subsequently, submissiveness and distractibility (the facets not associated with any particular PD) are assessed. Lastly, questions are provided to assist the assessor in determining if the general criteria for any PDs are met. If not, the assessor determines

whether the diagnosis of PD-TS applies (First et al., 2018).

To date, only one empirical investigation of Module III has been undertaken. In a sample of 84 psychotherapy outpatients, results suggested that Module III displayed good inter-rater reliability ($\kappa = .83$) and adequate convergent validity ($\kappa = .54$; Somma et al., 2019). However, this study employed the Italian language version of the SCID-5-AMPD, with adult participants (mean age = 36.42 years) who volunteered to partake. As such, future studies will need to explore other language versions across a variety of settings, including with older adults and forensic settings. Notwithstanding these limitations, given that these initial results appear promising, as well as the step-by-step nature of the SCID-5-AMPD, it is possible that this measure may assist clinicians and researchers to move from a categorical to a hybrid categorical-dimensional model.

2.10 Chapter Two Summary

The conceptualisation of PDs has a long and complex history, with contemporary conceptualisations being influenced by changes that began in the 19th century. Differing viewpoints, such as psychoanalysis, the medical model, and biological theories, competed for prominence. The rise of the neo-Kraepelinian movement in the mid-twentieth century led to all DSM editions since DSM-III having a categorical model of PDs. The categorical model conceptualises PDs as distinct disorders, different from one another. To identify and diagnose different PDs within the categorical model there are two broad classifications of instruments: interviews and self-report instruments. Critics of the categorical model have pointed out various issues with conceptualising PDs as distinct categories, such as, heterogeneity within sub-types, limited diagnostic reliability, extensive co-occurrence, and arbitrary diagnostic thresholds.

In light of these criticisms, the American Psychiatric Association established the DSM-5 Personality and Personality Disorders Work Group, and subsequently included the AMPD within the DSM-5. The AMPD overcomes many of the limitations of the categorical approach to PD diagnosis by conceptualising PDs in terms of dimensional impairments in self and interpersonal functioning (Criterion A) and maladaptive PD trait domains and facets (Criterion B). Whilst preliminary research appears to show that the AMPD is a clinically useful new model, further research is needed to validate it across cultures and in a variety of different settings, e.g., forensic settings.

As a hybrid categorical–dimensional model, the AMPD has retained six of the diagnoses from the categorical model, including antisocial PD, avoidant PD, borderline PD, narcissistic PD, obsessive-compulsive PD, and schizotypal PD. These can be diagnosed if the specific AMPD criteria are met. However, if an individual does not meet criteria for one of these six PDs, there is also a trait-specific diagnosis (PT-TS). This allows clinicians to form precise person-centred PD diagnoses, that allow the specific PD presentation to be understood as arrangements of maladaptive traits.

There are two key approaches available to assess the AMPD: interviews and self-report. Various instruments can be used when measuring level of personality functioning (Criterion A) and pathological personality traits (Criterion B). Compared to the categorical model, the instruments are fewer in number due to the AMPD being a new model. In addition to the instruments for measuring Criteria A and B, there is one tool, the Structured Clinical Interview for the DSM-5 Alternative Model for Personality Disorders Module III (First et al., 2018), that has been developed to assess the six AMPD PD diagnoses.

Chapter Three: Personality Disorders and Aggression

This chapter explores the relationship between PDs and aggression. It begins with an overview of the prevalence of PDs in forensic settings. Next, the varying ways in which aggression has been defined will be explored, followed by categorical conceptualisations of PD and their relationship with aggression and violent recidivism. Finally, an examination of pathological traits (both from the AMPD and other trait-based models) and their relationship with aggression will be investigated. Although this section will explore aggression and criminality in PDs, it is important to note that not all individuals with a PD will display aggressive tendencies, nor commit criminal acts.

3.1 Personality Disorders in Forensic Settings

There is a high prevalence rate of PDs in forensic settings, with studies suggesting that approximately 65% of male prisoners and 42% of female prisoners meet diagnostic criteria for a PD (Davison et al., 2001; Fazel & Danesh, 2002). In addition to the overall rate of PDs in forensic settings, research has sought to examine which specific PDs from the DSM categorical

model are most prevalent in these populations.

3.1.1 International Personality Disorder Prevalence Rates

A Spanish study used DSM-IV diagnoses to explore the prevalence rate of all PDs in a prison population (Vicens et al., 2011). Of the 707 male participants, over 80% had at least one PD ($n = 582$) and two-thirds ($n = 475$) of the sample had two or more PDs. Cluster B PDs were most prevalent; within this cluster, 44% ($n = 311$) of participants received a diagnosis of borderline PD, 33% ($n = 232$) were diagnosed with narcissistic PD, and 23% ($n = 165$) were given a diagnosis of antisocial PD. The most prevalent PD in Cluster A was paranoid PD (37%, $n = 263$; Vicens et al., 2011).

Another study that explored all PDs, used 7383 participants and five years' worth of data from the New York State Office of Mental Health (the service that provides psychiatric care to state prisoners; Rotter et al., 2002). The results found that antisocial PD ($n = 1024$), PD-NOS ($n = 292$), and borderline PD ($n = 155$) were diagnosed at much higher rates than paranoid PD ($n = 24$), schizotypal PD ($n = 17$), schizoid PD ($n = 12$), dependent PD ($n = 10$), histrionic PD ($n = 7$), narcissistic PD ($n = 6$), avoidant PD ($n = 4$), passive-aggressive PD ($n = 4$), and obsessive-compulsive PD diagnosed ($n = 4$; Rotter et al., 2002).

Another study that explored the rates of all PDs used the Structured Clinical Interview for DSM-IV (SCID-II; First et al., 1997). The study separated males and females and found that antisocial PD and borderline PD were the most common PDs in females, whereas antisocial PD was the most common in males, followed by paranoid PD and borderline PD. Across both the male and female groups, all other PDs were diagnosed at significantly lower rates (for example, in the male sentenced prisoner group 49% received a diagnosis of antisocial PD, but only 1%

received a diagnosis of dependent PD; Singleton et al., 1998).

The high rates of antisocial PD and borderline PD in the above studies have been replicated internationally in a variety of studies within forensic settings (Black et al., 2007; Brinded et al., 1999; Daniel et al., 1988; Fazel & Danesh, 2002; Harsch et al., 2006; Rotter et al., 2002). Accordingly, much of the research regarding PDs in forensic settings has focused on antisocial PD – as conceptualised within the categorical model. This focus may be in part due to the high prevalence rates, as well as the management problems presented by those with antisocial PD due to the aggression, disregard for the rights of others, irritability, and lack of remorse that are characteristic of this disorder (Black et al., 2010; Shepherd et al., 2016). Within the general population, antisocial PD prevalence rates range between 3.9% and 5.8% for men and 0.5% to 1.9% for women (Black et al., 2010). However, reported rates of antisocial PD amongst prisoners have varied across studies. Amongst men, rates of 11% to 78% have been reported and 12% to 65% amongst women, depending on the sample size, particular prison sampled, and assessment method utilised (Blackburn & Coid, 1999; Coid, 1992; Jordan et al., 1996; Rotter et al., 2002; Singleton et al., 1998; Zlotnick, 1999). An English study by Blackburn and Coid (1999) reported that 62% of 164 violent male prisoners met criteria for antisocial PD, when utilising the Structured Clinical Interview for DSM-III Axis-II Disorders (Spitzer et al., 1988). A large survey of prisoners in the United Kingdom employing the SCID-II, reported that 56% of 2371 men and 31% of 771 women met criteria for antisocial PD (Singleton et al., 1998). Black et al. (2010) assessed 320 newly incarcerated male and female offenders from the Iowa Department of Corrections, using the Mini International Neuropsychiatric Interview (Sheehan et al., 1998). They reported that 35.3% of participants met criteria for antisocial PD. Although the rates vary across these studies, the frequency with which antisocial PD is seen in prisons is consistently higher than the general population. The lack of a clear, definitive rate could be attributed to

different settings, as well as different instruments being used to diagnose PDs.

In addition to antisocial PD, borderline PD – as conceptualised within the categorical model – is prevalent within forensic populations as compared to community samples. Blackburn and Coid (1999) assessed a sample of 164 violent male prisoners in England and reported that 57% met criteria for borderline PD. In a large survey of incarcerated persons in the United Kingdom, Singleton et al. (1998) found that 19% of 2371 men and 20% of 771 women had borderline PD. Black et al. (2007) assessed 220 newly incarcerated male and female offenders from the Iowa Department of Corrections and reported a presence of borderline PD in 29.5% of participants. Similar to those with borderline PD in the community, the participants in this study had high rates of psychiatric comorbidity, particularly for anxiety, eating, mood and substance use disorders (Black et al., 2007). Whilst the rates vary across these studies, the frequency with which borderline PD is seen in prisons is consistently higher than the general population.

Results have been mixed in relation to narcissistic PD, with some studies suggesting it occurs frequently in international forensic settings (Coid, 2002; Timmerman & Emmelkamp, 2001; Warren et al., 2002) and other research suggesting that it occurs less frequently (Brinded et al., 1999; Esbec & Echeburúa, 2010; Logan, 2009). In relation to the other seven PDs within the categorical model, these appear less frequently than antisocial PD or borderline PD in international forensic populations (Esbec & Echeburúa, 2010; Singleton et al., 1998; Warren et al., 2002). This may be in part caused by studies that focus exclusively on antisocial PD and borderline PD, rather than examining the prevalence of all PDs. Overall, greater research into all PDs, rather than an explicit focus on antisocial PD and borderline PD, will provide a clearer estimate of the prevalence of PDs in forensic settings.

3.1.2 Australian Personality Disorder Prevalence Rates

The estimated prevalence rate of PDs within the general adult population in Australia is approximately 6.5% (Andrews et al., 2001; Jackson & Burgess, 2000). However, studies conducted in Australian forensic settings suggest a much higher prevalence rate. Prevalence rates have been recorded that are over five times that of the general adult population, with reported total rates ranging from 30% to 44% (Butler et al., 2006; O'Driscoll et al., 2012). These rates appear to be somewhat lower than those reported in international prison populations (Fazel & Danesh, 2002). However, this discrepancy could in part be due to the limited number of prevalence studies conducted in Australia and methodological differences.

A 2003 study used ICD-10 classifications and was conducted using the International Personality Disorder Examination Screener (IPDE-Screener; Loranger, 1999) to explore mental illness and personality pathology amongst prisoners in New South Wales, Australia (Butler & Allnutt, 2003). Although DSM classifications are the focus of the present research, and this survey used ICD diagnoses, it is one of the few prevalence studies conducted in Australia. As such, the results are important to understanding the Australian context for PDs in prisoner populations. Furthermore, in contrast with international prevalence rates, this Australian sample was broken down into gender categories, which suggested that the prevalence rate is higher amongst women. Results indicated that the most prevalent PDs in males and females were emotionally unstable PD – impulsive type (males = 21% and females = 24%), emotionally unstable PD – borderline type (males = 17% and females = 24%), paranoid PD (males = 18% and females = 23%), anxious (avoidant) PD (males = 16% and females = 21%) and schizoid PD (males = 14% and females = 20%). Within this study the IPDE-Screener yielded a notably low prevalence rate for dissocial PD (antisocial PD within DSM-5), with only approximately 2% of both males and females meeting this diagnosis. Butler and Allnutt (2003) noted that the use of a screener may have led to under-diagnosing of PDs within their Australian sample, especially

antisocial PD, and that there is a substantial body of literature confirming high rates of this PD amongst prisoners (Coid, 2002; Dunsieith et al., 2004; Fountoulakis et al., 2008; Timmerman & Emmelkamp, 2001; Vicens et al., 2011). This under-diagnosing is surprising, given that screeners often over-diagnose, as was the case when the authors also noted the unusually high rate of other PDs, such as paranoid PD (36.4%), anxious (avoidant) PD (32.5%) and schizoid PD (28.7%), not usually seen in international prison samples. As such, it is unclear whether there was actually a low rate of dissocial PD in this sample or if the IPDE-Screener does underdiagnose. Altogether, the study by Butler and Allnutt (2003) suggests that there are varying rates of PDs across Australian male and female prisoners, with females tending to be diagnosed at slightly higher rates. Moreover, the low levels of dissocial PD found in this study appears inconsistent with international research. This, coupled with results of the Australian National Survey of Mental Health and Wellbeing, which found that not one respondent received a diagnosis of dissocial PD from the IPDE (Jackson & Burgess, 2000), suggests that in both community and prison populations the IPDE may be a poor screener for dissocial PD.

A study of 136 forensic psychiatric patients in Australia found that the prevalence of antisocial PD (diagnosed using the DSM-IV criteria, by psychologist raters using information available in clinical and legal files, such as inpatient behaviour and criminal records) was 27.2% (Shepherd et al., 2016). However, as noted by the authors, the actual rate may differ from this reported rate for a number of reasons. Firstly, there was not enough information to make a definitive diagnosis in almost a third of cases. Secondly, the sample was collected at Thomas Embling Hospital, a secure forensic mental health facility. Accordingly, the sample included both prisoner patients (i.e., prisoners with serious mental illness who are involuntarily hospitalised at Thomas Embling Hospital for treatment) and forensic patients (i.e., those found not guilty because of mental impairment; Shepherd et al., 2016). Consequently, the blending of

populations may mask the true rate of antisocial PD seen in Australian forensic settings. This may be due in part to the higher rates of psychosis seen in those found not guilty because of mental impairment, rather than as high a rate of antisocial PD – notably, this study took place when the Crimes (Mental Impairment and Unfitness to be Tried) Act, 1997 precluded individuals with a primary diagnosis of PD from entering a Victorian forensic-psychiatric hospital (Shepherd et al., 2016).

3.1.3 Factors Impacting on the Study of Personality Disorders in Forensic Settings

When measuring the overall prevalence rates of PDs (i.e., not breaking them down into the individual categorical disorders) in prisons there are a number of confounding factors that may influence the aforementioned prevalence rates (Rotter et al., 2002). Within Section II of the DSM-5, PDs are defined as an “enduring pattern of inner experience and behaviour that deviates markedly from expectations of the individual’s culture” (American Psychiatric Association, 2013a). Forensic settings have unique cultures, which inmates often feel compelled to adapt to, with unwritten rules of minding one’s own business, not trusting others, and not showing weakness all common place (Rotter et al., 2002). Criteria for PDs such as hostility, self-centeredness, social withdrawal, and suspiciousness may represent both adaptive and expected patterns of behaviour in an environment where looking out for oneself and mistrusting others are necessary to survive (Rotter et al., 2002). As discussed throughout Chapter Two, PDs are characterised by emotional instability that is stable across time. However, this emotional instability (such as hostility) may prove adaptive in a forensic setting. Furthermore, the measurement of PDs, both in and out of forensic settings, is hampered by the lack of a clear and valid assessment method (Ruiter & Greeven, 2000). Semi-structured interviews and self-report

questionnaires are commonly used in prisons when assessing PDs and are usually aimed at capturing categorical PD diagnoses (Dunne et al., 2017). However, there are limitations to these approaches. Both interviews and self-report assessments can be directly influenced by defensive responding, a lack of insight, and the fact that prisoners may have greater grounds (e.g., access to parole; access to leave or to progress through inpatient units) for demonstrating deceitful, self-protective, and socially desirable responses during assessment; which can in turn lead to invalid diagnoses (Ruiter & Greeven, 2000). Additionally, the limited correlation between self-report and interviews pose significant challenges to the accurate and reliable measurement of PDs in forensic settings (Clark et al., 1997; Dunne et al., 2017). As outlined in Chapter Two, a meta-analysis reported poor convergence between structured interviews and personality questionnaires, with coefficients of .27 for specific PDs and .29 for any PD (Clark et al., 1997). Such poor convergence does not give clinicians confidence that the tools they are using will accurately measure the presence, or lack thereof, of any PDs (Clark et al., 1997). Additionally, variability in rates can partly be attributed to the differences in methodology (e.g., sampling, or measurement) and analytical approaches (Boyle, 1998). Lastly, often studies examining a variety of mental disorders will report an overall rate of PD, without also breaking down the specific diagnoses (Birmingham et al., 1996; Rösler et al., 2004).

3.1.4 Summary

Within forensic settings, PDs are diagnosed at a much higher rate than the general population, especially antisocial PD and borderline PD. However, few studies have explored the prevalence of the other eight PDs. When this research has been conducted, both narcissistic PD and paranoid PD appear to occur moderately frequently in forensic populations. The empirical literature may be greatly expanded by future studies utilising the DSM (the leading diagnostic

approach in Australia; Margo, 2021) to explore PD prevalence rates within Australian forensic settings. This will be valuable since, notably, rates of PDs in Australia appear to differ somewhat from international figures.

3.2 Personality Disorders and Aggression

Currently, there are no discrete and widely accepted definitions of aggression, anger, hostility, and violence within the scientific community (Howells et al., 2008). This is problematic, as definitions need to be detailed enough to distinguish one phenomenon from another, whilst providing a rationale for the classifications to conform to the scientific method (Hamby, 2017). Unfortunately, it is sometimes unclear how acts labelled violence are alike or distinct from other behaviours (Hamby, 2016a, 2016b; Lehrner & Allen, 2014). When conducting empirical studies, accurate and consistent definitions are needed for investigation, identification of causes and consequences, delivering prevention and intervention, and conducting outcome studies (Hamby, 2017). Accordingly, it is important to provide clear definitions of aggression, anger, hostility, and violence for the present research. Within this thesis anger refers to an internal emotional state (Howells et al., 2008), whereas hostility refers to the negative evaluation of both people and events (Howells et al., 2008). Both anger and hostility can give rise to aggression (Howells, Daffern, & Day, 2008). Although aggression has a number of definitions, for the purpose of the present thesis, it is defined as behaviour intended to cause harm to another person, wherein that person wishes to avoid this harm (Howells et al., 2008). Furthermore, given the broad ranging forms which violence can take (e.g., sexual violence, interpersonal stranger violence, domestic violence), and to differentiate violence from other aggressive behaviours, such as threats, or property damage, this paper defines violence as behaviour that is 1) nonessential, 2) unwanted, 3) physical, 4) harmful, and 5) an intentional act

(Hamby, 2017). Violent offending is a sub-category of violence, whereby an act of violence breaches the law (Howells et al., 2008). For the purpose of this thesis, aggression will be used as a category when it is necessary to refer to a combination of aggressive and violent behaviours.

Additionally, there is evidence to suggest that both violent sexual offending and domestic/intimate partner violence can be characterised differently from other forms of violent offending (e.g., assault, aggravated burglary, or murder; Blackburn & Coid, 1998; Craig et al., 2006; Gannon, 2009; Hamby, 2017; Holtzworth-Munroe & Stuart, 1994). As such, this thesis will focus on the latter, as it is beyond the scope of this literature review to explore all three. Exceptions to this are included, when research has explored different forms of violence whilst specifically utilising the AMPD – however, conclusions drawn from research on domestic/intimate partner violence cannot be generalised to other violent offending.

A diagnosis of PD can represent a significant clinical risk for aggression, with studies reporting rates of up to 89% of participants who had committed an act of violence exhibiting some kind of personality pathology (Duggan & Howard, 2009; Fountoulakis et al., 2008; Hamburger & Hastings, 1986; Kirkpatrick et al., 2010). Consequently, determining the presence of PDs is a vital part of several structured violence risk assessment instruments, e.g., the Historical Clinical Risk Management-20, Version 3 (Douglas et al., 2013) and the Violence Risk Scale (Wong & Gordon, 1998 – 2003), with a diagnosis indicating an increase in risk.

A 2008 review that examined the relationship between PDs and violent behaviour across a variety of settings, suggested that PDs and violence often co-occur, with antisocial PD and borderline PD found to be the most strongly related to violent acts, compared to other PDs (Fountoulakis et al., 2008). A British study on the pervasiveness of self-reported violence with any psychiatric disorder ($n = 8397$; recruited from the general population) used the SCID-II

screening questionnaire to identify PDs in the sample. Results indicated that the risk of violence was increased by alcohol and drug dependence and the presence of antisocial PD (Coid et al., 2006). The study found that 24% of those with antisocial PD reported engaging in violence.

A retrospective study of 153 male offenders (85 sex, 46 violent and 22 general) suggested that violent offenders were more likely to be single, express suicidal/homicidal ideation, have a history of employment problems, school maladjustment, burglary offences, and to have a diagnosis of PD (Craig et al., 2006). Unfortunately, this study did not identify which PDs were in the sample. A Finnish retrospective review explored the characteristics of 57 adolescent offenders who had committed homicide (Hagelstam & Häkkänen, 2006). Fifty-seven percent of the 18-year-old offenders and 53% of the 17-year-old offenders were diagnosed as having a PD (although the DSM-IV did not allow for a PD diagnosis until age 18, the authors reported that the 17-year-old offenders were 18-years-old at the time of the study). Three participants had a mixed PD diagnosis (although which PDs were present in the mixed diagnoses were not specified), two received a diagnosis of borderline PD, one dependent PD, and the rest of the participants were classified as having antisocial PD (Hagelstam & Häkkänen, 2006).

A study of 261 female inmates at a maximum security prison revealed a significant relationship between Cluster A and B PDs with violent offending, but not Cluster C (Warren et al., 2002). A diagnosis of any Cluster A PD significantly predicted convictions of any violent crime, including homicide ($OR = 2.50$), and convictions of violent crimes excluding homicide ($OR = 2.49$). A diagnosis of any Cluster B PD significantly predicted whether there was self-reported institutional violence ($OR = 3.26$). Of the Cluster B diagnoses, narcissistic PD significantly predicted current incarceration for any violent crime, including homicide ($OR = 7.57$) and current incarceration for any violent crime, excluding homicide ($OR = 4.92$).

Antisocial PD and borderline PD significantly predicted whether there was any self-reported institutional violence ($OR = 3.18$; $OR = 1.15$ respectively). Histrionic PD was not related to any of the violence or criminality measures, and no Cluster C diagnoses were related to any of the violence measures, but were related to other criminality measures (Warren et al., 2002).

A Norwegian study reported that participants high on the Narcissistic Personality Inventory (Raskin & Hall, 1979) were only slightly more likely to be mildly violent ($OR = 1.21$), but much more likely to be severely violent ($OR = 11.46$; Svindseth et al., 2008). Consequently, the results of Warren et al. (2002) and Svindseth et al. (2008) suggest that there is a stronger relationship between narcissistic PD and more serious violence. A Brazilian study that explored PDs in participants who had been convicted of murder or rape (but not both) found that 96% of those convicted of murder met criteria for antisocial PD, 86% for sadistic PD (a PD involving sadomasochism which appeared in the DSM-III-R but was removed from the DSM-IV due to a lack of empirical support; Oldham, 2005), 30% for histrionic PD, 26% for paranoid PD, 24% for dependent PD, 22% for avoidant PD, 14% for both schizoid PD and obsessive-compulsive PD, and 8% for both borderline PD and narcissistic PD (Rigonatti et al., 2006). Similar results were found in another Brazilian study that reported a significant relationship between antisocial PD with the crimes of robbery, kidnapping, and extortion (Pondé et al., 2014).

Within the literature on the PD-aggression relationship a small number of researchers have attempted to explore the motivational link between PDs and aggression (i.e., whether the presence of a PD causes an individual to behave aggressively; Duggan & Howard, 2009). Of the few studies that have explored this motivational link, Coid (1998) has been most prominent. Coid examined male and female forensic populations in secure hospitals and prisons ($N = 260$) to examine whether psychopathology, and in particular PDs, played a part in violent behaviour.

Nearly 50% of the sample had been convicted of attempted murder, murder, or wounding, and 69% of the sample met criteria for at least of one PD (using DSM-III diagnoses). Coid interviewed each participant for a minimum of 210 minutes to establish the context of their index offence. This included the actions of the participant and victim, and the participants retroactive report of their feelings and intentions prior to the offence, which established a narrative of the offence. This narrative was then verified via witness statements. Analyses showed that paranoid PD was independently associated with offences characterised by undercontrolled aggression (low threshold for violence following minimal provocation) and revenge (the offence is carried out in retaliation for a real, or imagined, slight). Schizoid PD was associated with expressive aggression (unprovoked/impulsive physical and verbal aggression) and offences carried out for excitement/exhilaration (the offence is committed for pleasurable [non-sexual] excitement). Antisocial PD was associated with hyperirritability (a state of intense anger that has no clear focus or causation in the mind of the offender), offences carried out for financial gain (the offence is committed with the intention and expectation of financial reward), and offences carried out in a gang/group activity (the offence is carried out by the offender within a group or as part of an organised gang). Borderline PD was associated with compulsive homicidal urges/urges to harm (an urge to kill/harm that cannot be explained by precipitating events), relief of tension/dysphoria (intense feelings of anxiety, tension, anger, and/or dysphoria that are relieved by the offending), hyperirritability, revenge, displaced aggression (the offence is committed on another person or object in place of the individual who originally elicited anger in the offender), excitement/exhilaration, desire to resolve problems (to persuade or force others to resolve the offender's problems), and pyromania (purposeful fire-starting). Histrionic PD was associated with offences carried out for financial gain and escaping arrest (behaviour intended to avoid arrest or detection). Narcissistic PD was associated with offences motivated by the need

for power, domination, and control of a victim (an assault as an expression of a fantasy, where the offender is usually compensating for acutely felt inadequacies) and by blows to self-esteem (words or actions by the victim that resulted in feelings of devaluation, humiliation, and consequent rage in the offender). Obsessive-compulsive PD was independently associated with hyperirritability, displaced aggression, and the experience of loss or threatened loss (loss of a person, object, or a supportive situation, such as accommodation). No associations were found between any motivational variables and schizoid PD, avoidant PD, or dependent PD. Taking these findings together, Coid (1998) demonstrated that PDs seem to make a considerable contribution to the motivations of aggressive behaviours. Nevertheless, a major limitation of this study was having the same researcher obtain both the diagnostic information and the data on criminal behaviour due to the probability of confirming associations that were expected by the researcher.

Coid went on to conduct a similar study in 2002, aimed at examining the relationship between DSM-III PD diagnoses and motivations for disruptive behaviours in prisoners. Interviews were conducted with 87 prisoners, chosen due to their problematic and dangerous behaviour in prison, which led to them being transferred to a specific management unit designed for those exhibiting dangerous behaviours. The majority had been convicted of aggravated burglary and/or serious violent offences and received sentences ranging from less than five years (3%), to five years or more (33%), with 64% of the sample sentenced to life imprisonment. The interview elicited descriptions of their index offence and the motivation behind it, as well as explanations for their disruptive behaviour in prison. Corroborative information was sought from each prisoner's file (both custodial and psychiatric), as well as prison staff. The statistical analysis utilised logistic regression to establish independent associations. Except for one participant all met criteria for one or more DSM-III PD diagnosis, with antisocial PD (84%),

paranoid PD (67%), and narcissistic PD (63%) being the most prevalent. Prisoners with co-morbid antisocial PD, narcissistic and paranoid PD were more likely to engage in prisoner on prisoner violence. These participants appeared to be motivated by three beliefs; firstly, that violence is the best means of resolving interpersonal difficulties, secondly, taking pride in their physical fighting skills, and lastly, if they felt their self-esteem had been threatened. As well as being involved in inter-prisoner violence, these prisoners were also more likely to hoard weapons. Individuals with narcissistic PD were most likely to engage in violence towards prison staff. Violence towards prison staff was less likely in those with borderline PD or schizoid PD. Results suggested that there was a relationship between borderline PD and a history of hostage taking, with a sub-group of this population finding motivation from compulsive homicidal urges. Results also indicated that those with obsessive-compulsive PD were more likely to have killed other prisoners, with such an action being motivated by the wish to quell a rival or in the aftermath of their self-esteem having been wounded. Finally, damaging prison property was not associated with DSM-III PD diagnoses.

When all of the results were brought together, Coid (2002) asserted that this research supported a cognitive model explaining the motivational association between aggression and PDs. Within this cognitive model, it is hypothesised that an individual demonstrates a predisposition, operating in the form of a PD, which leads to the development of schemas (beliefs and rules that shape experience and behaviour) that integrate and attach meaning to events in the environment. These schemas then lead to attributions and motivations, which go on to result in action in the form of aggression or violence (Coid, 2002). Consequently, the assessment of PDs should be a standard procedure in disruptive and dangerous prisoners (Coid, 2002).

One of the few prospective longitudinal studies conducted into PDs and aggression aimed to examine whether the presence of a PD during adolescence was associated with an increased risk of violence during youth and early adulthood (antisocial PD was excluded due to the necessity to diagnose it as an adult – a significant flaw, given that antisocial is the PD most commonly associated with aggression; Johnson et al., 2000). The researchers controlled for a number of factors including age, anxiety, conduct disorder, depression, sex, and substance use. The results suggested that Cluster A PDs were associated with an increased risk of burglary and intimidating behaviour, while Cluster B PDs (antisocial PD excluded) were associated with arson, committing a mugging or robbery, starting physical fights, vandalism, and engaging in any aggressive or violent act (Johnson et al., 2000). When the researchers looked at individual PDs, the relationship between borderline PD and violence was less clear, and became non-significant once other variables, such as substance use, were controlled for (Johnson et al., 2000). Additionally, paranoid PD and narcissistic PD symptoms during adolescence were independently associated with risk for violent acts and criminal behaviour during adolescence and early adulthood, after covariates were controlled.

3.3.1 Personality Disorders and Violent Recidivism

There has been a long established increased re-offence rate of individuals with a PD diagnosis: two to three times higher than for those with another mental disorder (Coid et al., 1999). Putkonen et al. (2003) reported on female offenders who had committed homicide. Of those who reoffended, 81% had a PD. An English study found that 66% of individuals with a PD re-offend, and of these, 26% re-offend violently (Bailey & Macculloch, 1992). Additionally, a longitudinal study explored the co-morbidity of PDs and substance use disorder and the relationship with recidivism, whereby violent recidivism was defined as a conviction for

attempted or completed homicide, severe bodily harm, rape, child abuse, arson or robbery, whilst general recidivism was defined as any reconviction (Walter et al., 2011). Three-hundred and seventy-nine offenders were assessed after an eight-year period and 22% ($n = 84$) were diagnosed with a PD and co-morbid substance use disorder, 23% ($n = 86$) had a PD but no substance use disorder, and 26% ($n = 97$) had a substance use disorder but no presence of a PD. Finally, 29% ($n = 112$) were classified as a control group, as they were diagnosed with other psychiatric disorders. Results suggested that 69% of the group with a PD and a co-morbid substance use disorder, 45% of the substance use disorder only group, and 33% of PD alone participants re-offended. However, violent recidivism was highest in the PD only group, with 14.8% of the PD only group violently re-offending (Walter et al., 2011). While 9.2% of the substance use disorder group, 6.3% of the PD and co-morbid substance use disorder, and 5.1% of the control group violently re-offended (Walter et al., 2011). Similar findings have been established by a large scale Swedish study ($N = 1215$) that investigated psychiatric disorders and their relationship with criminal recidivism during five-year post-custody follow-up (Långström et al., 2004). The results suggested that PDs and alcohol use disorder predicted violent non-sexual recidivism.

3.3.2 Summary

When taken altogether, it appears that there is a strong relationship between antisocial PD, borderline PD, and narcissistic PD with aggression, as well as violent recidivism. A relationship appears to exist between Cluster A PDs, although this does not seem to be as severe as the aforementioned PDs. Although Cluster C PDs can be associated with criminality, they do not appear to be related specifically to aggression to the same degree as Cluster A and Cluster B.

3.4 Categorical Conceptualisations of Personality Disorders and Their Relationship with

Aggression

As outlined above, a relationship appears to exist between PDs and aggression. However, a major confounding factor when exploring the relationship between PD diagnoses from the categorical model and aggression is the overlap between diagnostic criteria of PDs containing references to, and elements of, aggression (Dunne et al., 2017). Anger and aggression are primary diagnostic criteria for both antisocial PD and borderline PD. Furthermore, antagonistic and hostile features are associated with seven of the other PDs, resulting in nine of the ten PDs including diagnostic criteria that overlap with aggressive behaviour (e.g., paranoid PD: "Has recurrent suspicions, without justification, regarding fidelity of spouse or sexual partner." p. 649; narcissistic PD: "Shows arrogant, haughty behaviours or attitudes" p. 670; American Psychiatric Association, 2013a; Dunne et al., 2017).

Whilst the above criteria contain explicit reference to aggression, antagonism, or hostility, there are further criteria that may contribute to aggressive acts within DSM-5 Section II PDs. In the description of paranoid PD, there are six criteria that may contribute to aggressive acts; "suspects, without sufficient basis, that others are exploiting, harming, or deceiving him or her; is preoccupied with unjustified doubts about the loyalty or trustworthiness of friends or associates; reads hidden demeaning or threatening meanings into benign remarks or events; persistently bears grudges (i.e., is unforgiving of insults, injuries, or slights); perceives attacks on his or her character or reputation that are not apparent to others and is quick to react angrily or to counterattack; has recurrent suspicions, without justification, regarding fidelity of spouse or sexual partner" (American Psychiatric Association, 2013a, p. 649). For antisocial PD, there are four criteria that may contribute to aggressive acts; "failure to conform to social norms with respect to lawful behaviours, as indicated by repeatedly performing acts that are grounds for

arrest; irritability and aggressiveness, as indicated by repeated physical fights or assaults; reckless disregard for safety of self or others; and lack of remorse, as indicated by being indifferent to or rationalising having hurt, mistreated, or stolen from another” (American Psychiatric Association, 2013a, p.659). Comparably, the DSM-5 Section II description of borderline PD has three criteria that may contribute to aggression; “frantic efforts to avoid real or imagined abandonment; impulsivity in at least two areas that are potentially self-damaging; and inappropriate, intense anger or difficulty controlling anger” (American Psychiatric Association, 2013a, p.663). Finally, narcissistic PD has three criteria that may contribute to aggressive acts; “has a grandiose sense of self-importance (e.g., exaggerates achievements and talents, expects to be recognised as superior without commensurate achievements); requires excessive admiration; has a sense of entitlement (i.e., unreasonable expectations of especially favourable treatment or automatic compliance with his or her expectations); is interpersonally exploitative (i.e., takes advantage of others to achieve his or her own ends); lacks empathy: is unwilling to recognise or identify with the feelings and needs of others. The criteria for these PDs may be linked to aggression through misinterpretations in interactions, low empathy, a lack of frustration tolerance, impulsiveness, emotional dysregulation, or a threat to the ego (Critchfield et al., 2008; Dutton, 2002; Esbec & Echeburúa, 2010; Nestor). The explicit and subtle references to aggression in PD criteria have two important consequences. Firstly, it becomes difficult to conclude whether aggression can be directly inferred or predicted by certain PDs, e.g., antisocial PD, or if aggression is merely a by-product of most PDs. Secondly, this overlap masks the nature of whether aggressive action is associated with specific personality traits that manifest differently across different PDs, or is it is the result of personality pathology in and of itself (Dunne et al., 2017).

Alongside the problem of overlap in diagnostic criteria for PDs and aggression is the

issue of establishing whether the relationship is motivational or not. Exploration of such an issue rests on the assumption that PDs cause aggression, and not on whether aggression causes the development of PDs. Currently, there is a lack of empirical research into the PD-aggression relationship and this motivational link, due to the methodological difficulties (such as top-down assessment methods, inferential and measurement errors, and a lack of longitudinal studies) of establishing whether PDs or violence comes first (Duggan & Howard, 2009; Logan & Johnstone, 2010). Consequently, although previous research has linked aggression and PDs, most of this research has been correlational, which renders it difficult to establish a motivational link. Whilst some studies have explored this link (Coid, 1998, 2002; Johnson et al., 2000), and suggested that PDs do make a considerable contribution to motivations for aggression, there is insufficient evidence to infer a motivational relationship between them. As such, further research is required.

Across the literature, there is a consistently high rate of violence in those with PDs. This suggests a need for clinicians to be equipped with the resources to both effectively diagnose and treat prisoners with a PD (Coid et al., 1999). However, this high rate has been identified using the categorical model – which the present thesis has documented the shortcomings of. As such, future research into the relationship between violent recidivism and PD traits is warranted.

3.4.1 Summary

Various studies have provided strong evidence that there is a significant relationship between some PDs (such as antisocial PD and borderline PD symptoms) and aggression (Duggan & Howard, 2009; Esbec & Echeburúa, 2010; Fountoulakis et al., 2008; Kirkpatrick et al., 2010). A number of studies have shown that individuals who engage in violent offending (de Barros & de Pádua Serafim, 2008; Varley Thornton et al., 2010), as well as aggression (Berman et al., 1998; Coid et al., 2006) are more likely to meet diagnostic criteria for a PD.

Whilst a relationship does appear to exist between PDs and aggression, the relationship is clouded by two main factors. Firstly, when exploring the relationship between aggression and PDs derived from the categorical model there is overlap. This makes it difficult to conclude whether aggression can be directly inferred or predicted by certain PDs, e.g., antisocial PD, or if aggression is a by-product of most PDs. Secondly, this overlap masks the nature of whether aggressive action is associated with specific personality symptoms that manifest differently across different PDs, or is it the result of personality pathology in and of itself (Dunne et al., 2017).

3.5 Trait –Based Personality Models and Aggression

As outlined throughout the present thesis, there are a number of limitations to the categorical approach to PD diagnoses. This applies to both clinical utility as well as the way the categorical model hinders current understandings of the relationship between PD and aggression. PD facets have been shown to be stronger predictors of violence than the presence of a categorical PD diagnosis alone (Esbec & Echeburúa, 2010; Jones et al., 2011; Sirotych, 2008). Consequently, there is an argument to be made that a trait based model of PD could be a stronger predictor of aggression than the current categorical model, especially if the already strong empirical evidence base for the trait aggression relationship continues to grow. Such nuanced examination of the relationship between personality pathology and aggression may also help understand why some people with PDs are violent, as well as illuminate specific treatment targets.

3.5.1 Level of Personality Functioning and Aggression

Before exploring the relationship between trait models and aggression, it is worth noting

that, at present, only one empirical study has explored the relationship between Criterion A (level of personality functioning) and aggression (Gamache et al., 2021; Leclerc et al., 2021). As such, the personality functioning-aggression literature will be explored using this study as a beginning point, and then move to overall personality dysfunction, as well as the individual four constructs of Identity, Self-Direction, Empathy, and Intimacy, to build hypotheses around the expected relationship between AMPD criterion A and aggression.

Leclerc et al. (2021) explored the PD-aggression relationship using a French-speaking outpatient sample ($n = 285$) and a community sample ($n = 995$; Leclerc et al., 2021). The level of personality functioning was measured using the SIFS. Results suggested that Identity (outpatient sample only) and Empathy (community and outpatient samples) both weakly but significantly predicted aggression. The SIFS total score was also a weak but significant predictor for the community sample only. However, as this study used French-speaking outpatients and community participants, it is unclear if these results are generalisable to other countries. Furthermore, the present research is employing the LPFS-SR, whereas this study utilised the SIFS.

With regard to overall dysfunction in personality functioning, only the research by Leclerc et al. (2021) has examined the AMPD conceptualisation of personality functioning and its association with aggression. Additionally, a study by Hopwood et al. (2011) distinguished traits of personality pathology from overall PD severity in a large clinical sample ($N = 605$) using DSM-IV PD criteria. Within the analyses overall PD severity was significantly correlated with aggression ($r = .46$). Furthermore, when these results are combined with the fact that PD severity has been shown to be an important predictor of current and future dysfunction (Hopwood et al., 2011), it is likely that the LPFS-SR total score will be related to aggression.

Within the AMPD, identity is defined as the “experience of oneself as unique, with clear boundaries between self and others; stability of self-esteem and accuracy of self-appraisal; capacity for, and ability to regulate, a range of emotional experience” (American Psychiatric Association, 2013a). This ability to see oneself as unique begins to emerge in the adolescent and early adulthood years, with identity development being a core stage in many developmental models – such as Erikson’s psychosocial developmental theory (1968; Morsünbül, 2015). During this period of development, individuals explore their identity, and in doing so, may engage in risky activities, such as substance use or fighting (Arnett, 2000). However, Erikson’s model has been criticised for focusing on the results of identity development, rather than the processes of identity development itself (Côté & Levine, 1988; van Hoof, 1999). Consequently, the five-dimensional model of identity formation was developed by Luyckx et al. (2008). This model posits that the exploration of identity process may not be adaptive, and that identity development should be examined to assess identity formation. The model identifies different types of identity exploration and identity commitment. Firstly, commitment making examines if individuals have made decisions about alternatives related to their identity. Secondly, identification with commitment shows how much individuals identify with their existing choices. Thirdly, exploration in breadth examines the degree to which individuals search for alternatives around their identity. Fourth, exploration in depth shows the degree to which individuals continually reassess the commitments available to them. Lastly, ruminative exploration examines whether individuals persistently explore alternatives for their identity, but the search process does not culminate with commitment making, resulting in them getting caught in the exploration process (Luyckx et al., 2008).

Importantly, studies have established that exploration in depth and ruminative exploration are positively associated with aggression, whilst commitment dimensions are negatively

associated with aggression (Morsünbül, 2015; Schwartz et al., 2011). Studies have examined this across adolescent and undergraduate samples, with varying sample sizes (ranging from 484 to 9034). These findings suggest that individuals who understand and are committed to their identity are less likely to engage in aggression. As such, when integrated with the findings of Leclerc et al. (2021), it is expected that participants who score higher on the LPFS-SR identity construct (and thus have lower levels of security in their identity) will be more likely to engage in aggression.

The AMPD definition of self-direction is the “pursuit of coherent and meaningful short-term and life goals; utilisation of constructive and prosocial internal standards of behaviour; ability to self-reflect productively” (American Psychiatric Association, 2013a). As such, there is limited empirical research into the connection between the broad AMPD definition of self-direction and aggression. However, research has focused on the relationship between life goals and aggression. Studies have examined this across pre-teen and adolescent samples, with varying sample sizes (e.g., sample size range from 276 to 310). Within these studies, analyses of social goals have suggested that agentic goals (desire to gain authority and resources, or to appear confident) are linked to aggressive behaviours, whilst communal goals (goals that emphasise closeness to other people) are associated with prosocial behaviours (Benish-Weisman, 2019; Ojanen et al., 2005). However, it should be noted that these studies did not examine socioeconomic status and whether it influenced participants’ pursuit of agentic and communal goals. Furthermore, as this research has been conducted exclusively with adolescents, it be difficult to generalise to adult and forensic populations.

Other research conducted with adolescent populations has suggested that prosocial internal standards of behaviour can be a protective factor against aggression in adolescents

(Carlo et al., 2014; Padilla-Walker et al., 2015), and that that prosocial behaviour has the ability to negate the aetiology of physical aggression in children and adolescents (Jung & Schröder-Abé, 2019). Again, however, this research has been conducted exclusively with children and adolescents, making it difficult to generalise to adult and forensic populations.

Self-reflection (a component of the AMPD self-direction definition) has been studied to see whether it can reduce aggression (Bushman, 2002; Kross & Ayduk, 2011; Mischkowski et al., 2012). Firstly, a distinction between anger rumination and reflection must be established – anger rumination occurs when individuals repeatedly dwell on situations or feelings that angered them, which can increase future aggression (Bushman et al., 2005; Mischkowski et al., 2012). Reflection is when an individual works through their emotions to help resolve them (Mischkowski et al., 2012). Studies that have examined whether people can reflect on negative experiences without ruminating have found that self-distancing (viewing themselves, and the anger provoking situation, from a distance) is crucial to this process (Kross & Ayduk, 2011; Mischkowski et al., 2012). In contrast, people who self-immense (reflect on their emotions from a first-person perspective in order to understand them) when examining distressing memories tend to re-live the adverse thoughts and feelings associated with the primary event, without resolving them (Kross & Ayduk, 2008). Furthermore, in a study that actively provoked participants by interrupting them, those who self-distanced had fewer aggressive thoughts and feelings and displayed less aggressive behaviours than participants who self-immersed or were in a control group. These findings suggest that when individuals are able to self-distance at the time of provocation have fewer aggressive thoughts, feelings, and behaviours (Mischkowski et al., 2012). When taken altogether, it appears that individuals who have higher levels of self-direction (such as goals, prosocial behaviour, and self-reflection, all of which are measured on the LPFS-SR) are less likely to engage in aggression. As such, it is likely that participants in the present

research sample who score higher on the LPFS-SR Self-Direction construct (and thus have lower levels of self-direction) will be more likely to engage in aggression.

The AMPD definition of empathy is “comprehension and appreciation of others’ experiences and motivations; tolerance of differing perspectives; understanding the effects of one’s own behaviour on others” (American Psychiatric Association, 2013a). Regarding the relationship between empathy and aggression, deficits in empathy have been theorised to cause both general and aggressive offending, whereby the lack of empathy fails to inhibit aggressive acts (Blair, 1995; Howells et al., 2008; Miller & Eisenberg, 1988). As such, an individual who is lacking in empathy does not learn to inhibit these aggressive acts because the consequences of their aggression (distress at witnessing the negative effects of their acts on others) does not occur (Howells et al., 2008). As empathy is a complex process there may be numerous factors that contribute to deficit, such as a failure to experience distress at the anguish of other people, a behavioural failure to act on any empathic responses that have been produced, a cognitive failure in perspective takings, or a perceptual failure to observe the distress of other people (Howells et al., 2008; Mohr et al., 2007). Despite this solid theorisation there are mixed findings within the literature as to whether there is a relationship between empathy and aggression. A 2013 meta-analysis involving 86 studies suggested that the association between empathy and aggression was weak ($r = -.11$; Vachon et al., 2014). For physical aggression specifically the association was also observed to be weak ($r = -.12$; Vachon et al., 2014).

Another meta-analysis examined the association between empathy and offending, whilst differentiating between affective empathy (the vicarious sharing of emotion) and cognitive empathy (the understanding of other individuals emotions; Jolliffe & Farrington, 2004). Although the analysis included both violent and non-violent offenses, the results suggest that

there was a small negative association between offending and overall empathy ($d = -0.28$), cognitive empathy ($d = -0.48$), and affective empathy ($d = -0.14$; Jolliffe & Farrington, 2004). When the authors looked at the seven studies in the meta-analysis that compared violent and non-violent offenders, there was a significant difference between empathy in violent and non-violent offenders, with violent offenders having deficits in empathy ($d = -.39$; Jolliffe & Farrington, 2004). However, due to significant methodological concerns in one paper (neither intelligence nor socioeconomic status were controlled for – variables that are known to have an influence on effect size – resulting in effect sizes much stronger than the other papers included; Jolliffe & Farrington, 2004) the result that violent offenders had lower empathy than non-violent offenders may have been inflated. Consequently, the results must be interpreted with caution.

A more recent meta-analysis that explored the empathy-aggression relationship also differentiated between affective empathy and cognitive empathy, whilst examining bullying (a subtype of aggression; Dodge et al., 1990). Overall, the findings suggested that both variables were negatively associated with bullying (Mitsopoulou & Giovazolias, 2015). However, only studies with children and adolescents were included. As such, it is unclear how these results will generalise to adult samples.

Further evidence for an empathy-aggression relationship comes from the psychopathy literature, with one of the core characteristics of psychopathy being a lack of empathy (Patrick et al., 2009). A number of studies have established a relationship between psychopathy and various forms of aggression (such as violence and instrumental aggression; Cornell et al., 1996; Glenn & Raine, 2009; Neumann & Hare, 2008; Walsh et al., 2007). However, other psychopathic features, such as blunted emotions, callousness, and a lack of guilt, may also contribute to the psychopathy-aggression relationship. This was the case in a study on psychopathy in

incarcerated Canadian male adolescents (Flight & Forth, 2007). Although an association between violence and lower empathy scores was found, regression analyses demonstrated that empathy accounted for no extra variance in predicting violence above that accounted for by other psychopathic traits.

Taken altogether, there appears to be some evidence that a lack of empathy is associated with aggression. However, empirical examination of this association has produced mixed results. As such, the present research will take an exploratory approach in examining the relationship between LPFS-SR Empathy and aggression.

Within the AMPD the definition of intimacy is “depth and duration of connection with others; desire and capacity for closeness; mutuality of regard reflected in interpersonal behaviour (American Psychiatric Association, 2013a). Regarding the association between intimacy and aggression, the literature is complex. Most studies have explored the association between intimacy and relational aggression (threatening, or actual removal, of relationships or friendships in order to harm the other person; Crick et al., 1999) in children and adolescents, with few looking at non-relational aggression. These studies have suggested that high levels of intimacy are associated with relational aggression (Grotmeter & Crick, 1996; Murray-Close et al., 2007).

One of the few studies that has explored the association between intimacy and relational and non-relational aggression in adults found that men’s self-reported aggression is more often directed at other men, rather than women (including intimate partners), and is more often directed at people who are known to them, rather than strangers (Cross & Campbell, 2012). Similarly, women’s self-reported aggression was higher towards intimate partners than other people who were known to them or towards strangers (Cross & Campbell, 2012). One of the complexities of researching the association between intimacy and aggression is that the

connection is not linear (i.e., high aggression towards intimate partners, moderate aggression towards friends, family, or colleagues, and low aggression towards strangers). Rather, empirical evidence has suggested that verbal aggression is more frequent towards intimate partners than towards strangers, but less common towards friends, family, or colleagues than strangers (Felson et al., 2003). However, verbal aggression is more likely to become physical when the aggressive individual is interacting with a stranger (Felson et al., 2003).

Altogether there is limited, yet complex, evidence regarding the association between intimacy and aggression. Accordingly, it is hypothesised that those with lower levels of intimacy on the LPFS-SR will have higher levels of violent offending.

3.5.2 Pathological Trait Domains and Aggression

The FFM is an established model of personality, which has been the subject of extensive empirical investigation (Dunne et al., 2017). As one of the principal models of general personality functioning it can be used to examine the association between aggression and personality traits. The FFM posits that personality can be described using five factors; openness to experience (an intellectually open and curious mind – appreciation of art, creativity, and emotions; counterpart to AMPD psychoticism), conscientiousness (the tendency to plan and pay attention to details; counterpart to AMPD disinhibition), extraversion (an involvement in many social activities, and gaining energy and stimulation in the company of other people; counterpart to AMPD detachment), agreeableness (the tendency to be compassionate and cooperative toward others; counterpart to AMPD antagonism), and neuroticism (a tendency to be susceptible to psychological distress; counterpart to AMPD negative affectivity; Costa Jr & McCrae, 1990; Friedman & Schustack, 2012).

Previous research has suggested that aggression is strongly related to low agreeableness (Jones et al., 2011; Miller & Lynam, 2001), low conscientiousness (Jones et al., 2011; Miller & Lynam, 2001), and high neuroticism (Jones et al., 2011; Miller & Lynam, 2001). Behavioural aggression is associated with low FFM agreeableness in both men and women (Martin et al., 2000; Sharpe & Desai, 2001). Similarly, psychological aggression (verbal and behavioural acts that are intended to blame, criticise, dominate, humiliate, intimidate, isolate, or threaten another person; Follingstad et al., 2005) is associated with high FFM neuroticism for both genders (Martin et al., 2000). For women only, psychological aggression is associated with high FFM extraversion, high FFM conscientiousness, and low FFM agreeableness. Therefore, whilst there appears to be trait specific predictors of aggression that apply to both men and women, certain relationships appear to be gender specific. These results are consistent with previous findings that low FFM agreeableness, high FFM neuroticism, low FFM conscientiousness, and low FFM openness to experience are related to recidivism (Clower & Bothwell, 2001; Van Dam et al., 2005).

Additional evidence for the trait-aggression relationship can be seen in research on the PSY-5. As with the FFM, the PSY-5 captures five personality domains, including aggressiveness (i.e., overt and instrumental aggression that typically includes a sense of grandiosity and a desire for power), psychoticism (i.e., reflects the accuracy of an individual's inner representation of objective reality), constraint (i.e., an individual's level of control over their impulses, risk aversion, and traditionalism), negative emotionality (i.e., an individual's tendency to experience negative emotions), and positive emotionality (i.e., an individual's tendency to experience positive emotions and have enjoyment from social experiences; Harkness & McNulty, 1994). A 2001 study demonstrated that higher scores on the Aggression Questionnaire (Buss & Perry, 1992) were associated with higher scores on PSY-5 aggressiveness ($r = .60$), negative

emotionality ($r = .52$), and psychoticism ($r = .43$), and a lower score on constraint ($r = .31$; Sharpe & Desai, 2001). A small, but still significant, association was also recorded between aggression and lower scores of positive emotionality ($r = .25$; Sharpe & Desai, 2001).

As the AMPD is a newer model of PD, fewer studies have explored the PD traits-aggression relationship. One study that contributed to filling this gap in the literature made use of the PID-5 in a prison population (Dunne et al., 2018). Although modest positive correlations were observed between the PID-5 domains of Antagonism and Negative Affectivity with aggression, regression analyses revealed non-significant relationships between PID-5 domains and aggression. In contrast to this, a study that examined the relationship between PID-5 domains and a variety of aggressive adolescent behaviours (bullying and cyberbullying) found that the domains of Antagonism and Disinhibition were associated with the aggressive behaviours of bullying and cyberbullying (Romero & Alonso, 2019). Furthermore, hierarchical regression was used to determine the degree to which the PID-5 domains predicted aggressive behaviours. The domains of Antagonism and Disinhibition were good predictors of bullying (Antagonism: $r = .36$, Disinhibition: $r = -.16$), and cyberbullying (Antagonism: $r = .28$, Disinhibition: $r = .13$). Overall, maladaptive domains emerged as better predictors of in-person bullying than of cyberbullying. Nevertheless, this study was conducted using an adolescent sample (mean age = 14.85; $SD = 1.70$), and thus caution needs to be taken in generalising these findings to adult populations. However, the identified relative stability of personality over time (Cobb-Clark & Schurer, 2012; Harris et al., 2016; Wright et al., 2015) means that this study warrants consideration in the present thesis.

In the aforementioned study by Dunne et al. (2021) that investigated the internal consistency of the PID-5-BF, the relationship between domains and aggression was also

explored. Disinhibition, Antagonism, and low Negative Affectivity were found to be predictive of aggression. Another recent study that has explored the AMPD PD-aggression relationship did so using an outpatient sample ($n = 285$) and a community sample ($n = 995$; Leclerc et al., 2021). Within both samples Disinhibition, Psychoticism, Detachment and low Negative Affectivity emerged as significant predictors of aggression. Additionally, Antagonism was also found to be a significant predictor of aggression in community participants.

The aforementioned study that assessed maladaptive personal traits in a forensic setting in order to construct the PID-5-FFBF also explored the relationship between the AMPD and recidivism. Results suggested that Detachment was negatively associated with risk of recidivism in informant-reports, whilst Antagonism, and Disinhibited aggression (a factor comprised of the facets of Emotional Lability, Hostility, and Impulsivity) were positively related to recidivism (Niemeyer et al., 2021). Conversely, Insecurity (a factor comprised of the facets of Separation Insecurity, Anxiousness, and Cognitive and Perceptual Dysregulation) was negatively related to risk of recidivism (Niemeyer et al., 2021).

Although the results of Dunne et al. (2018) suggested non-significant relationships between the domains of Antagonism and Negative Affectivity with aggression, the results of Dunne et al. (2021); Romero and Alonso (2019); Niemeyer et al. (2021) and Leclerc et al. (2021) suggest that the AMPD domains can effectively predict aggression. Across these studies Antagonism, Disinhibition and low Negative Affectivity have consistently predicted aggression. These results are consistent with findings across the FFM and PSY-5, which have posited that low FFM conscientiousness and low PSY-5 constraint (both of which are equivalent to high AMPD disinhibition), low FFM agreeableness and low PSY-5 positive emotionality (both of which are equivalent to high AMPD antagonism), and FFM neuroticism and PSY-5 negative

emotionality (both of which are equivalent to AMPD Negative Affectivity) are related to aggression.

3.5.3 Pathological Trait Facets and Aggression

Given that domain level analysis of pathological personality traits is not always sufficient for ascertaining predictive relationships, as seen in Dunne et al. (2018), it has been suggested that facet level analysis can provide a wealth of further information on the PD-aggression relationship (Paunonen & Ashton, 2001).

There are a number of FFM facets that have demonstrated relationships with aggression. Hostility (Anderson & Bushman, 2002; Jones et al., 2011; Miller & Lynam, 2001), impulsiveness (Derefinko et al., 2011; Jones et al., 2011; Miller et al., 2003), low altruism (Jones et al., 2011), assertiveness (Jones et al., 2011) and low straightforwardness (Jones et al., 2011; Miller et al., 2003) have all shown strong associations and relationships to aggression. Hostility has been connected to specific acts of aggression; assaults by patients (Maiuro et al., 1989), violent recidivism (Craig et al., 2004; Niemeyer et al., 2021), and general violence (Derefinko et al., 2011).

There appears to be a moderate association between excitement seeking and aggression, as it has been linked to reactive aggression (aggression in response to real or perceived threats; Berkowitz, 1993; Miller et al., 2012), but not to general aggression (Jones et al., 2011). Moderate correlations with aggression also seem to exist for gregariousness (Jones et al., 2011; Miller et al., 2012), depression (Jones et al., 2011; Miller et al., 2012), and dutifulness (Jones et al., 2011; Miller et al., 2012). Whilst Separation Insecurity appears to be related to aggression, this relationship seem to occur mainly in the context of intimate partner violence and domestic

violence, rather than with general aggression (Critchfield et al., 2008; Dutton, 2002)

Specific to AMPD trait facets, a 2016 study that explored the relationship between pathological personality traits and intimate partner violence between female and male college students, did so using the revised Conflict Tactics Scale (CTS-2; a measure of violent and nonviolent responses to interpersonal conflict, particularly in relationships; Straus et al., 1996) and the PID-5 (Dowgwillo et al., 2016). Within the analyses, both the PID-5 domains and facets were significantly associated with intimate partner violence, but the facets accounted for greater variance than the domains. When analysed within male and female groups, the domains of Antagonism and Detachment, and the facets of Callousness, Intimacy Avoidance, low Withdrawal, and Unusual Beliefs and Experiences were associated with intimate partner violence in females. The domains of Detachment and Disinhibition, and the facets of Depressivity, Irresponsibility, low Anxiousness, low Risk Taking, and Unusual Beliefs and Experiences were associated with intimate partner violence in males. Whilst this study provides empirical support for the relationships between DSM-5 pathological traits and aggression, it was conducted to fill a gap in the knowledge regarding abusive university student relationships that often do not result in police intervention (Dowgwillo et al., 2016). As such, it is uncertain to what extent these results will be generalisable to other populations with severe PDs (e.g., clinical inpatient, outpatient, and forensic populations), as well as to other forms of violence.

A 2020 study also utilised the CTS-2 to explore the relationship between borderline PD and intimate partner violence, when using both DSM-5 categorical and AMPD conceptualisations of borderline PD (Munro & Sellbom, 2020). The PID-5-SF was used to measure AMPD traits. Within the analyses, the PID-5 facets were significantly associated with intimate partner violence. Hostility was the only unique predictor of psychological aggression

within the past year, as well as across lifetime; whilst Risk Taking uniquely predicted physical intimate partner violence within the past year, as well as across lifetime, and intimate partner violence resulting in injury, across lifetime. Suspiciousness was an additional predictor of any physical intimate partner violence at any time. Whilst this study provides empirical support for the relationships between DSM-5 pathological traits and aggression, it was conducted to fill a gap in the knowledge regarding differing borderline PD conceptualisations and intimate partner violence. Accordingly, as with the study by Dowgwillo et al. (2016) it is uncertain to what extent these results will be generalisable to other populations with severe PDs (e.g., clinical inpatient, outpatient, and forensic populations), as well as to other forms of violence. Finally, in the aforementioned study by Dunne et al. (2018) the relationship between facets and aggression was also explored. The results indicated that higher levels of the Hostility and Risk Taking facets predicted aggression (Dunne et al., 2018).

There is currently a lack of empirical evidence for any associations between other AMPD facets, such as distractibility, with aggression. It is unclear to what extent this is because no such associations exists, as is suggested by the above studies (Dowgwillo et al., 2016; Dunne et al., 2018; Munro & Sellbom, 2020) or whether this is because so few studies have explored any possible link.

Preliminary findings suggest that certain AMPD facets demonstrate significant associations and relationships with aggression. However, the types of facets that emerge as significant predictors depends on the population of interest and the type of aggression explored (e.g., physical violence, psychological aggression). The high rates of aggression, including violent recidivism, amongst those with PDs provide reason for clinicians to be equipped with the correct resources to identify these prisoners.

3.6 Chapter Three Summary

Overall, within the empirical literature there is an established link between PDs and aggression, with studies reporting rates of up to 89% of participants who had committed an act of violence exhibiting some kind of personality pathology (Hamburger & Hastings, 1986). Despite this established relationship between PDs and aggression, empirical research has struggled to untangle the relationship between personality and aggression and definitively establish whether and how PDs contribute to aggression. This is partly compounded by categorical conceptualisations of PDs, which contain diagnostic criteria around aggression but not specific traits that can be studied with regard to aggressive behaviour. Furthermore, whether aggression is associated with specific personality traits that manifest differently across different PDs, or whether it is the result of personality pathology in and of itself, has not yet been established. The separation of these different aspects of PD within the AMPD and the development of measurement instruments to assess these different elements creates an opportunity for research to ameliorate these difficulties.

3.7 Research Aims Recap

The present thesis is defined by two research aims:

3.7.1 Research Aim One

The first research aim is to explore the internal consistency, and the convergent and discriminant validity of measures developed to assess the AMPD within an Australian male prisoner sample. It is hypothesised that the novel measures will adequately assess for AMPD PDs in prisoners, at the same rate as the categorical measure assesses Section II PD diagnoses.

The first research aim will also investigate the prevalence of PDs within the Victorian prison system. Based on prior research (Black et al., 2007; Brinded et al., 1999; Daniel et al., 1988; Fazel & Danesh, 2002; Harsch et al., 2006; Rotter et al., 2002) it is hypothesised that the most prevalent PDs will be antisocial PD, borderline PD, narcissistic PD, and paranoid PD (paranoid PD will be measured using only the PDQ-4, as it is not included in the AMPD).

3.7.2 Research Aim Two

The second research aim is to investigate the criterion validity of the AMPD severity of impairment in personality functioning, and maladaptive personality trait domains and facets with participant's histories of aggression (as assessed via self-report and official police records). Consistent with previous research (Dunne et al., 2017), it is hypothesised that the strongest relationships will emerge between aggression and the facets of Hostility and Risk Taking. Furthermore, although some previous research has reported relationships between higher order personality domains and aggression, these are inconsistent, and the relationships are not as strong as those between certain traits and aggression (Dunne et al., 2018; Dunne et al., 2021; Leclerc et al., 2021; Romero & Alonso, 2019). As such, it is hypothesised that the PID-5 domains will not significantly predict aggression.

As the present research is the first to explore the relationship between the LPFS-SR and aggression, the following hypotheses are made based on limited extant literature and are exploratory in nature. First, it is hypothesised that the LPFS-SR total score will be related to aggression, as previous research has suggested that overall PD severity is associated with aggression (Hopwood et al., 2011; Leclerc et al., 2021). Second, consistent with previous findings (Leclerc et al., 2021; Morsünbül, 2015; Schwartz et al., 2011), it is expected that participants who score higher on the LPFS-SR Identity construct (which indicates lower levels of

security in their identity) will be more likely to engage in aggression. Third, consistent with previous research (Carlo et al., 2014; Mischkowski et al., 2012; Padilla-Walker et al., 2015), it is hypothesised that participants in the present research sample who score higher on the LPFS-SR Self-Direction construct (which suggests lower levels of self-direction) will be more likely to engage in aggression. Fourth, as the research regarding empathy and aggression is both limited and inconclusive, the present research will take an exploratory approach in examining the relationship between LPFS-SR Empathy and aggression. Lastly, in line with previous findings (Cross & Campbell, 2012; Felson et al., 2003), it is hypothesis that those with lower levels of LPFS-SR Intimacy will have higher levels of violent offending.

Finally, the relationship between the PDQ-4 and aggression will also be investigated. Currently, no research has investigated the predictive validity of the PDQ-4 with aggression. However, as PD severity has been shown to be an important predictor of dysfunction (Hopwood et al., 2011), it is hypothesised that the PDQ-4 total score will be positively associated with aggression.

PART III: METHODOLOGY AND RESEARCH PROCEDURE

Chapter Four: Research Methodology

Chapter Four provides a description of the research design and methodology. It begins with a description of the research design, the recruitment sites, and the ethical issues that arise from collecting data within prisons and which required consideration during the course of this study. Explanations of the recruitment and data collection procedures are then presented, alongside the challenges caused by the COVID-19 pandemic, followed by descriptions of the self-report assessment measures. A summary of demographic information, and details of the approach to data preparation and statistical analysis closes the chapter.

4.1 Research Design

A cross-sectional study was designed to investigate the internal consistency, and the convergent, discriminant and criterion validity of the LPFS-SR and PID-5 within a sample of Australian male prisoners (within Australia all incarcerated adults are referred to as prisoners), and to examine the relationship between these measures and aggression.

4.2 Site Identification

Participants were recruited from prisons across Victoria, Australia, as stipulated by the Corrections Victoria Research Committee. The Corrections Victoria Research Committee instructed the research team to recruit from five sites: Port Phillip Prison, Barwon Prison, Marngoneet Correctional Centre (Kareenga), Loddon Prison, and Dhurringile Prison. Of these, Port Phillip Prison, Marngoneet Correctional Centre (Kareenga), and Loddon Prison consented to the doctoral researcher attending for research purposes. The consenting prison sites house men aged 18 and above, who have been either remanded or sentenced by a Victorian court. Prisons ranged from maximum (Port Phillip Prison) to medium security (Marngoneet Correctional

Centre [Kareenga], and Loddon Prison), with one prison, Marngoneet Correctional Centre (Kareenga), housing protection prisoners. Altogether, the consenting prisons have 1,885 beds.

4.3 Procedure

4.3.1 Recruitment Procedure

Recruitment took place across the three prison locations from September 2019 to May 2021. The recruitment methodology and procedure were developed by the doctoral researcher in consultation with Offending Behaviour Program staff at each prison, and the eligibility criteria were constructed to be as broad as possible. As such, individuals were eligible for participation if they were aged over 18 years of age and were able to speak English without the aid of an interpreter. These procedures attempted to minimise any possible biases in participant selection. Participants were recruited by posters (see Appendix B) placed in the common areas of the prison, including the gymnasium, library, and health care centre. Posters were also placed on an electronic communication system, which displayed the poster in the prisoners' cells in those prisons where this system is available. Participants expressed an interest in participating in the research by completing a form that was attached to the flyer and placing it in a secure envelope, which was then returned to the staff at the Offending Behaviour Program office, who then informed the doctoral researcher. In the case of electronic systems in the prisoners' cells, those who wanted to express an interest in participating were able to reply directly to the advertisement via the electronic communication system, which was then collated by prison staff. Upon receiving this information, the doctoral researcher approached each potential participant on their unit to further explain the project and answer any questions. If the prisoner was still interested in participating, a time was organised for completion of the self-report assessment measures.

4.3.2 Data Collection Procedure

When prisoners were due to complete the surveys, the doctoral researcher attended the unit to confirm with each prisoner that they were still interested and available to complete the study. If they were still amenable to participating, prisoners were called to a private group room, allocated by custodial staff, and a maximum of five participants could complete the study at any one time. Upon arrival, each participant was provided with the explanatory statement (see Appendix C), consent form (see Appendix D), and a pen. Once the documents were read, understood, signed, and returned to the doctoral researcher, participants were provided with the survey packet to complete. The survey battery included measures relating to the following areas: 1) demographic characteristics (demographic questionnaire), 2) Criterion B of the AMPD – specific traits (PID-5), 3) Criterion A of the AMPD – issues with sense of self and interpersonal difficulties (LPFS-SR), 3) participants self-reported past aggression (the Life History of Aggression, Aggression subscale [LHA-S-A; Coccaro et al., 1997]), 4) established measure for assessing PDs within the categorical model (PDQ-4), and 5) socially desirable responding (Paulhus Deception Scale – Impression Management Subscale [PDS-IM]; Paulhus, 1998). The sequencing of the survey instruments was determined by two key factors. Firstly, the PID-5 was the lengthiest of the measures, and so was placed at the beginning of the battery in order to maximise the likelihood that it would be completed before the participants tired and were deterred from completing the survey because of the number of questions. Secondly, the aggression measure was placed in the middle to encourage the participants to be as candid and honest as possible with regard to their past aggression, having become used to answering questions after completing two other measures prior to this.

Throughout the sessions, participants were able to ask questions or take breaks when

needed. Survey completion time ranged from 45 minutes to two and a half hours, with an average of approximately 1.5 hours. Upon completion, participants returned the surveys and pen to the doctoral researcher. Each participant was thanked for their time and requested to return to their unit. If a participant desired a certificate of participation, they were provided one the following week (see Appendix E for an anonymised example).

4.3.3 Ethical Considerations

Prior to data collection commencing, the project received full ethics approval from the Corrections Victoria Research Committee, the Department of Justice Human Research Ethics Committee, the Swinburne Human Research Ethics Committee, and the Victoria Police Research Coordinating Committee (see Appendix A for ethical approval documents). The process to receive full ethical approval took approximately 12 months, as the four ethics committees had to grant approval separately and sequentially. Furthermore, the original plan involved using the LPFS-SR, PID-5, and the SCID-5AMPD. However, the Corrections Victoria Research Committee deemed that inclusion of the SCID-5AMPD would be too burdensome for the prisons as it would have involved individual interviews with each participant. As such, the SCID-5AMPD was removed. In 2019, the two ethics committees in charge of research in Victorian prisons (the Corrections Victoria Research Committee and the Department of Justice) granted permission to recruit a minimum of 100 participants, with scope for more should recruitment prove fruitful.

Several ethical considerations were identified, and procedures implemented to alleviate these issues. Potential participants were informed, via both verbal and written communication, that participation in the research was voluntary and that whether they chose to participate or not would have no effect on their criminal case or care and management during their time in prison.

Participants were informed that while completing the surveys they were free to withdraw from the study at any time up until they handed the completed questionnaire back to the doctoral researcher.

Participants were informed that their contribution was confidential insofar as the information they provided would not be provided to Corrections Victoria, Victoria Police, or any other agencies. Prior to completing the questionnaires, the limits to confidentiality were outlined to participants. A process was established whereby if a participant disclosed information suggesting that they may be at risk of causing imminent harm to themselves or to other people, or if they were observed to become distressed during the testing, then the doctoral researcher would seek permission to discuss these issues with the prisoners' case manager and/or custodial staff who could provide immediate care. Participants were informed that the questionnaires and consent forms would be kept in secure storage and that only the research team would have access to this material. Lastly, it was explained to participants that only aggregated data would be reported from the information obtained, and that there would be no possibility that a specific individual could be identified within publications.

4.3.4 COVID-19 Pandemic

Due to the global COVID-19 pandemic, in person data collection had to cease at the beginning of 2020. Between September 2019 and January 2020 there were 59 participants who completed the measures in person. Permission was sought from both the Corrections Victoria Research Committee and the Department of Justice Human Research Ethics to continue data collection via the video-conferencing service Zoom. This request was granted for Loddon Prison (see Appendix F) and data collection resumed in October 2020 with 15 participants completing the measures via Zoom. Survey packs were posted to a designated contact person at the prison.

As before, data was collected from participants in groups of five. Each participant was provided an iPad with a Zoom meeting already open, where the doctoral researcher was waiting to assist them, should they have any queries. Participants were handed a package that contained the explanatory statement, consent form, all questionnaires (these were placed in the same order as outlined above), and a sealable envelope. Once the explanatory statement and consent form were read, understood, and signed, participants were instructed by the doctoral researcher to complete the questionnaires. Once participants had completed the questionnaires, they placed them inside the envelope and sealed it. This envelope was then returned to the contact person, who securely stored them until the doctoral researcher could collect them. The completed questionnaires were not returned via postal service, due to concerns about privacy. As this procedure worked successfully at Loddon Prison, but no more participants were available than the 15 who completed the study, permission was sought again from both the Corrections Victoria Research Committee and the Department of Justice Human Research Ethics to enact this procedure at Port Phillip Prison. However, this permission was not granted as Port Phillip Prison reported that the procedure would be too burdensome for their staff. As such, data collection was again forced to cease until the easing of workplace restrictions in 2021. During May 2021, the doctoral researcher was given permission to attend Port Phillip Prison in person again, using COVID safe protocols approved by both Swinburne University of Technology and Port Phillip Prison (use of personal hand sanitiser, wearing a disposable mask, and maintaining social distancing). Data was collected from an additional 12 participants, across two occasions, before permission to attend was again revoked due to Melbourne entering its fourth COVID-19 lockdown. At this point, June 2021, the decision was made by the doctoral student's supervisory team to cease data collection, as the original end date for data collection had been May 2020. This resulted in a smaller sample size than was planned.

4.4 Measures

This section contains a description of each measure, along with relevant psychometric properties. Furthermore, a rationale for why each assessment measure was used is provided.

4.4.1 Demographic Information

To characterise the sample, a self-report measure was administered, whereby information relevant to participants' age, ethnicity, and level of completed education was obtained.

4.4.2 Assessment of Level of Personality Functioning

Recently published by Morey (2017), the LPFS-SR was developed to operationalise the LPFS (Criterion A). It captures impairments in Identity, Self-Direction, Empathy, and Intimacy at five different levels of personality functioning (Little to No Impairment – Extreme Impairment), as well as providing a total score as an indicator of overall personality dysfunction. The LPFS-SR is comprised of 80 questions, with each item answered on a 4-point scale: 1 (*Totally False, not at all True*), 2 (*Slightly True*), 3 (*Mainly True*), and 4 (*Very True*). The LPFS-SR takes approximately 30 to 60 minutes to administer. A copy of the measure can be found in Appendix G.

When scoring the LPFS-SR, responses are entered into a weighted table, with some scores being negatively weighted, and raw scores are multiplied by these weights (Morey, 2017). The weighted scores are then summed to form four construct scores, and a total score, which are then compared to observed norms. Scores exceeding one standard deviation above the mean suggest sub-clinical problems in personality functioning, whilst scores exceeding 1.5 standard deviations above the mean indicate clinically significant personality dysfunction (Morey, 2017).

Two clinically significant scores, from any of the four constructs, are required to signify the presence of a PD (American Psychiatric Association, 2013a).

An initial evaluation of the LPFS-SR suggested that the internal consistency estimate for the LPFS-SR total score was excellent, with an alpha of .96. Alphas for the four construct scores were good: Identity ($\alpha = .89$), Self-Directedness ($\alpha = .88$), Empathy ($\alpha = .82$), and Intimacy ($\alpha = .88$; Morey, 2017). The decision was taken to use the LPFS-SR to accurately identify its ability to measure Criterion A of the AMPD within a forensic setting as it has displayed acceptable psychometric properties. Although the LPFS-BF 2.0 also demonstrates acceptable psychometric properties, it only gives a total score, and the two domain scores. As such, it is not suitable for rendering diagnoses. Furthermore, its use in forensic samples is not well supported. Additionally, the use of the LPFS-SR in forensic settings has not yet been explored. As such, the present research chose this measure in order to fill this gap in the empirical literature.

4.4.3 Assessment of Pathological Personality Traits

The PID-5 was developed to assess the pathological personality traits (Criterion B) of the AMPD (Krueger et al., 2013b). The PID-5 is a 220-item, self-report measure designed to measure 25 lower order trait facet scales that map onto five higher order trait domains: Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism. The PID-5 uses a four-point Likert scale, which allows the participant to reflect on how well each item describes them. The Likert scale begins at 0 (*Very False or Often False*) and moves through 1 (*Sometimes or Somewhat false*), 2 (*Sometimes or Somewhat True*), and finally, 3 (*Very True or Often True*). It takes approximately 45 to 90 minutes to administer. A copy of the measure can be found in Appendix H.

When scoring the PID-5, 16 of the items are reverse coded prior to computing facet and domain scores. Each trait facet consists of four to 14 items, which are summed and then divided by the number of items in that facet to produce an average total facet score. In terms of the domains, there are three different scoring methods that can be used. The first of these is calculated by summing, and then averaging, the three facet scores that most contribute to the specific domain, as specified in the PID-5. Using this approach, the Negative Affectivity facet score is calculated by taking the average of Anxiousness, Emotional Lability, and Separation Insecurity; the Detachment facet score is the average of Anhedonia, Intimacy Avoidance, and Withdrawal; the Antagonism facet score is the average of Deceitfulness, Grandiosity, and Manipulativeness; the Disinhibition facet score is the average of Distractibility, Impulsivity, and Irresponsibility; and the Psychoticism facet score is the average of Eccentricity, Perceptual Dysregulation, and Unusual Beliefs and Experiences (Krueger et al., 2013b).

The second method calculates a total domain score by combining the facets that most strongly relate to a specific domain (e.g., the facets of Anxiousness, Emotional Lability, Hostility, Perseveration, Restricted Affectivity [lack of], Separation Insecurity, and Submissiveness form the Negative Affectivity domain; Krueger et al., 2013b). The third method uses all of the facets in a particular domain, as specified by the AMPD (American Psychiatric Association, 2013a). However, with this approach four facets are listed across more than one domain. Hostility is listed in both Negative Affectivity and Antagonism; Depressivity and Suspiciousness are both listed in Negative Affectivity and Detachment; and Restricted Affectivity is listed in both Detachment and Negative Affectivity (American Psychiatric Association, 2013a). For the present research, a decision was made to utilise the first method, as outlined in the PID-5, consistent with recommendations made by Krueger et al. (2013b).

Additionally, this scoring method has demonstrated better internal consistencies in a prison sample, than the second (Dunne et al., 2018).

Another consideration for the PID-5 is that the AMPD does not specify what elevation is clinically significant on each facet. As per the prior literature (Dowgwillo et al., 2018; Samuel et al., 2013; Samuels & Costa, 2012), a mean score of 2 or more was chosen to indicate an elevation. The 2 and 3 scores correspond to Sometimes or Somewhat True and Very True or Often True, respectively. Furthermore, if more than 25% of the items within a trait facet are unanswered, the corresponding facet score should not be used. However, if 25% or less of the items are unanswered for a facet, a prorated score can be used. This is done by summing the number of items that were answered to get a partial raw score, then multiplying the partial raw score by the total number of items contributing to that particular facet. Finally, the resulting value is divided by the number of items that were actually answered to obtain the prorated score (if the result is a fraction, it is rounded to the nearest whole number; Krueger et al., 2013b). Conversely, domain scores cannot be computed if any one of the three contributing facet scores cannot be calculated because of missing items (Krueger et al., 2013b).

There are three main methods that can be employed to determine the presence of the six PD diagnoses within the AMPD – antisocial PD, avoidant PD, borderline PD, narcissistic PD, obsessive-compulsive PD, and schizotypal PD (Samuel et al., 2013). The first is the sum method, which sums an individual's mean traits that characterise each PD. This then creates an overall score. However, this gives elevation, but no shape (i.e., a profile's shape reflects which traits have been more highly endorsed within the profile, and which have relatively low scores within the profile; Furr, 2010), and cannot be used to generate a PD-TS diagnosis. Secondly, there is the count method, which counts the number of assigned traits that are elevated past the threshold and

can be used to confer a PD-TS diagnosis. This method turns the dimensional traits into dichotomous indicators and can risk sacrificing valuable information at the cost of ease of implementation (Markon et al., 2013; Samuel et al., 2013). Lastly, there is the profile matching method, which correlates an individual's trait profile with a prototypic trait profile of a certain PD. As the profile matching method is overly complex, and thus its adoption in clinical settings going forward is unlikely to be helpful for clinical utility, it was not employed in the present research. In a study conducted by Samuel et al. (2013), the sum method was found to be superior to the count method, obtaining large convergent correlations (*Mdn* $r = .61$) and reproducing the PD diagnoses in the categorical model of DSM-IV-TR. However, given that this is the first study to look at PID-5 scoring methods in a prison sample, it was critical to explore both. This was necessary to make comparisons between them, to determine which appears to be the superior approach.

A 2015 review of the PID-5 suggested that it is a promising measure as it displays acceptable psychometric properties, convergence with existing personality instruments, and expected associations with broadly conceptualized clinical constructs (Al-Dajani et al., 2016). In a forensic sample, the internal consistencies of the PID-5 domains were acceptable to good, whilst the facets demonstrated acceptable to strong internal consistencies (Dunne et al., 2017). The decision was made to include the full version of the PID-5 as past research has demonstrated that the PID-5 can be successfully used within an offender population – specifically to explore relationships with past aggression. Furthermore, it is the official measure of Criterion B within the AMPD and has not yet been combined with the LPFS-SR within a forensic context.

4.4.4 Assessment of Past Aggression

The Life History of Aggression was first developed by Brown et al. (1979) and revised

by Coccaro et al. (1997). The Life History of Aggression is made up of three subscales: Aggression (which measures past acts of overt aggression), Consequences and Antisocial Behaviour (which measures the extent to which the person has experienced consequences due to aggressive behaviours and/or antisocial behaviours), and Self-Directed Aggression (which measures aggressive acts toward oneself). The Life History of Aggression, Aggression subscale was adapted into a self-report form (LHA-S-A; Coccaro et al., 1997) designed to measure overt aggressive acts (i.e., verbal, indirect, nonspecific fighting, physical assault, and temper tantrums) that participants had engaged in since they were 13 years old. A copy of the measure can be found in Appendix I. The LHA-S-A was chosen as it is quick to complete (administration time of five minutes maximum), is a measure of previous overt aggression (McCloskey & Coccaro, 2003), and has been used in previous research exploring the AMPD and aggression in forensic settings, where it has demonstrated good internal consistency (Dunne et al., 2018; Hosie et al., 2021). The items are rated on a six-point scale, with higher scores reflecting a greater history of aggression. The scale begins at 0 (*Never happened*) and moves through to 5 (*Happened “so many” times that I couldn’t give a number*).

4.4.5 Established Measure for Categorical Personality Disorders

The PDQ-4 is a 99-item, true/false questionnaire that measures the diagnostic criteria for the ten categorical PD diagnoses within Section II of the DSM-5, as well as negativistic PD and depressive PD. Negativistic PD is not listed within the DSM-5, but was a proposed disorder in the DSM-IV-TR. It is characterised by negative attitudes, procrastination, and passive resistance to demands (American Psychiatric Association, 2000). Similarly, depressive PD is not included in the DSM-5 but was placed in the DSM-IV-TR as a disorder worthy of further study. Depressive PD is characterised by a lack of happiness, self-criticism, and feelings of

worthlessness and low self-esteem (American Psychiatric Association, 2000). The PDQ-4 contains a scoring key to score the 12 categorical PD diagnoses. This contains a set number of questions for each diagnosis, which correspond to the criteria laid out in the DSM-5 for each disorder (with the exceptions of negativistic PD and depressive PD). For each true response, the participant receives one mark. If the threshold is reached or exceeded (e.g., a score of four or more for paranoid PD) the diagnosis is recorded (Hyler, 1994). Regarding antisocial PD, there are additional thresholds for the presence of conduct disorder in childhood and adult antisocial traits. For borderline PD an additional item requires two or more examples be given to reach threshold for the impulsivity criteria (Hyler, 1994). The clinical significance scale is then used by the clinician to evaluate each PDQ-4 diagnosis that meets the threshold for pathological, pervasive, and persistent criteria. This requires the clinician to check with the patient that: A) There was no mistake in endorsing the items. B) The traits have been present since about age 18 or for the past several years, C) The traits are not due primarily to other conditions, D) The traits have caused significant difficulty for the patient at home, at work or in their relationships, and E) The patient is bothered about himself/herself because of the traits. Due to burdens on the prisons as outlined in section 4.2 (Ethical Considerations) the clinical significance scale could not be administered in the present sample. The PDQ-4 also contains the 'too good' scale, which detects under-reporting, and the suspect questionnaire scale, which identifies individuals who are either lying, responding randomly, not taking the questionnaire seriously, or have a literacy problem (Hyler, 1994). The PDQ-4 also contains a total score index, which is a measure of overall personality disturbance (Hyler, 1994). The total score is calculated by summing all the responses, excluding the too good and suspect questionnaire validity scales (Hyler, 1994). The PDQ-4 takes approximately 20 to 40 minutes to complete. Due to copyright, a copy of the measure could not be included in the present thesis.

Although the PDQ-4 is an efficient measure of PDs, its binary nature means that it can limit the variance measured (Hopwood et al., 2013). However, a study by Okada and Oltmanns (2009) suggested acceptable test-retest validity over three different time periods, with an average Pearson correlation coefficient of .67. Furthermore, multiple studies have supported the use of the PDQ-4 within a forensic setting (Abdin et al., 2011; Davison et al., 2001; Hepper et al., 2014). As such, the decision was made to include the PDQ-4 as a comprehensive and efficient measure of Section II PD diagnoses to compare it with the AMPD measures.

4.4.6 Assessment of Impression Management

The Paulhus Deception Scale is a self-report measure made up of two subscales: self-deceptive enhancement and impression management. The self-deceptive enhancement subscale is aimed at identifying respondents who are overconfident in their abilities, whilst the impression management subscale is intended to identify respondents who are attempting to present themselves in a positive light, by endorsing desirable but unusual behaviours (e.g., “I never cover up my mistakes;” Paulhus, 1998). Such socially desirable responding can often be seen in individuals with a PD (Helmes et al., 2015). For the purposes of this study the Impression Management Subscale (PDS-IM) was utilised. The PDS-IM contains 20 items rated on a scale ranging from 1 (*not true*) to 5 (*very true*). Item responses are summed to produce a total score, which is converted to a T-score (range = 35 to 90+ for people in prison). Higher scores suggest the respondent has attempted to manage the impression they create, by describing themselves in excessively positive terms (Paulhus, 1998). The PDS Manual (Paulhus, 1998) reports good internal consistency with prison entrants ($\alpha = .86$). A copy of this measure could not be included due to copyright.

There are a number of reasons for the use of impression management scales in prison populations, including self-protection, and deceptive and socially desirable motivations of prisoners (Ruiter & Greeven, 2000). Furthermore, defensive responding and a lack of insight are characteristics of PDs, which may sway the results of many questionnaires (Ruiter & Greeven, 2000). However, the use of an impression management scale is not without controversy (Helmets et al., 2015; Markon et al., 2013). Previous findings have suggested that validity indices do not always predict external criteria, leading to questions about their validity and utility (McGrath et al., 2010; Piedmont et al., 2000). Given that detecting, response bias is crucial for obtaining valid measures of personality, especially in forensic settings (Ardolf et al., 2007; Helmets et al., 2015), the PDS-IM was chosen to minimise bias within this study by identifying participants who may be responding in a socially desirable way and excluding them from the research. In the present sample, the PDS-IM mean was 6.41, with a standard deviation of 2.93. Scores ranged from 1 – 12, with a reliability alpha of .71.

4.4.7 Official Police Records

To compare participants self-reported levels of aggression to official criminal history data, a request was made to Victoria Police to supply the police records of each participant to the research team. The data supplied contained all police records on each participant, such as arrests, summons, cautions, and infringement notices. In the present research only arrests were used for the analysis. These arrests were classified according to the Australian Standard Offence Classification and were broken down into sexual crimes, non-violent crimes, intermediately violent crimes, violent crimes, and total crimes (Australian Bureau of Statistics, 2008). As the present research is not exploring sexual crimes, these were removed from the analysis. Five scale variables were then created in SPSS; serious violent crimes, intermediately violent crimes, total

violent crimes (composed of intermediately violent crimes and violent crimes), non-violent crimes, and total crimes (composed of serious violent crimes, intermediately violent crimes, total violent crimes, and non-violent crimes). These were then used to create the final three nominal variables; serious violence present (violence requiring medical treatment and/or resulting in serious risk to health, including death), intermediate violence present (violence, including use of a weapon, resulting in non-serious injury), and any violence present (a combination of the serious violence present and intermediate violence present variables to denote if there had been any type of violence whatsoever). Table 8 presents the charges included within the serious violence present and intermediate violence present variables.

Table 8

Charges Included Within the Serious Violence Present, and Intermediate Violence Present Variables

| Serious violence present | Number and percentage of sample | Intermediate violence present | Number and percentage of sample |
|---|---------------------------------|---|---------------------------------|
| Affray (common law) | 5 (6.10%) | Aggravated cruelty to animal | 1 (1.22%) |
| Affray (crimes act) | 2 (2.44%) | Armed - prohibited weapon-criminal intent | 1 (1.22%) |
| Aggravated home invasion (assault) with firearm | 1 (1.22%) | Attempted criminal damage (intent damage/destroy) | 1 (1.22%) |
| Aggravated home invasion (steal)-offensive weapon | 1 (1.22%) | Attempted criminal damage by fire (arson) | 2 (2.44%) |
| Aggravated assault of female | 3 (3.66%) | Attempted robbery | 6 (7.32%) |
| Aggravated assault of person under 15 | 2 (2.44%) | Attempted carjacking | 1 (1.22%) |
| Aggravated burglary | 2 (2.44%) | Behave in riotous manner in public place | 3 (3.66%) |
| Aggravated burglary - firearm | 2 (2.44%) | Breach intervention order | 8 (9.76%) |
| Aggravated burglary - offensive weapon | 9 (10.98%) | Cause damage to the police gaol | 1 (1.22%) |

| Serious violence present | Number and percentage of sample | Intermediate violence present | Number and percentage of sample |
|--|---------------------------------|---|---------------------------------|
| Aggravated burglary - person present | 22 (26.83%) | Conspire do any act-prep/plan terrorist act | 1 (1.22%) |
| Armed robbery | 16 (19.51%) | Contravene interim personal safety intervention order | 1 (1.22%) |
| Assault by kicking | 14 (17.07%) | Contravene family violence intervention order | 5 (6.10%) |
| Assault emergency worker on duty (crimes) | 3 (3.66%) | Contravene family violence safety notice | 7 (8.54%) |
| Assault in company | 15 (18.29%) | Contravene family violence intervention order intent to harm/fear | 10 (12.20%) |
| Assault intent commit indictable offence | 5 (6.10%) | Contravene family violence final intervention order | 15 (18.29%) |
| Assault police (serious) | 4 (4.88%) | Contravene family violence interim intervention order | 6 (7.32%) |
| Assault police (summary) | 7 (8.54%) | Contravene final person safety intervention order | 3 (3.66%) |
| Assault police officer (crimes act) | 10 (12.20%) | Criminal damage (intent damage/destroy) | 45 (54.88%) |
| Assault police officer (summary) | 5 (6.10%) | Criminal damage by fire (arson) | 10 (12.20%) |
| Assault police on duty | 2 (2.44%) | Culpable driving causing death | 2 (2.44%) |
| Assault protective services officer | 1 (1.22%) | Do any act-preparation for terrorist act | 2 (2.44%) |
| Assault to prevent lawful detention | 1 (1.22%) | Drive in manner dangerous causing death | 1 (1.22%) |
| Assault with instrument | 3 (3.66%) | Drive manner dangerous cause serious injury | 1 (1.22%) |
| Assault with intent to rob | 3 (3.66%) | Harass witness | 1 (1.22%) |
| Assault with weapon | 32 (39.02%) | Intentionally expose police officer risk driving-aggressive | 1 (1.22%) |
| Assault with weapon/instrument | 3 (3.66%) | Light/use fire endanger property/life | 1 (1.22%) |
| Attempted aggravated burglary | 3 (3.66%) | Negligently cause serious injury | 2 (2.44%) |
| Attempted armed robbery | 5 (6.10%) | Persistently contravene family violence order | 10 (12.20%) |
| Attempted assault commit indictable offence | 1 (1.22%) | Possession on court premises offensive weapon | 1 (1.22%) |
| Attempted intentionally cause serious injury | 1 (1.22%) | Prohibited person use a firearm | 1 (1.22%) |
| Attempted kidnap | 1 (1.22%) | Prohibited person use | 1 (1.22%) |

| Serious violence present | Number and percentage of sample | Intermediate violence present | Number and percentage of sample |
|---|---------------------------------|--|---------------------------------|
| Attempted to recklessly cause injury | 1 (1.22%) | imitation firearm Recklessly cause a bushfire | 1 (1.22%) |
| Attempted murder | 5 (6.10%) | Robbery | 16 (19.51%) |
| Common law assault | 10 (12.20%) | Stalk another person (crimes act) | 9 (10.98%) |
| Discharge missile to cause injury/danger | 4 (4.88%) | Stalking (arouse apprehension /fear for safety) | 1 (1.22%) |
| Extortion-demand with threat to kill | 1 (1.22%) | Stalking (contact person by electronic communication) | 1 (1.22%) |
| False imprisonment (common law) | 17 (20.73%) | Stalking (contact person by telephone) | 1 (1.22%) |
| Intentionally cause serious injury-gross violence | 2 (2.44%) | Stalking (intentionally arouse apprehension/fear-safety) | 2 (2.44%) |
| Intentionally cause injury | 38 (46.34%) | Stalking (intent to cause mental harm) | 2 (2.44%) |
| Intentionally cause serious injury | 17 (20.73%) | Stalking (loiter outside residence) | 1 (1.22%) |
| Intentionally threaten serious injury | 4 (4.88%) | Stalking (loiter outside/near business) | 1 (1.22%) |
| Intentionally/recklessly cause injury | 1 (1.22%) | Threat to destroy/damage property | 4 (4.88%) |
| Kidnap | 2 (2.44%) | Use a carriage service to harass | 8 (9.76%) |
| Kidnapping (common law) | 2 (2.44%) | Use a carriage service to menace | 6 (7.32%) |
| Make threat to kill | 23 (28.05%) | Use telecommunications service to menace | 1 (1.22%) |
| Make threat to kill - intending fear | 8 (9.76%) | Use threatening words public place | (15.85%) |
| Make threat to kill - reckless as to fear | 1 (1.22%) | Wilful damage | 1 (1.22%) |
| Manslaughter | 1 (1.22%) | Wilful damage/injure property | 13 |
| Murder | 10 (12.20%) | | |
| Reckless conduct endanger life | 17 (20.73%) | | |
| Reckless conduct endanger serious injury | 23 (28.05%) | | |
| Recklessly cause injury | 42 (51.22%) | | |
| Recklessly cause serious injury | 20 (24.39%) | | |

| Serious violence present | Number and percentage of sample | Intermediate violence present | Number and percentage of sample |
|--|---------------------------------|-------------------------------|---------------------------------|
| Recklessly threaten serious injury | 3 (3.66%) | | |
| Threat to inflict serious injury | 12 (14.63%) | | |
| Threaten serious injury - intending fear | 11 (13.41%) | | |
| Throw missile | 3 (3.66%) | | |
| injure/danger/damage prop | | | |
| Unlawful assault | 52 (63.41%) | | |

Note. $N = 82$.

Ethical approval had been granted to obtain this data in 2018, and a request was put to Victoria Police in June 2021 for the data extraction. The data was supplied in October 2021. This data was password protected, to ensure confidentiality of participants.

4.5 Characteristics of the Sample

A total of 88 prisoners volunteered to participate in the study. However, six were removed due to socially desirable responding, as indicated by their scores on the PDS-IM. Two had a score of zero, and four a score greater than 12. As such, the final sample comprised 82 male prisoners, aged between 20 and 68 years of age ($M = 35.89$, $SD = 9.79$). The ethnic background of the sample was 37.8% ($n = 31$) Australian of European Descent, 13.4% ($n = 11$) Australian Aboriginal, 8.5 % ($n = 7$) European, 6.1% ($n = 5$) mixed, 4.9% Asian ($n = 4$), 3.7% ($n = 3$) African, and 24.4 % ($n = 20$) other ethnicities. The highest level of education completed by the sample was 47.6% ($n = 39$) secondary school, 34.1% ($n = 28$) a certificate I – IV, 6.1% ($n = 5$) a bachelor's degree, 4.9% ($n = 4$) primary school, 3.7% ($n = 3$) a diploma, 2.4% ($n = 2$) a master's degree, and 1.2% ($n = 1$) an advanced diploma. Table 8 includes the number of participants who had been arrested for each crime in the sample.

4.6 Data Preparation and Approach to Statistical Analysis

Data consisted of item scores for the PID-5 domains and facets, which was then used to calculate the total and average PID-5 scores; total scores, domain scores, and construct scores for the LPFS-SR; total scores and individual PD diagnoses scores for the PDQ-4; LHA-S-A total score; PDS-IM scores; as well as age, ethnicity, and education. In relation to the PID-5 data, average domain and facets scores were used to explore research aim one (to explore the internal consistency, and the convergent and discriminant validity of the LPFS-SR and the PID-5) and total PID-5 domains and facets scores were used to examine research aim two (to investigate the criterion validity of the AMPD severity of impairment in personality functioning, maladaptive personality trait domains and facets with participant's histories of aggression, and the criterion validity of the PDQ-4 total score with participant's histories of aggression).

The statistical program IBM SPSS Statistics Version 27.0 (SPSS 27.0) was used to complete the statistical analyses. To investigate research aim one, descriptive statistics, Spearman's rank-order correlation analysis (ρ ; chosen over Pearson's product-moment correlation coefficient due to the restricted sample size), and McNemar chi-square test for paired samples were employed on the data from the LPFS-SR, the PID-5, and the PDQ-4. To investigate research aim two, Spearman's rank-order correlation analysis, binary logistic multiple regression, hierarchical multiple regression, and Mann-Whitney U tests were used on the data from the LPFS-SR, PID-5, LHA-S-A, PDQ-4, and the official police records. Additionally, a Mann-Whitney U test was run to investigate the convergence of the LHA-S-A and the official police records (chosen due to the official police record data using a nominal variable). Cohen's (1988) standard was used to determine the strength of associations and relationships. Correlation coefficients between .10 and .29 suggest a small association, coefficients between .30 and .49

suggest a moderate association, and coefficients from .50 to 1.0 suggest a strong association.

The data were initially examined for accuracy and missing values. A random check of five participants' data showed data entry to be accurate. Missing data were minimal, accounting for only 4.8% of responses on any single measure, with a non-significant Little's Missing Completely at Random test, $\chi^2(.000) = 15469, p = 1.00$. As the missing data were random and minimal, all participants were included in the statistical analyses. All scores were reported to the second decimal place, with the exception of where additional digits were necessary (e.g., $p = .001$).

Boxplots were examined, as well as skew and kurtosis statistics for all continuous variables, to establish the distribution of scores. Additionally, bivariate scatterplots were used to examine linearity. For all analyses, the assumptions of normality, linearity, multicollinearity, outliers, and homoscedacity were examined and no violations were identified, with the exception of the LPFS-SR Self-Direction construct. A Kolmogorov-Smirnov test indicated that this domain did not follow a normal distribution, $D(59) = 0.12, p = 0.023$. However, as the present sample size is larger than $N = 25$, the violation of this assumption is to be expected, and is unlikely to have an effect on the statistical analyses (Pallant, 2016). Means, standard deviations, and ranges were calculated for all continuous variables, and frequencies and percentages were calculated for the nominal variables. Cronbach's alpha coefficient (α) was examined for each scale (the coefficients for each scale are presented in the empirical analysis chapter). A threshold of $\alpha = .70$ or above was used to denote acceptable internal reliability (Tabachnick & Fidell, 2013).

Hierarchical multiple regression was used to assess whether the LPFS-SR and PID-5 could predict LHA-S-A scores, binary logistic regression was used to explore the univariate associations between the LPFS-SR and the PID-5 with the official police records (due to use of a nominal variable for the official police records), and simple linear regression was used to assess

the ability of the LPFS-SR total score to predict LHA-S-A scores, and the ability of the PDQ-4 total score to predict LHA-S-A scores.

Prior research has demonstrated associations between age and aggression (Liu et al., 2013; Vigil-Colet et al., 2015), as well as the PDS-IM and answers to self-report measures (De Ruiter & Trestman, 2007). Despite these previous common associations, during preliminary analyses, age and PDS-IM scores were not found to be related to the LHA-S-A, LPFS-SR (total score and constructs), or PID-5 (domain and facet scores) in the present sample. As such, they were not included as covariates in the regression models. As the final sample was smaller than originally intended, due to the complications of the COVID-19 pandemic, a decision was made to include five facets in the regression analysis for the PID-5 and LHA-S-A. This was done as per Stevens' (1996) 15 to one subject-to-predictor ratio. These facets were chosen for both their statistical significance and theoretical relevance. Furthermore, although the Separation Insecurity facet was significantly correlated with LHA-S-A scores, it was excluded from the regression model, due to its relationship with intimate partner violence and domestic violence in past literature (Critchfield et al., 2008; Dutton, 2002), which the present research was not specifically exploring (see section 3.2 Personality Disorders and Aggression).

PART IV: EMPIRICAL ANALYSIS

Chapter Five: Results

5.1 Research Aim One

The first aim of the present research was to investigate whether the LPFS-SR and the PID-5 accurately measure PDs as compared to the categorical measure, the PDQ-4.

5.1.1 Level of Personality Functioning (Criterion A)

The first step in the diagnosis of PDs according to the AMPD is establishing whether an individual meets Criterion A (level of personality functioning). Table 9 presents the descriptive figures of the LPFS-SR score for the four constructs comprising Criterion A. Of the current sample 10.98% ($n = 9$) were above the clinically significant threshold, whilst 19.51% ($n = 16$) were at the sub-clinical level. As the total score threshold (347.1) is lower than the sum of the four construct thresholds (367.9) a further investigation was conducted to determine whether the number of participants who exceeded the clinical threshold would change when the LPFS-SR total score threshold was used instead of the four components contributing to the final score. There was no change in the number of participants who exceeded this clinical threshold when this reappraisal was done (10.98%). The LPFS-SR scores for constructs that most often exceeded their clinically significant thresholds were Identity (13.41%) and Self-Direction (13.41%).

Table 9

Mean (M), Standard Deviation (SD), Range, and Reliability (α) for the Level of Personality

Functioning-Self Report

| Variable | Clinically significant threshold | Number above threshold (<i>n</i> ; %) | <i>M</i> | <i>SD</i> | Range | α |
|----------------|--|---|----------|-----------|-----------------|----------|
| Total score | 347.1 | 9; 10.98% | 261.47 | 63.50 | 140.00 – 398.00 | .94 |
| Identity | 113.6 | 11; 13.41% | 87.71 | 23.08 | 42.50 – 150.00 | .86 |
| Self-Direction | 83.7 | 11; 13.41% | 61.35 | 18.27 | 31.50 – 113.00 | .81 |
| Empathy | 60.5 | 2; 2.44% | 43.00 | 11.95 | 23.50 – 76.00 | .72 |
| Intimacy | 110.1 | 8; 9.76% | 69.41 | 20.52 | 38.00 – 129.50 | .82 |

Note. *N* = 82.

Regarding the correlations between the four constructs and the total score (presented in Table 10), there were significant, strong correlations between all constructs, as well as the total score.

Table 10

Spearman's Rank-Order Correlation Coefficients among the Level of Personality Functioning – Self-Report Constructs and Total Score

| Variable | Identity | CI | Self-Direction | CI | Empathy | CI | Intimacy | CI |
|----------------|----------|-----|----------------|-----|---------|-----|----------|-----------|
| Self-Direction | .75** | .62 | | - | | - | | - |
| | | - | | | | | | |
| | | .84 | | | | | | |
| Empathy | .69** | .54 | .62** | .45 | | - | | - |
| | | - | | - | | | | |
| | | .80 | | .75 | | | | |
| Intimacy | .67** | .51 | .54** | .35 | .69** | .54 | | - |
| | | - | | - | | - | | |
| | | .78 | | .69 | | .80 | | |
| Total score | .92** | .87 | .83** | .73 | .83** | .73 | .84** | .75 - .90 |
| | | - | | - | | - | | |
| | | .95 | | .89 | | .89 | | |

Note. $N = 82$. ** $p < .01$, two-tailed.

5.1.2 Pathological Personality Traits (Criterion B)

Descriptive figures for the PID-5 are presented in Table 11. The PID-5 showed acceptable to excellent internal consistencies, except for Suspiciousness, for which was questionable ($\alpha = .67$). Overall, there was low endorsement of the facets, as demonstrated by the means. Once it had been established which participants had two clinically significant construct scores, and thus met the threshold for Criterion A, their scores for Criterion B (pathological personality traits) were examined. Firstly, it was explored if each participant met criteria for any of the six specific PD diagnoses in the AMPD using the sum method (sums an individual's mean

traits that characterise each PD; Samuel et al., 2013).

Table 11

Mean (M), Standard Deviation (SD), Range, and Reliability (α) for the Personality Inventory for DSM-5

| Variable | <i>M</i> | <i>SD</i> | Range | Possible Range | α |
|--|----------|-----------|------------|----------------|----------|
| Impulsivity | 1.51 | .56 | .33 – 3.00 | 0 – 3.00 | .83 |
| Eccentricity | 1.44 | .78 | .00 – 2.85 | 0 – 3.00 | .95 |
| Anxiousness | 1.40 | .67 | .00 – 2.67 | 0 – 3.00 | .89 |
| Risk Taking | 1.39 | .40 | .36 – 2.21 | 0 – 3.00 | .87 |
| Withdrawal | 1.39 | .67 | .00 – 2.90 | 0 – 3.00 | .88 |
| Hostility | 1.38 | .67 | .10 – 2.60 | 0 – 3.00 | .89 |
| Suspiciousness | 1.37 | .52 | .29 – 2.71 | 0 – 3.00 | .67 |
| Rigid Perfectionism | 1.34 | .70 | .00 – 2.90 | 0 – 3.00 | .91 |
| Distractibility | 1.27 | .65 | .00 – 2.78 | 0 – 3.00 | .87 |
| Emotional Lability | 1.26 | .68 | .00 – 2.71 | 0 – 3.00 | .85 |
| Anhedonia | 1.25 | .53 | .00 – 2.38 | 0 – 3.00 | .71 |
| Restricted Affectivity | 1.21 | .65 | .14 – 2.86 | 0 – 3.00 | .80 |
| Irresponsibility | 1.17 | .52 | .00 – 2.14 | 0 – 3.00 | .73 |
| Perseveration | 1.16 | .65 | .00 – 2.22 | 0 – 3.00 | .87 |
| Manipulativeness | 1.14 | .75 | .00 – 3.00 | 0 – 3.00 | .84 |
| Separation Insecurity | 1.07 | .85 | .00 – 3.00 | 0 – 3.00 | .91 |
| Unusual Beliefs and Experiences | 1.06 | .75 | .00 – 3.00 | 0 – 3.00 | .87 |
| Attention Seeking | 1.05 | .66 | .00 – 2.63 | 0 – 3.00 | .88 |
| Submissiveness | 1.04 | .65 | .00 – 2.75 | 0 – 3.00 | .76 |
| Deceitfulness | 1.03 | .58 | .00 – 2.40 | 0 – 3.00 | .88 |
| Depressivity | 1.03 | .67 | .00 – 2.71 | 0 – 3.00 | .93 |
| Intimacy Avoidance | .93 | .50 | .00 – 2.33 | 0 – 3.00 | .84 |
| Callousness | .92 | .58 | .07 – 2.43 | 0 – 3.00 | .89 |
| Cognitive and Perceptual Dysregulation | .92 | .60 | .00 – 2.50 | 0 – 3.00 | .87 |
| Grandiosity | .91 | .64 | .00 – 2.50 | 0 – 3.00 | .78 |
| PID-5 Domains | | | | | |
| Disinhibition | 1.32 | .48 | .35 – 2.32 | 0 – 3.00 | .76 |
| Negative affect | 1.24 | .64 | .05 – 2.79 | 0 – 3.00 | .83 |
| Detachment | 1.19 | .46 | .30 – 2.43 | 0 – 3.00 | .74 |
| Psychoticism | 1.136 | .62 | .00 – 2.36 | 0 – 3.00 | .83 |
| Antagonism | 1.03 | .57 | .10 – 2.23 | 0 – 3.00 | .82 |

Note. $N = 82$. PID-5 domains and facets are presented in descending of endorsement by the present sample.

Table 12 presents deidentified information for the diagnoses assigned to those participants who met the clinical threshold for Criterion A (LPFS-SR; $n = 9$). Of these, seven participants met diagnostic criteria for antisocial PD (8.54%), six met diagnostic criteria for avoidant PD (7.32%), nine met diagnostic criteria for borderline PD (10.98%), two met diagnostic criteria for narcissistic PD (2.44%), six met diagnostic criteria for obsessive-compulsive PD (7.32%), and seven met diagnostic criteria for schizotypal PD (8.54%). No participants had only one PD diagnosis, nor two diagnoses. Three participants met diagnostic criteria for three PD diagnoses (3.66%), two participants met diagnostic criteria for four PD diagnoses (2.44%), and four met diagnostic criteria for five PD diagnoses (4.88%).

Table 12

Individual Diagnoses of the Alternative Model for Personality Disorder Using the Sum Method, and Diagnoses for the Personality Diagnostic Questionnaire - 4th Edition

| Case number | LPFS-SR | PID-5 Diagnoses | PDQ-4 Diagnoses |
|-------------|---|--|---|
| #5 | <ul style="list-style-type: none"> • Self-Direction • Empathy • Intimacy | <ul style="list-style-type: none"> • Antisocial • Avoidant • Borderline • Obsessive-compulsive • Schizotypal | <ul style="list-style-type: none"> • Paranoid • Schizoid • Schizotypal • Antisocial |
| #10 | <ul style="list-style-type: none"> • Identity • Self-Direction • Empathy • Intimacy | <ul style="list-style-type: none"> • Avoidant • Borderline • Obsessive-compulsive • Schizotypal | <ul style="list-style-type: none"> • Paranoid • Schizoid • Schizotypal • Narcissistic • Borderline • Avoidant • Obsessive- |

| Case number | LPFS-SR | PID-5 Diagnoses | PDQ-4 Diagnoses |
|-------------|--|---|--|
| | | | <ul style="list-style-type: none"> compulsive Negativistic Depressive |
| #33 | <ul style="list-style-type: none"> Self-Direction Empathy | <ul style="list-style-type: none"> Antisocial Borderline Narcissistic | <ul style="list-style-type: none"> Paranoid Schizotypal Histrionic Narcissistic Borderline Avoidant Dependent Obsessive-compulsive Negativistic Depressive |
| #36 | <ul style="list-style-type: none"> Identity Self-Direction Intimacy | <ul style="list-style-type: none"> Antisocial Avoidant Borderline Schizotypal | <ul style="list-style-type: none"> Paranoid Antisocial Avoidant Negativistic Depressive |
| #37 | <ul style="list-style-type: none"> Identity Self-Direction | <ul style="list-style-type: none"> Antisocial Avoidant Borderline Obsessive-compulsive Schizotypal | <ul style="list-style-type: none"> None |
| #40 | <ul style="list-style-type: none"> Identity Self-Direction Empathy | <ul style="list-style-type: none"> Antisocial Avoidant Borderline Obsessive-compulsive Schizotypal | <ul style="list-style-type: none"> None |
| #51 | <ul style="list-style-type: none"> Identity Empathy Intimacy | <ul style="list-style-type: none"> Avoidant Borderline Schizotypal | <ul style="list-style-type: none"> Paranoid Histrionic Narcissistic Antisocial Negativistic Depressive |

| Case number | LPFS-SR | PID-5 Diagnoses | PDQ-4 Diagnoses |
|-------------|--|--|--|
| #77 | <ul style="list-style-type: none"> • Identity • Self-Direction | <ul style="list-style-type: none"> • Antisocial • Borderline • Narcissistic • Obsessive-compulsive • Schizotypal | <ul style="list-style-type: none"> • Antisocial • Negativistic |
| #80 | <ul style="list-style-type: none"> • Identity • Intimacy | <ul style="list-style-type: none"> • Antisocial • Borderline • Obsessive-compulsive | <ul style="list-style-type: none"> • Paranoid • Schizoid • Histrionic • Narcissistic • Antisocial • Obsessive-compulsive • Negativistic |

Note. $n = 9$. LPFS-SR = Level of Personality Functioning – Self-Report; PID-5 Diagnoses = Personality Inventory for DSM-5 facets that were clinically significant; PDQ-4 Diagnoses = Personality Diagnostic Questionnaire - 4th Edition diagnoses; Bold = diagnoses that were the same on the AMPD measures and the PDQ-4.

Next, the count method (counts the number of assigned traits that are elevated past the threshold; Samuel et al., 2013) was used to examine if the participants who were above the clinical threshold of the LPFS-SR met criteria for the six specific PD diagnoses in the AMPD. Table 13 presents deidentified information for the diagnoses that were assigned to those that met the clinical threshold for the LPFS-SR. Of these, none had a diagnosis of antisocial PD (three participants met four or five of the facets, but none breached the threshold of six of the seven facets), four had a diagnosis of avoidant PD (4.88%), three had a diagnosis of borderline PD (3.66%), none had a diagnosis of narcissistic PD, three had a diagnosis of obsessive-compulsive PD (3.66%), three had a diagnosis of schizotypal PD (3.66%), and four had a trait-based diagnosis (4.88%).

Table 13

Individual Diagnoses of the Alternative Model for Personality Disorder Using the Count Method, and Diagnoses for the Personality Diagnostic Questionnaire - 4th Edition

| Case number | LPFS-SR | PID-5 Diagnoses | Domains | Facets | PDQ-4 Diagnoses |
|-------------|---|--|--|---|--|
| #5 | <ul style="list-style-type: none"> • Self-Direction • Empathy • Intimacy | <ul style="list-style-type: none"> • Avoidant | | | <ul style="list-style-type: none"> • Paranoid • Schizoid • Schizotypal • Antisocial |
| #10 | <ul style="list-style-type: none"> • Identity • Self-Direction • Empathy • Intimacy | <ul style="list-style-type: none"> • Avoidant • Obsessive-Compulsive • Schizotypal | | | <ul style="list-style-type: none"> • Paranoid • Schizoid • Schizotypal • Narcissistic • Borderline • Avoidant • Obsessive-compulsive • Negativistic • Depressive |
| #33 | <ul style="list-style-type: none"> • Self-Direction • Empathy | <ul style="list-style-type: none"> • Trait-based (Domains and Facets) | <ul style="list-style-type: none"> • Negative Affectivity | <ul style="list-style-type: none"> • Eccentricity • Emotional Lability • Separation Insecurity | <ul style="list-style-type: none"> • Paranoid • Schizotypal • Histrionic • Narcissistic • Borderline • Avoidant • Dependent • Obsessive-compulsive • Negativistic • Depressive |
| #36 | <ul style="list-style-type: none"> • Identity • Self-Direction • Intimacy | <ul style="list-style-type: none"> • Avoidant • Borderline • Obsessive-Compulsive | | | <ul style="list-style-type: none"> • Paranoid • Antisocial • Avoidant • Negativistic |

| Case number | LPFS-SR | PID-5 Diagnoses | Domains | Facets | PDQ-4 Diagnoses |
|-------------|---|---|--------------|---|--|
| | | • Schizotypal | | | • Depressive |
| #37 | • Identity • Self-Direction | • Borderline • Obsessive-Compulsive | | | • None |
| #40 | • Identity • Self-Direction • Empathy | • Avoidant • Borderline • Schizotypal | | | • None |
| #51 | • Identity • Empathy • Intimacy | • Trait-based (Domains and Facets) | | • Separation Insecurity | • Paranoid • Histrionic • Narcissistic • Antisocial • Negativistic • Depressive |
| #77 | • Identity • Self-Direction | • Trait-based (Domains and Facets) | | • Anxiousness • Impulsivity | • Antisocial • Negativistic |
| #80 | • Identity • Intimacy | • Trait-based (Domains and Facets) | • Antagonism | • Callousness • Grandiosity • Hostility • Impulsivity • Manipulativeness • Restricted Affectivity • Rigid Perfectionism | • Paranoid • Schizoid • Histrionic • Narcissistic • Antisocial • Obsessive-compulsive • Negativistic |

Note. $n = 9$. Bold = diagnoses that were the same on the AMPD measures and the PDQ-4.

Descriptive statistics for the PDQ-4 are presented in Table 14. Internal consistency varied, with alphas for the categorical PDs ranging from poor to good. The internal consistency of the total score was excellent. A check of the under-reporting or inaccurate responses, as indicated by the too good and suspect questionnaire scales, respectively, indicated that no participants needed to be removed from the sample. Of the 82 participants, 76 (92.68%) met criteria for a minimum of one PD diagnosis.

Table 14

Mean (M), Standard Deviation (SD), Range, and Reliability (α) for the Personality Diagnostic Questionnaire - 4th Edition

| Variable | <i>M</i> | <i>SD</i> | Range | α | Diagnoses (%; <i>n</i> = 76) | Diagnoses (%; <i>N</i> = 82) |
|--------------------------|----------|-----------|--------|----------|------------------------------------|------------------------------------|
| Paranoid | 4.16 | 1.84 | 0 – 7 | .63 | 77.63% | 71.95% |
| Obsessive- compulsive | 3.77 | 1.89 | 0 – 7 | .58 | 59.21% | 54.88% |
| Antisocial | 3.38 | 1.50 | 0 – 6 | .87 | 51.32% | 47.56% |
| Negativistic | 2.72 | 1.77 | 0 – 7 | .62 | 39.47% | 36.59% |
| Depressive | 3.74 | 1.82 | 0 – 7 | .62 | 35.53% | 32.93% |
| Narcissistic | 3.29 | 2.25 | 0 – 9 | .71 | 34.21% | 31.71% |
| Schizotypal | 3.50 | 2.05 | 0 – 9 | .62 | 32.89% | 30.49% |
| Schizoid | 2.43 | 1.60 | 0 – 6 | .59 | 27.63% | 25.61% |
| Avoidant | 2.84 | 2.21 | 0 – 7 | .78 | 27.63% | 25.61% |
| Borderline | 3.99 | 2.18 | 0 – 9 | .77 | 26.32% | 24.39% |
| Histrionic | 2.55 | 1.98 | 0 – 8 | .67 | 18.42% | 17.07% |
| Dependent | 1.62 | 1.71 | 0 – 7 | .65 | 9.21% | 8.54% |
| Total score | 39.70 | 14.80 | 9 – 74 | .92 | - | - |

Note. *N* = 82.

Of the 76 participants who met diagnostic criteria for a PD, nine had one diagnosis, nine had two diagnoses, 13 had three diagnoses, 10 had four diagnoses, eight had five diagnoses, six had six diagnoses, eight had seven diagnoses, four had eight diagnoses, six had nine diagnoses, four had 10 diagnoses, and one had 11 diagnoses.

5.1.3 Overlap Between Criteria A and B

Analyses were then undertaken to explore the overlap between Criterion A (LPFS-SR) and Criterion B traits (PID-5). This was undertaken at both the domain and facet level. In relation to the PID-5 domains, the relationship between the domains and the LPFS-SR was investigated using Spearman's rank-order correlation coefficient. There were a range of significant, weak, moderate, and strong correlations between LPFS-SR constructs and total score with the PID-5 domains, except for LPFS-SR Intimacy and PID-5 Antagonism. Results are presented in Table 15.

Table 15

Spearman's Rank-Order Correlation Coefficients between the Level of Personality Functioning-Self Report and Personality Inventory for DSM-5 Domains

| Variable | PID-5 Negative Affectivity | PID-5 Detachment | PID-5 Antagonism | PID-5 Disinhibition | PID-5 Psychoticism |
|-------------------------------|----------------------------------|----------------------|----------------------|------------------------|-----------------------|
| LPFS-SR Identity | .74** (.61 - .83) | .45** (.25 - .61) | .32** (.11 - .51) | .58** (.40 - .72) | .51** (.32 - .66) |
| LPFS-SR Self- Direction | .56** (.38 - .70) | .52** (.33 - .67) | .48** (.28 - .64) | .76** (.63 - .85) | .41** (.20 - .58) |
| LPFS-SR Empathy | .53** (.34 - .68) | .46** (.26 - .62) | .28* (.06 - .47) | .40** (.19 - .57) | .41** (.20 - .58) |
| LPFS-SR Intimacy | .51** (.32 - .66) | .55** (.36 - .69) | .22 (.00 - .42) | .37** (.16 - .55) | .48** (.28 - .64) |
| LPFS-SR Interpersonal | .57** (.39 - .71) | .56** (.38 - .70) | .28* (.06 - .42) | .43** (.23 - .60) | .49** (.29 - .65) |
| LPFS-SR Self | .70** (.55 - .81) | .51** (.32 - .66) | .41** (.20 - .58) | .70** (.55 - .81) | .49** (.29 - .65) |
| LPFS Total | .68** (.53 - .79) | .55** (.33 - .67) | .38** (.17 - .56) | .62** (.40 - .85) | .53** (.34 - .68) |

Note. $N = 82$. * $p < .05$ ** $p < .01$, two-tailed. Confidence intervals are presented in brackets.

Similarly, when the relationship between the LPFS-SR and the PID-5 facets were investigated using Spearman's rank-order correlation coefficients, there were significant, weak to strong, correlations between the LPFS-SR (constructs and total) with the PID-5 facets, with only a few exceptions (LPFS-SR Identity and PID-5 Intimacy Avoidance, LPFS-SR Empathy and Manipulativeness, and LPFS-SR Intimacy with both Attention Seeking and Manipulativeness). Results are shown in Table 16.

When the LPFS-SR domains of Interpersonal Functioning and Self-Functioning were examined alongside the PID-5 domains, there were significant, weak to strong correlations between the two LPFS-SR domains and the five PID-5 domains. Results are presented in Table 15. Similarly, when the Self-Functioning and Interpersonal Functioning domains and the PID-5 facets were investigated using Spearman's rank-order correlation coefficients, there were significant, moderate to strong correlations between the LPFS-SR domains and the PID-5 facets. Results are presented in Table 16.

Given the various positive correlations between the LPFS-SR and the PID-5 in the present sample, PID-5 scores of those participants who did not meet the clinical cut off score on the LPFS-SR were examined to explore if they would still meet the criteria for a specific AMPD diagnosis irrespective of their LPFS-SR scores. This was first explored using the sum method. Of the 73 participants who did not meet Criterion A, 39 had clinically significant facet elevations on Criterion B. Seventeen met the AMPD criteria for antisocial PD, 17 met criteria for avoidant PD, 15 met criteria for borderline PD, 16 met criteria for narcissistic PD, 12 met criteria for obsessive-compulsive PD, and 18 met criteria for schizotypal PD. Thirteen participants had only one PD diagnosis, 12 had two diagnoses, nine had three diagnoses, two had four diagnoses, two had five diagnoses, and two participant had six diagnoses.

Table 16

Spearman's Rank-Order Correlation Coefficients between the Level of Personality Functioning-Self Report and Personality Inventory for DSM-5 Facets

| Variable | LPFS-SR Identity | LPFS-SR Self- Direction | LPFS – SR Empathy | LPFS-SR Intimacy | LPFS Interpers onal | LPFS Self | LPFS-SR Total |
|-----------------------|-------------------------|-------------------------------|-------------------------|-------------------------|---------------------------|-------------------------|-------------------------|
| Anhedonia | .62** (.45 - .75) | .67** (.51 - .78) | .41** (.20 - .58) | .39** (.18 - .57) | .44** (.24 - .61) | .68** (.53 - .79) | .61** (.44 - .74) |
| Anxiousness | .63** (.46 - .75) | .48** (.28 - .64) | .48** (.28 - .64) | .49** (.29 - .65) | .54** (.35 - .69) | .61** (.44 - .74) | .60** (.42 - .73) |
| Attention Seeking | .32** (.11 - .51) | .48** (.28 - .64) | .31** (.09 - .50) | .14 (-.08 - .35) | .21 (-.01 - .41) | .40** (.19 - .57) | .35** (.14 - .53) |
| Callousness | .28* (.06 - .47) | .48** (.28 - .64) | .32** (.11 - .51) | .32** (.11 - .51) | .35** (.14 – 53) | .39** (.18 - .57) | .40** (.19 - .57) |
| Deceitfulness | .38** (.17 - .56) | .53** (.34 - .68) | .35** (.14 - .53) | .25* (.03 - .45) | .33** (.12 – 51) | .47** (.27 - .63) | .43** (.23 - .60) |
| Depressivity | .69** (.54 - .80) | .62** (.45 - .75) | .43** (.23 - .60) | .41** (.20 - .58) | .47** (.27 - .63) | .71** (.57 - .81) | .64** (.47 - .76) |
| Distractibility | .49** (.29 - .65) | .66** (.50 - .78) | .30** (.08 - .49) | .34** (.13 - .52) | .37** (.16 - .55) | .61** (.44 - .74) | .53** (.34 - .68) |
| Eccentricity | .37** (.16 - .55) | .28* (.06 - .47) | .33** (.12 - .51) | .36** (.15 - .54) | .38** (.17 - .56) | .35** (.14 - .53) | .39** (.18 - .57) |
| Emotional Lability | .69** (.54 - .80) | .57** (.39 - .71) | .47** (.27 - .63) | .39** (.18 - .57) | .47** (.27 - .63) | .67** (.51 - .78) | .62** (.45 - .75) |
| Grandiosity | .23* (.01 - .43) | .39** (.18 - .57) | .25* (.03 - .45) | .15 (-.07 - .36) | .20 (-.02 - .40) | .30** (.08 - .49) | .29** (.07 - .48) |
| Hostility | .49** (.29 - .65) | .52** (.33 - .67) | .37** (.16 - .55) | .39** (.18 - .57) | .43** (.23 - .60) | .54** (.35 - .69) | .52** (.33 - .67) |
| Impulsivity | .42** (.21 - .59) | .57** (.39 - .71) | .30** (.08 - .49) | .24* (.02 - .44) | .29** (.07 - .48) | .51** (.32 - .66) | .44** (.24 - .61) |
| Intimacy | .22 (.01 - .43) | .33** (.18 - .57) | .30** (.08 - .49) | .41** (.21 - .61) | .41** (.21 - .61) | .26* (.07 - .45) | .34** (.14 - .54) |

| Variable | LPFS-SR Identity | LPFS-SR Self- Direction | LPFS – SR Empathy | LPFS-SR Intimacy | LPFS Interpers onal | LPFS Self | LPFS-SR Total |
|--|-------------------------|-------------------------------|--------------------------|--------------------------|---------------------------|-------------------------|-------------------------|
| avoidance | (.00 - .42) .58** | (.12 - .51) .66** | (.08 - .49) .38** | (.20 - .58) .35** | (.20 - .58) .41** | (.04 - .45) .65** | (.13 - .52) .59** |
| Irresponsibility | (.40 - .72) .24* | (.50 - .78) .36** | (.17 - .56) .14 | (.14 - .53) .17 | (.20 - .58) .19 | (.49 - .77) .30** | (.41 - .72) .27* |
| Manipulativeness | (.02 - .44) .56** | (.15 - .54) .47** | (-.08 - .35) .38** | (-.05 - .37) .46** | (-.03 - .39) .48** | (.08 - .49) .55** | (.05 - .46) .56** |
| Cognitive and perceptual dysregulation | (.38 - .70) .64** | (.27 - .63) .64** | (.17 - .56) .47** | (.26 - .62) .53** | (.28 - .64) .57** | (.36 - .49) .68** | (.38 - .70) .67** |
| Perseveration | (.47 - .76) .29** | (.47 - .76) .45** | (.27 - .63) .37** | (.34 - .68) .39** | (.39 - .71) .40** | (.53 - .79) .38** | (.51 - .78) .43** |
| Restricted Affectivity | (.07 - .48) .50** | (.25 - .61) .40** | (.16 - .55) .36** | (.18 - .57) .45** | (.19 - .57) .47** | (.17 - .56) .49** | (.23 - .60) .52** |
| Rigid Perfectionism | (.31 - .65) .40** | (.19 - .57) .45** | (.15 - .54) .36** | (.25 - .61) .35** | (.27 - .63) .39** | (.29 - .65) .46** | (.33 - .67) .46** |
| Risk Taking | (.19 - .57) .61** | (.25 - .61) .46** | (.15 - .54) .46** | (.14 - .53) .46** | (.18 - .57) .50** | (.26 - .62) .57** | (.26 - .62) .58** |
| Separation Insecurity | (.44 - .74) .54** | (.26 - .62) .48** | (.26 - .62) .36** | (.26 - .62) .35** | (.31 - .65) .40** | (.39 - .71) .56** | (.40 - .72) .53** |
| Submissiveness | (.35 - .69) .68** | (.28 - .64) .56** | (.15 - .54) .50** | (.14 - .53) .47** | (.19 - .57) .53** | (.38 - .70) .65** | (.34 - .68) .64** |
| Suspiciousness | (.53 - .79) .43** | (.38 - .70) .34** | (.31 - .65) .34** | (.27 - .63) .41** | (.34 - .68) .40** | (.49 - .77) .40** | (.47 - .76) .45** |
| Unusual Beliefs and Experiences | (.23 - .60) .32** | (.13 - .52) .35** | (.13 - .52) .45** | (.20 - .58) .57** | (.19 - .57) .56** | (.19 - .57) .35** | (.25 - .61) .46** |
| Withdrawal | (.11 - .51) | (.14 - .53) | (.25 - .61) | (.39 - .71) | (.38 - .70) | (.14 - .53) | (.26 - .62) |

Note. $N = 82$. * $p < .05$ ** $p < .01$, two-tailed. Confidence intervals are presented in brackets.

Next, the count method was used to examine the participant's PID-5 scores. Of the 73 participants who did not meet Criterion A, six had clinically significant facet elevations on

Criterion B for the AMPD categorical diagnoses. None had a diagnosis of antisocial PD, one had a diagnosis of avoidant PD, two had a diagnosis of borderline PD, two had a diagnosis of narcissistic PD, two had a diagnosis of obsessive-compulsive PD, and two had a diagnosis of schizotypal PD. Six participants had only one PD diagnosis, and one participant had three diagnoses. An additional 37 participants (45.12% of the total sample, and 50.68% of the participants who did not meet Criterion A) had elevated facets that indicated a PD-TS diagnosis.

Descriptive analyses provide a profile of the PID-5 traits identified within the sample. As can be seen in Table 11, the most commonly elevated facets were Impulsivity, Eccentricity, and Anxiousness, while those least likely were Callousness, Cognitive and Perceptual Dysregulation, and Grandiosity.

Next, it was explored whether the participants who had a full AMPD diagnosis (i.e., met Criterion A, the LPFS-SR, and Criterion B, the PID-5 domains and facets) also had a PDQ-4 diagnosis. Table 12 presents the sum method and Table 13 presents the count method.

In relation to the main question of research aim one, whether the novel AMPD measures accurately capture PDs, as compared to an established categorical measure, a series of McNemar chi-square test for paired samples were run to compare the novel measures to the PDQ-4. An additional, McNemar chi-square test for paired samples was run to compare participants who had a full AMPD diagnosis and those who had a diagnosis from the PID-5 only. Results are presented in Table 17 and Table 18. All values were significant, suggesting that there was a significant difference in the proportions of all analyses.

Table 17

McNemar Chi-Square Test for Paired Samples Comparing the Novel Measures to The

Personality Diagnostic Questionnaire - 4th Edition

| Method 1 of diagnosis | Method 2 of diagnosis | Significant on Method 1 | Significant on Method 2 | McNemar | |
|-----------------------------------|-----------------------|-------------------------|-------------------------|---------|--------------|
| | | | | Value | Significance |
| Clinically significant on LPFS-SR | PDQ-4 | 9 | 76 | 61.35 | .001 |
| Sub-clinical on LPFS-SR | PDQ-4 | 16 | 76 | 51.16 | .001 |
| PID-5 only | PDQ-4 | 47 | 76 | 21.44 | .001 |

Note. Method 1 of diagnosis = the novel AMPD measures; Method 2 of diagnosis = the established categorical measure.

Table 18

McNemar Chi-Square Test for Paired Samples Comparing Criteria A and B Diagnoses to Criterion B Alone

| Method 1 of diagnosis | Method 2 of diagnosis | Significant on Method 1 | Significant on Method 2 | McNemar | |
|-----------------------|-----------------------|-------------------------|-------------------------|---------|--------------|
| | | | | Value | Significance |
| LPFS-SR and PID-5 | PID-5 only | 9 | 47 | 15.56 | .001 |

Note. Method 1 of diagnosis = the Level of Personality Functioning Scale – Self-Report and Personality Inventory for DSM-5; Method 2 of diagnosis = the Personality Inventory for DSM-5 alone.

5.2 Research Aim Two

The second aim of the present research was to explore the relationship between aggression and Criteria A and B from the AMPD.

5.2.1 Self-Reported Aggression

To explore the relationship between the AMPD and aggression, the first analysis used self-reported history of aggression, as measured by the LHA-S-A, as the dependent variable. The sample characteristics for the LHA-S-A are presented in Table 19.

Table 19

Mean (M), Standard Deviation (SD), Range, and Reliability (α) for the Life History of Aggression – Aggression – Self-Report

| Variable | M | SD | Range | α |
|--|-------|------|--------|----------|
| Total score | 14.95 | 6.87 | 0 – 25 | .91 |
| Item 1: “Throw” a temper tantrum | 2.98 | 1.55 | 0 – 5 | - |
| Item 2: Get into physical fights with other people | 3.15 | 1.52 | 0 – 5 | - |
| Item 3: Get into verbal fights with other people | 3.54 | 1.47 | 0 – 5 | - |
| Item 4: Deliberately hit another person (or animal) in anger | 2.55 | 1.80 | 0 – 5 | - |
| Item 5: Deliberately struck or deliberately broke objects in anger | 2.78 | 1.66 | 0 – 5 | - |

Note. $N = 82$.

Next, the relationship between the LHA-S-A and level of personality functioning (as measured by the four LPFS-SR constructs of Identity, Self-Direction, Empathy, and Intimacy) was investigated using Spearman’s rank-order correlation coefficients (see Table 20).

Table 20

Spearman's Rank-Order Correlations between Life History of Aggression - Aggression – Self-Report and the Level of Personality Functioning – Self-Report

| Variable | LPFS-SR Total | LPFS-SR Identity | LPFS-SR Self- Direction | LPFS-SR Empathy | LPFS-SR Intimacy |
|---------------|------------------|---------------------|-------------------------------|--------------------|---------------------|
| LHA-S-A Total | .22* | .28* | .22* | 0.13 | 0.12 |
| | (.00 - .42) | (.06 - .47) | (.00 - .42) | (-.09 - .34) | (-.10 - .33) |

Note. $N = 82$. * $p < .05$ ** $p < .01$, two-tailed. Confidence intervals are presented in brackets.

Spearman's rank-order correlation was then used to explore the associations between the LHA-S-A and the PID-5 facets. As demonstrated in Table 21, 11 of the 25 facets were significantly associated with the LHA-S-A.

Given both constructs from the Self-Functioning domain (Identity and Self-Direction) demonstrated significant associations with LHA-S-A, the decision was made to include this domain in the hierarchical multiple regression, rather than the individual constructs. Five PID-5 facets were chosen to be entered into the regression model due to the limited sample size. Hostility, Impulsivity, Irresponsibility, Risk Taking, and Deceitfulness, were selected due to both their statistical significance and empirical relationship to aggression.

Table 22 displays the unstandardised beta coefficients, standard errors, Beta, and R^2 change values of the hierarchical multiple regression used to assess whether the LPFS-SR Self-Functioning domain and specific PID-5 facets significantly predicted LHA-S-A scores. The PID-5 facets of Hostility, Impulsivity, Irresponsibility, Risk Taking, and Deceitfulness were entered at Step 1, and explained 25.90% of the variance in LHA-S-A scores, with Hostility being a

unique predictor of LHA-S-A scores ($\beta = .60, p < .001$). The LPFS-SR Self-Functioning domain was entered at Step 2 but did not explain any additional variance in LHA-S-A scores ($R^2 \text{ change} = .26$). The total variance explained by the model remained at 25.90%, $F(6, 75) = 4.36, p = .001$.

Table 21

Spearman's Rank-Order Correlations between Life History of Aggression - Aggression – Self-Report and Personality Inventory for the DSM-5 Facets

| Variable | LHA-S-A Total | Confidence Interval |
|--|---------------|---------------------|
| Anhedonia | .09 | -.13 - .30 |
| Anxiousness | .26* | .04 - .45 |
| Attention Seeking | .19 | -.03 - .39 |
| Callousness | .27* | .05 - .46 |
| Deceitfulness | .22* | .00 - .42 |
| Depressivity | .28* | .06 - .47 |
| Distractibility | .10 | -.12 - .31 |
| Eccentricity | .10 | -.12 - .31 |
| Emotional Lability | .23* | .01 - .43 |
| Grandiosity | .09 | -.13 - .30 |
| Hostility | .49*** | .29 - .65 |
| Impulsivity | .30** | .08 - .49 |
| Intimacy Avoidance | -.05 | -.26 - .17 |
| Irresponsibility | .28* | .06 - .48 |
| Manipulativeness | .20 | -.02 - .40 |
| Cognitive and Perceptual Dysregulation | .10 | -.12 - .31 |
| Perseveration | .14 | -.08 - .35 |
| Restricted Affectivity | .12 | -.10 - .33 |
| Rigid Perfectionism | .10 | -.12 - .31 |
| Risk Taking | .23* | .01 - .43 |
| Separation Insecurity | .29** | .07 - .48 |
| Submissiveness | .04 | -.18 - .25 |
| Suspiciousness | .24* | .02 - .44 |
| Unusual Beliefs and Experiences | -.02 | -.24 - .20 |
| Withdrawal | -.03 | -.25 - .19 |

Note. $N = 82$. * $p < .05$ ** $p < .01$, *** $p < .000$ two-tailed.

Table 22

Hierarchical Multiple Regression Unstandardised Coefficient (B), Standard Error of Beta (SE B), Standardised Coefficient (β), and R^2 Change

| Predictor | <i>B</i> | <i>SE B</i> | β | R^2 Change |
|-------------------------|----------|-------------|---------|--------------|
| Step 1 | | | | .26*** |
| Constant | 10.56 | 2.63 | - | |
| Hostility | .61 | .15 | .60 | |
| Impulsivity | -.10 | .28 | -.05 | |
| Irresponsibility | .25 | .27 | .16 | |
| Risk Taking | -.26 | .19 | -.21 | |
| Deceitfulness | -.02 | .17 | -.02 | |
| Step 2 | | | | .000 |
| Constant | 10.64 | 3.28 | - | |
| Hostility | .61 | .16 | .60 | |
| Impulsivity | -.10 | .28 | -.05 | |
| Irresponsibility | .26 | .31 | .14 | |
| Risk Taking | -.26 | .19 | -.21 | |
| Deceitfulness | -.02 | .17 | -.02 | |
| Self-Functioning domain | -.001 | .03 | -.01 | |

Note. $N = 82$. *** $p < .001$; LPFS-SR = Level of Personality Functioning Scale – Self-Report

Given that the LPFS-SR total score could not be included in the above hierarchical multiple regression, due to issues of multicollinearity, a simple linear regression was used to assess the ability of the LPFS-SR total score to predict LHA-S-A scores. The simple linear regression model with the one predictor (the LPFS-SR) total score produced $R^2 = .05$, R^2 change = .05, $F(1, 80) = 4.49$, $p = .04$, indicating that the LPFS-SR total score significantly predicted the LHA-S-A scores ($\beta = .23$, $p = .04$).

Spearman's rank-order correlation coefficient was then used to explore the associations

between the LHA-S-A and the PID-5 domains. The results are presented in Table 23.

Table 23

Spearman's Rank-Order Correlations between Life History of Aggression - Aggression – Self-Report and Personality Inventory for the DSM-5 Domains

| Variable | 1 | 2 | 3 | 4 | 5 | 6 |
|--------------------|------------------------|----------------------|----------------------|----------------------|----------------------|-------------|
| 1. LHA-S-A total | 1.00 --- | | | | | |
| 2. Negative Affect | .31** (.09 - .50) | 1.00 --- | | | | |
| 3. Detachment | -0.004 (-.22 - .21) | .43** (.23 - .60) | 1.00 --- | | | |
| 4. Antagonism | 0.21 (-.01 - .41) | .31** (.09 - .50) | .25* (.03 - .45) | 1.00 --- | | |
| 5. Disinhibition | .24* (.02 - .44) | .52** (.33 - .67) | .49** (.29 - .65) | .59** (.41 - .72) | 1.00 --- | |
| 6. Psychoticism | 0.06 (-.16 - .27) | .41** (.20 - .58) | .50** (.31 - .65) | .50** (.31 - .65) | .49** (.29 - .65) | 1.00 --- |

Note. $N = 82$. * $p < .05$ ** $p < .01$, two-tailed. Confidence intervals are presented in brackets.

At the domain level, and based on the Spearman's rank-order correlation coefficient values, the Negative Affectivity and Disinhibition variables were next entered into a hierarchical multiple regression to determine whether these variables significantly predicted LHA-S-A scores. The PID-5 domains of Negative Affectivity, and Disinhibition were selected due to both their statistical significance and theoretical relationship to aggression and were entered at Step 1. The model explained 10.2% of the variance in LHA-S-A scores, however, neither Negative Affectivity ($\beta = .24$, $p = .06$) nor Disinhibition ($\beta = .12$, $p = .35$) were unique predictors of LHA-S-A scores. After entry of the LPFS-SR Self-Functioning domain ($\beta = .05$, $p = .76$) at Step 2 the total variance explained by the model was 10.3%, $F(3, 78) = 2.99$, $p = .04$. The LPFS-SR Self-

Functioning domain did not explain any additional variance in LHA-S-A scores (R^2 change = .001;). In the final model, none of the variables were significant. Overall, the hierarchical multiple regression model accounted for more variance than any single predictor.

Spearman's rank-order correlation coefficient was then used to explore the associations between the LHA-S-A and the PDQ-4 total score. There was a significant, weak correlation between the two variables, $\rho = .24$, $n = 82$, $p = .03$. As such, a simple linear regression was used to assess the ability of the PDQ-4 total score to predict self-reported levels of aggression. No multivariate outliers were detected. The simple linear regression model with the one predictor of the PDQ-4 total score, produced $R^2 = .07$, $R^2_{Adjusted} = .05$, $F(1, 80) = 5.65$, $p = .02$, indicating that the PDQ-4 total score significantly predicted LHA-S-A scores ($\beta = .26$, $p = .02$).

5.2.2 Official Police Records

A series of binary logistic regressions were then performed to explore the univariate associations between the LPFS-SR and the PID-5 with the official police records, using the nominal *any violence present* variable (a combination of the serious violence present and intermediate violence present variables to denote if there had been any type of violence whatsoever). Whilst individual binary logistic regressions were run for each LPFS-SR construct, the LPFS-SR total score, and PID-5 facets, results have been combined into an LPFS-SR table and PID-5 table for ease of reading. These are presented in Table 24 and Table 25, respectively. For the LPFS-SR, none of the four subscales nor the total score demonstrated a significant relationship with the any violence present variable. For the PID-5, only the Distractibility facet displayed a significant relationship with the any violence present variable. The model was statistically significant $\chi^2(1, n = 82) = 7.21$, $p = .007$, indicating that the model was able to distinguish between those who had violence present and those that did not. The model as a whole

correctly classified 76.8% of cases.

Table 24

Binary Logistic Regression to Explore the Univariate Associations between the Level of Personality Functioning-Self Report and the Any Violence Present Variable

| | B | S.E | Wald | df | p | Odds Ratio | 95% CI for Odds Ratio | |
|----------------|------|------|------|----|-----|------------|-----------------------|-------|
| | | | | | | | Lower | Upper |
| Identity | .01 | .01 | .63 | 1 | .43 | 1.01 | .99 | 1.03 |
| Self-Direction | .03 | .02 | 3.37 | 1 | .07 | 1.03 | 1.00 | 1.06 |
| Empathy | .01 | .02 | .14 | 1 | .71 | 1.01 | .97 | 1.05 |
| Intimacy | .001 | .01 | .002 | 1 | .97 | 1.00 | .98 | 1.03 |
| Total score | .004 | .004 | .82 | 1 | .36 | 1.00 | 1.00 | 1.01 |

Note. $N = 82$

Table 25

Binary Logistic Regression to Explore the Univariate Associations between the Personality Inventory for DSM-5 Facets and the Any Violence Present Variable

| | B | S.E | Wald | df | p | Odds Ratio | 95% CI for Odds Ratio | |
|--------------------|------|------|------|----|-----|------------|-----------------------|-------|
| | | | | | | | Lower | Upper |
| Anhedonia | .46 | 0.50 | 0.83 | 1 | .36 | 1.58 | 0.59 | 4.20 |
| Anxiousness | .31 | 0.39 | 0.63 | 1 | .43 | 1.36 | 0.64 | 2.91 |
| Attention Seeking | .65 | 0.42 | 2.40 | 1 | .12 | 1.91 | 0.84 | 4.34 |
| Callousness | -.09 | 0.44 | 0.43 | 1 | .84 | 0.91 | 0.39 | 2.16 |
| Deceitfulness | .26 | 0.46 | 0.33 | 1 | .57 | 1.30 | 0.53 | 3.18 |
| Depressivity | .22 | 0.40 | 0.32 | 1 | .58 | 1.25 | 0.57 | 2.73 |
| Distractibility | 1.13 | 0.44 | 6.49 | 1 | .01 | 3.08 | 1.30 | 7.34 |
| Eccentricity | .06 | 0.33 | 0.04 | 1 | .85 | 1.06 | 0.56 | 2.03 |
| Emotional Lability | .72 | 0.40 | 3.24 | 1 | .07 | 2.06 | 0.94 | 4.54 |
| Grandiosity | .04 | .41 | .01 | 1 | .92 | 1.04 | 0.47 | 2.31 |

| | <i>B</i> | S.E | Wald | df | <i>p</i> | Odds Ratio | 95% CI for Odds Ratio | |
|---------------------------------|----------|------|------|----|----------|------------|-----------------------|--------|
| | | | | | | | Lower | Upper |
| Hostility | .64 | .41 | 2.47 | 1 | .12 | 1.89 | 0.85 | 4.18 |
| Impulsivity | .48 | .48 | 1.01 | 1 | .31 | 1.62 | 0.63 | 4.16 |
| Intimacy Avoidance | .43 | .56 | .60 | 1 | .44 | 1.54 | 0.52 | 4.60 |
| Irresponsibility | .30 | .50 | .37 | 1 | .54 | 1.35 | 0.51 | 3.58 |
| Manipulativeness | -.18 | .34 | .27 | 1 | .60 | 0.84 | 0.43 | 1.63 |
| Perceptual dysregulation | .02 | .44 | .002 | 1 | .96 | 1.02 | 0.44 | 2.39 |
| Perseveration | .66 | .41 | 2.59 | 1 | .11 | 1.94 | 0.87 | 4.35 |
| Restricted Affectivity | -.64 | .40 | 2.50 | 1 | .11 | 0.53 | 0.24 | 1.17 |
| Rigid Perfectionism | -.07 | .37 | .04 | 1 | .85 | 0.93 | 0.45 | 1.91 |
| Risk Taking | -.24 | .66 | .13 | 1 | .72 | 0.79 | 0.22 | 2.88 |
| Separation Insecurity | .21 | .31 | .45 | 1 | .50 | 1.23 | 0.67 | 2.28 |
| Submissiveness | -.06 | .40 | .03 | 1 | .88 | 0.94 | 0.43 | 2.05 |
| Suspiciousness | .89 | 1.90 | .22 | 1 | .64 | 2.42 | .06 | 100.40 |
| Unusual Beliefs and Experiences | -.10 | .34 | .09 | 1 | .76 | 0.90 | .46 | 1.76 |
| Withdrawal | -.01 | .39 | .000 | 1 | .99 | 1.00 | .47 | 2.12 |

Note. *N* = 82

A series of binary logistic regressions were then performed to explore the univariate associations between the PID-5 domains with the nominal any violence present variable. No PID-5 domains demonstrated a significant relationship with this variable. Results are presented in Table 26.

A Mann-Whitney *U* Test revealed no significant difference in the PDQ-4 total score of those with violence present in their criminal history ($Md = 39.50, n = 62$) and those without ($Md = 36.00, n = 20$), $U = 681.50, z = .67, p = .51, r = .07$.

Table 26

Binary Logistic Regression to Explore the Univariate Associations between the Personality Inventory for DSM-5 Domains and the Any Violence Present Variable

| Variable | B | S.E | Wald | df | p | Odds Ratio | 95% CI for Odds Ratio | |
|-----------------|-------|-----|------|----|------|------------|-----------------------|-------|
| | | | | | | | Lower | Upper |
| Negative Affect | .17 | .14 | 1.50 | 1 | .22 | 1.19 | .90 | 1.57 |
| Detachment | .12 | .19 | .38 | 1 | .54 | 1.13 | .77 | 1.64 |
| Antagonism | .001 | .15 | .000 | 1 | 1.00 | 1.00 | .74 | 1.35 |
| Disinhibition | .34 | .19 | 3.19 | 1 | .07 | 1.40 | .97 | 2.02 |
| Psychoticism | -.004 | .14 | .001 | 1 | .98 | 1.00 | .76 | 1.31 |

Note. $N = 82$

Regarding the convergence of the LHA-A and the official police records, a Mann-Whitney U Test was run to compare the mean LHA-S-A scores for those with and without violence present. There was no significant difference in scores of the LHA-S-A total score for those with any violence present ($Md = 13.50$, $n = 20$) versus no violence present ($Md = 16.00$, $n = 62$), $U = 754.50$, $z = 1.46$, $p = .15$, $r = .16$. Given the LHA-S-A contains items about violence that is unlikely to be picked up by police records (e.g., “Throw a temper tantrum;” Coccaro et al., 1997, p. 1), a new variable that summed the two items that assess physical acts of aggression towards other people (i.e., “Get into physical fights with other people” and “Deliberately hit another person [or an animal] in anger”) was created and named LHA-S-A-Violence Only. A Mann-Whitney U Test revealed no significant difference in the LHA-S-A-Violence Only variable of those with no serious violence present ($Md = 5.00$, $n = 24$) and those with serious violence present ($Md = 6.00$, $n = 58$), $U = 833.50$, $z = 1.41$, $p = .16$.

PART V: INTEGRATED DISCUSSION

Chapter Six: General Discussion

6.1 Overview of Main Findings

This research aimed to advance knowledge by mapping the historic conceptualisations of PDs and how the field has progressed from the concept of PDs that evolved during the 19th century, to the introduction of categorical diagnoses in the 20th century, and on to a modern hybrid-categorical dimensional model. This then led to an exploration of the relationship between PDs and aggression. This research also aimed to advance understanding of two novel AMPD measures in an Australian male prisoner sample. The research aims were derived from a number of gaps in the literature. This research has gone some way to remedying these gaps by way of; 1) examination of the LPFS-SR in a prison sample, 2) inspection of prevalence rates using a combination of the LPFS-SR and PID-5, 3) examination of the sum and count methods for the PID-5 in a prison sample, 4) examination of the association between the LPFS-SR and aggression, and 5) investigations of the association between the PDQ-4 and aggression.

This thesis comprised one empirical study using an Australian male prisoner sample ($N = 82$) in order to address two main research aims. The first explored the internal consistency, and the convergent and discriminant validity of the LPFS-SR and the PID-5. Results revealed that the LPFS-SR displayed acceptable to excellent internal consistency, but unreliable convergent validity with the PDQ-4. The PID-5 displayed questionable (albeit for only one facet) to excellent internal consistency, but unreliable convergent validity with the PDQ-4. However, this may be due to the PDQ-4 over-identifying PD, rather than unacceptable psychometric properties of the PID-5.

The second research aim investigated the criterion validity of the LPFS-SR, the PID-5,

and the PDQ-4 total score with participant's histories of aggression (as assessed via the LHA-S-A and official police records). The LPFS-SR total score, the PID-5 Hostility facet, and the PDQ-4 total score were significantly related to LHA-S-A scores. Only the PID-5 Distractibility facet was significantly related to official police records.

This chapter now provides an integrated account of the central findings and the added value of the findings to the broader extant literature on PDs and aggression. The narrative is organised according to the two themes evident throughout this thesis: 1) the conceptualisation and measurement of PDs, and 2) the PD-aggression relationship.

6.2 Research Aim One: Ability of the Alternative Model for Personality Disorders to Identify Personality Disorders in a Prisoner Sample

It was hypothesised that the novel AMPD measures would identify AMPD PDs in prisoners at an equivalent rate as an established measure for Section II PD diagnoses. It was also hypothesised that the most prevalent PDs would be antisocial PD, borderline PD, narcissistic PD, and paranoid PD (paranoid PD was only measured using the PDQ-4, as it is not included in the AMPD). The first step to address these hypotheses was to ensure the reliability of the measures in a prisoner population. The LPFS-SR total score, alongside all domains, facets, and constructs of the novel measures demonstrated acceptable to excellent internal consistencies, except for PID-5 Suspiciousness, which was questionable ($\alpha = .67$). Consequently, cautious interpretation of this facet is necessary. The PDQ-4 total score showed excellent internal consistency ($\alpha = .92$). Nevertheless, the reliability of the individual diagnoses was varied. Alpha values ranged from poor ($\alpha = .58$) for obsessive-compulsive PD to good ($\alpha = .87$) for antisocial PD. As such, results of the PDQ-4 diagnoses for paranoid PD, schizoid PD, schizotypal PD, histrionic PD, dependent PD, obsessive-compulsive PD, negativistic PD, and depressive PD should be interpreted with

caution.

6.2.1 Convergent Validity of the Alternative Model and the Personality Diagnostic

Questionnaire - 4th Edition in a Prisoner Sample

The rate of diagnosis by the PDQ-4 in the current sample was 92.68%, whilst the number of participants who met Criterion A (LPFS-SR) was 10.98%. This suggests that the LPFS-SR and PID-5, when compared to the PDQ-4, may be under identifying PDs, at least in this sample. As such, the hypothesis that the novel measures would identify PDs at the same rate as the categorical measure was not supported.

Additionally, the differing methods used to calculate PID-5 scores (i.e., summing the mean trait scores that characterise each PD, or counting the number of assigned traits that are elevated; Samuel et al., 2013) demonstrated both some divergence and some consistency with each other. Of the nine participants who met Criterion A, the sum method appeared to confer a higher number of diagnoses to each participant. The sum method does not designate a PD-TS diagnosis, whilst the count method does. Accordingly, four participants received a PD-TS diagnosis using the count method. When comparing the other five participants who had categorical diagnoses using both methods, all had a minimum of one matching diagnosis from both scoring methods. Overall, for the participants who exceeded the Criterion A clinical threshold, the sum and count methods yielded differences in which Criterion B traits were elevated, and thus what diagnoses these participants met.

Next it was explored whether the participants who were identified as having a diagnosis using the PDQ-4 diagnosis also met AMPD Criteria A and B, and if so, were the diagnoses the same. When using the sum method there were nine participants who met both (A and B)

diagnostic criteria; two participants who had a full AMPD diagnosis did not have any PDQ-4 diagnoses. Of the seven other participants, only one had completely different diagnoses on the PDQ-4 (paranoid PD, histrionic PD, narcissistic PD, antisocial PD, negativistic PD, and depressive PD) compared to the AMPD diagnoses (avoidant PD, borderline PD, schizotypal PD). All others had a minimum of one diagnosis the same, with the PDQ-4 conferring more diagnoses than the novel measures. When the count method was employed the same two participants who had a full AMPD diagnosis using the sum method, did not have any PDQ-4 diagnoses. Of the other participants, five had completely different diagnoses on the PDQ-4 compared to the AMPD diagnoses. In four cases this was because they had trait-based PD diagnoses, which the PDQ-4 does not offer. Overall, it appears that the scoring method employed when using the AMPD has a large influence on whether the diagnoses are consistent with the PDQ-4. The sum method appears to be closest at identifying the same PDs as the PDQ-4. These results are consistent with the findings of Samuel et al. (2013), who reported that the sum method best reproduced DSM-IV-TR PD diagnoses over the count method and profile matching method.

The lack of support for the hypothesis that the novel measures would identify PDs at the same rate as the categorical measure could be due to a number of factors. Firstly, previous studies in Australia have reported overall rates of PDs amongst prisoners ranging from 37% to 43.5% (Butler & Allnutt, 2003; Butler et al., 2006; O'Driscoll et al., 2012), whilst studies of international prison populations have reported a prevalence rate for PD of approximately 65%. The rate of diagnosis by the PDQ-4 in the current sample – 92.68% – appears to be far higher than would be expected, in either Australian or international contexts. As such, the PDQ-4 may be yielding a high number of false positives, as has been suggested of self-report PD questionnaires in previous studies (Carey, 1994; Clark & Harrison, 2001; Guthrie & Mobley, 1994; Lenzenweger et al., 1997; Marlowe et al., 1997; Trull & Larson, 1994). However, this

could also be caused by the PDQ-4 clinical significance scale not being able to be administered in the present sample, due to burdens on the prisons (see section 4.3.3 Ethical Considerations). This scale requires administrators to return to question the participant, after the PDQ-4 has been scored. Had this been possible, some participants may not have met the pathological, persistent, and pervasive criteria for Section II PDs, thus lowering the PDQ-4 prevalence rate. This has been the case in international studies, where diagnoses were halved following the use of the PDQ-4 clinical significance scale (Bouvard et al., 2011; Calvo et al., 2013), and is advised by the PDQ-4 manual (Hyler, 1994). Conversely, the percentage of participants who met Criterion A (10.98%) was much lower than expected. According to the AMPD, the total level of personality functioning is the central variable in identifying the presence of a clinically significant PD (American Psychiatric Association, 2013a). Furthermore, overall PD severity has been shown to be an important predictor of current and future dysfunction (American Psychiatric Association, 2013a; Hopwood et al., 2011). However, when the LPFS-SR total score was used instead of the four subscales, the number of participants who were over the clinical threshold remained the same. This may in part be due to the items on the LPFS-SR, which past research has suggested represent lower PD severity (Waugh et al., 2021). Accordingly, the LPFS-SR may not be able to adequately measure severity level in a population where there is expected to be a high rate of PDs, such as prison.

It should be noted that much of the previous research on the LPFS-SR, and even other measures of Criterion A, have focused on internal validity and reliability, without exploring clinical utility in relation to AMPD diagnoses. Extant studies that have measured both Criteria A and B have typically not noted the number of participants who have met Criterion A (e.g., Bach & Hutsebaut, 2018; Huprich et al., 2018). One of the only studies that has reported AMPD diagnoses used a mixed sample of outpatients ($n = 165$) and community adults who were

determined to be at high-risk for a PD ($n = 215$; Clark et al., 2015). This study's results suggested that 21.37% met both Criteria A and B, whilst 33.51% met Criterion B alone, again suggesting fewer people meet Criterion A than Criterion B. Furthermore, consistent with the present research, all participants who were above the Criterion A clinical threshold ($n = 114$) had at least one elevated pathological trait and were thus eligible for either a categorical PD or PD-TS diagnosis. Although the differing populations between Clark et al. (2015) and the present research make it difficult to compare results, the consistencies between the two studies do support the position that Criterion A is redundant once Criterion B is accounted for.

Whilst most studies have not reported AMPD diagnoses, further evidence for the consistencies and inconsistencies of the present research comes from comparing means on the LPFS-SR total score and four constructs. The present means were similar to past research conducted on community participants (Hopwood et al., 2018; Morey, 2017), but inconsistent with research conducted on community members that were either currently receiving, or had received mental health treatment in the past, who had much higher means than the present cohort (McCabe et al., 2021).

The disparity between the PDQ-4 and the AMPD measures may also be because they are based upon different conceptual models of PD. The PDQ-4 maps onto the categorical model of Section II within the DSM-5. This means that it asks specific questions that correspond to specific criteria. In contrast, the AMPD measures are founded upon a dimensional PD approach and aim to investigate personality functioning and the presence of maladaptive traits, albeit related to the Section II PD diagnoses. Prior research has demonstrated convergent validity of the AMPD level of personality functioning (rated by clinicians) and the LPFS-SR with DSM-IV PD categories (Hopwood et al., 2018; Morey & Skodol, 2013; Sleep et al., 2019; Sleep et al., 2020).

Given this inconsistency with past research and the finding that very few participants met Criterion A in the present sample ($n = 9$), it may be that this measure is under-identifying people who have pathological issues in male prisoner populations.

As this is the first study that has combined the LPFS-SR and PID-5 to investigate PD prevalence rates and the only study to have explored the LPFS-SR in a prison setting, there are no relevant comparison rates for AMPD diagnoses. However, when compared with the prevalence rate of 65% derived from research using other Section II measures (Davison et al., 2001; Fazel & Danesh, 2002), the 10.98% rate appears far lower than expected. Overall, the prevalence rates in the present prison sample are unclear, given the differencing rates between measures. However, the rates one would obtain with the PDQ-4 are likely higher than those that would be obtained with other methods.

It was also hypothesised that the most prevalent PDs identified would be antisocial PD, borderline PD, narcissistic PD, and paranoid PD (paranoid PD was measured using only the PDQ-4, as it is not included in the AMPD). The most commonly diagnosed PDs for those who met the LPFS-SR clinical threshold, when using the sum method, were borderline PD ($n = 9$), antisocial PD ($n = 7$) and schizotypal PD ($n = 7$). Conversely, when employing the count method, avoidant PD ($n = 4$), PD-TS ($n = 4$), borderline PD ($n = 3$), obsessive-compulsive PD ($n = 3$), and schizotypal PD ($n = 3$) were the most prevalent. The most prevalent diagnoses identified when using the PDQ-4 were paranoid PD ($n = 59$), obsessive-compulsive PD ($n = 45$), and antisocial PD ($n = 39$). As such, there was partial support for the hypothesis that the most prevalent PDs would be antisocial PD, borderline PD, narcissistic PD, and paranoid PD although different measures and different methods for calculating diagnoses yielded different outcomes.

Previous research has demonstrated that antisocial PD, borderline PD are the most

frequently diagnosed PDs in forensic settings, with paranoid PD and narcissistic PD having slightly lower rates (Black et al., 2007; Brinded et al., 1999; Daniel et al., 1988; Fazel & Danesh, 2002; Harsch et al., 2006; Rotter et al., 2002). Given the rates above, the novel measures are consistent with previous rates of antisocial PD and borderline PD, albeit they are significantly lower rates than anticipated. However, the rates of schizotypal PD, avoidant PD, and obsessive-compulsive PD appear much more elevated than would be expected but consistent with the rates that these PDs are diagnosed in other settings (Esbec & Echeburúa, 2010; Singleton et al., 1998; Warren et al., 2002). The most prevalent diagnoses on the PDQ-4 were paranoid PD ($n = 59$), obsessive-compulsive PD ($n = 45$), and antisocial PD ($n = 39$). Borderline PD was recorded for 20 participants, whilst narcissistic PD was noted for 26 participants. The rates for antisocial PD, paranoid PD, and narcissistic PD are consistent with previous studies, although borderline PD rates are somewhat lower than in other male samples (Black et al., 2007; Brinded et al., 1999; Daniel et al., 1988; Fazel & Danesh, 2002; Harsch et al., 2006; Rotter et al., 2002).

When the rates seen using the novel measures and the PDQ-4 are compared, there are some anomalous findings. The rate of narcissistic PD on the PDQ-4 is consistent with previous studies that suggest moderate to high prevalence rates in international forensic settings (Coid, 2002; Timmerman & Emmelkamp, 2001; Vicens et al., 2011; Warren et al., 2002). Conversely, narcissistic PD did not feature as a prevalent PD when using the AMPD measures, even when the different PID-5 scoring methods were taken into account. This is consistent with other research that has suggested that narcissistic PD occurs less frequently in forensic settings (Brinded et al., 1999; Esbec & Echeburúa, 2010; Logan, 2009). Although prevalence rates of narcissistic PD differ in international forensic samples, the varying rates in the present research suggest there is a divergence between the novel measures and the categorical measure. This divergence could be caused by the PDQ-4 over-diagnosing, due to the clinical significance scale

not being administered (see section 6.2.1 Convergent Validity of the Alternative Model and the Personality Diagnostic Questionnaire - 4th Edition in a Prisoner Sample for further information). Conversely, the divergence may also suggest that there are issues with AMPD narcissistic PD conceptualisation. The presence of both grandiosity and attention seeking are required for an AMPD diagnosis of narcissistic PD. As such, the AMPD appears to be more consistent with the egotistical and interpersonally exploitative conceptualisation of narcissistic PD (Levy, 2012). However, research has suggested that traits of vulnerability and hypersensitivity are also core to narcissistic PD (Hendin & Cheek, 1997; Lambe et al., 2018).

Given that PID-5 Grandiosity was the least endorsed facet in the current sample, whilst the Attention Seeking facet was the 18th most likely to be endorsed (out of the 25), it appears that the AMPD criteria for narcissistic PD may be too narrow to fully capture the complex presentations of narcissistic PD. This highlights the multifaceted nature of narcissistic PD and demonstrates that the criteria may benefit from amendment in order for it to capture the complexity of narcissistic PD. This could be done by operationalising the psychoanalytic literature and integrating traits of vulnerability and hypersensitivity into the conceptualisation of narcissistic PD.

Despite the high prevalence rate for schizotypal PD on the novel measures, and the moderate rate on the PDQ-4 there was a lack of convergence in those diagnosed using the two measures. As can be seen in Table 27, seven participants were identified with a diagnosis of schizotypal PD on the AMPD measures (sum method), but only two of these also had this diagnosis of on the PDQ-4. Similarly, three participants had a diagnosis of schizotypal PD on the novel measures (count method), but only one of these also had this diagnosis on the PDQ-4. For both scoring methods one participant had a diagnosis of schizotypal PD when using the PDQ-4,

but not on the AMPD measures.

Table 27

Schizotypal Diagnoses on the Alternative Model for Personality Disorder and the Personality Diagnostic Questionnaire - 4th Edition

| Case number | Sum method | Count method | PDQ-4 Diagnoses |
|-------------|------------|--------------|-----------------|
| #5 | Yes | No | Yes |
| #10 | Yes | Yes | Yes |
| #33 | No | No | Yes |
| #36 | Yes | Yes | No |
| #37 | Yes | No | No |
| #40 | Yes | Yes | No |
| #51 | Yes | No | No |
| #77 | Yes | No | No |

Note. $n = 8$

This raises the question of whether the PID-5 accurately captures traits for Schizotypal PD. Eccentricity, Withdrawal, and Suspiciousness were three of the most commonly endorsed facets within the current cohort, which are three of the six AMPD schizotypal pathological personality traits (American Psychiatric Association, 2013a). The other three are Cognitive and Perceptual Dysregulation, Unusual Beliefs and Experiences, and Restricted Affectivity (American Psychiatric Association, 2013a). Given that social withdrawal and suspiciousness are somewhat adaptive in prison environments (Rotter et al., 2002), it is perhaps unsurprising that these were prevalent amongst the current sample, and elevations in these traits may have been influenced by the prison environment. Item analysis revealed that a number of items that

contribute to Eccentricity were endorsed at the clinical threshold by over half the participants in the present sample, regardless of diagnosis. Table 28 presents a list of these items and the percentage of participants who endorsed them. Although the AMPD defines eccentricity as “odd, unusual, or bizarre behaviour, appearance, and/or speech; having strange and unpredictable thoughts; saying unusual or inappropriate things” (American Psychiatric Association, 2013a, p. 769), the questions in the PID-5 could characterise a person who is often misunderstood by others or cannot clearly convey their meaning to other people. Furthermore, previous research has found that the facets of Cognitive and Perceptual Dysregulation, and Unusual Beliefs and Experiences have stronger relationships with schizotypal PD than Eccentricity (Anderson et al., 2014; Watters et al., 2019), and that the Eccentricity facet has moderate associations with antisocial PD, borderline PD (Anderson et al., 2014; Watters et al., 2019), and paranoid PD (Anderson et al., 2014). According to the AMPD, these three PDs are not associated with eccentricity. Accordingly, the Eccentricity facet may require revision within the AMPD.

Table 28

Highly Endorsed Eccentricity Items and the Percentage of Participants Who Endorsed Them

| PID-5 Item | Percentage |
|--|------------|
| Q33. My thoughts often go off in odd or unusual directions. | 60.3% |
| Q172. I’ve been told more than once that I have a number of odd quirks or habits. | 56.6% |
| Q205. I often have thoughts that make sense to me but that other people say are strange. | 54.2% |
| Q 21. I often say things that others find odd or strange. | 51.8% |
| Q52. My thoughts often don’t make sense to others. | 51.6% |
| Q24. Other people seem to think my behaviour is weird. | 50.6% |

Note. $N = 82$

When the diagnostic rates from the novel measures and the PDQ-4 are viewed together, paranoid PD, borderline PD, and avoidant PD were the most prevalent disorders, consistent with the findings of one of the few other studies that has examined PD prevalence rates in a general prisoner population in Australia. Butler and Allnutt (2003) reported that the most prevalent PDs were emotionally unstable PD – impulsive type (males = 21% and females = 24%), emotionally unstable PD – borderline type (males = 17% and females = 24%), paranoid PD (males = 18% and females = 23%), anxious (avoidant) PD (males = 16% and females = 21%) and schizoid PD (males = 14% and females = 20%). As such, the prevalence of antisocial PD, schizotypal PD, avoidant PD, and obsessive-compulsive PD in the present findings are inconsistent with past rates in Australia. Of note, no comparison can be made for PD-TS, as it does not feature on the measure used by Butler and Allnutt (2003; the IPDE-Screener). The disparate rates with Butler and Allnutt (2003) could be due the differences in sample sizes between the present study ($N = 82$) and Butler and Allnutt's ($N = 953$; 2003). Given the much smaller sample size in the present research, it is likely that Butler and Allnutt's results are more representative of PD prevalence rates in Australia. This, alongside the differing rates in the present study between the novel measures and the PDQ-4, further highlight the need for a unified model and framework of PD to correctly guide empirical research.

6.2.2 *Discriminant Validity of the Novel Measures*

The results of the present research were consistent with previous findings (McCabe et al., 2021; Sleep et al., 2019; Sleep et al., 2020) with regard to discriminant validity. In the present research, as well as in previous studies (McCabe et al., 2021; Sleep et al., 2019; Sleep et al., 2020), large effect sizes ($r > .50$) were observed with the four LPFS-SR constructs correlated with each another, as well as with the total score (with the exception of McCabe et al. [2021]

who reported the construct scores, but did not report the total score). This suggests that there is a lack of discriminant validity for the LPFS-SR. The high correlations demonstrate that the four constructs are related and seem to load onto a general measure of personality dysfunction (Hopwood et al., 2018; Morey, 2017, 2019). Further empirical investigation, as well as a theoretical conclusion between researchers who see the benefits of Criterion A versus those who view it as redundant (Zimmermann, 2022), are required to determine if the AMPD is best served by inclusion of the four level of personality functioning constructs or a general factor of impairment in personality functioning.

As previous literature (Calabrese & Simms, 2014; Clark & Ro, 2014; Few et al., 2013; Hentschel & Pukrop, 2014; Sleep et al., 2018) has suggested that Criterion A is largely redundant once Criterion B traits have been considered, redundancy was assessed for in the present sample. This was undertaken at both the domain and facet level, and consistent with previous research (Calabrese & Simms, 2014; Clark & Ro, 2014; Few et al., 2013; Hentschel & Pukrop, 2014; Sleep et al., 2018) there was moderate to strong overlap between the two measures. The main exception to this was the non-significant relationship between LPFS-SR Intimacy and PID-5 Antagonism. When the facets that form Antagonism were explored alongside the LPFS-SR Intimacy construct, two of the three facets were non-significant (Deceitfulness $\rho = .25, p < .05$; Grandiosity $\rho = .15$; and Manipulativeness $\rho = .17$). This non-significant relationship is inconsistent with past research (Clark & Ro, 2014; Few et al., 2013; Sleep et al., 2018) and may be attributable to PID-5 Antagonism being the least likely domain to be endorsed in the current sample.

Whilst it is consistent with previous conceptualisations of PDs to distinguish between impairments in personality functioning and pathological personality traits, this does not appear to

be supported by the present research, as well as by some other empirical studies (Calabrese & Simms, 2014; Clark & Ro, 2014; Hentschel & Pukrop, 2014; Sleep et al., 2018). However, as past studies have suggested that general impairment ratings predict future functional impairment beyond trait ratings (Calabrese & Simms, 2014), and that that PD severity, not PD type, is the most important predictor of therapeutic outcomes and current and future dysfunction (Hopwood et al., 2011; Simonsen & Simonsen, 2014), further research is needed within broader settings, and with more diverse populations, to determine the utility of Criterion A. Perhaps the best solution to this issue has been proposed by Zimmermann (2022); greater distinctions between the *impairments in capacities* of level of Criterion A compared to the *maladaptive traits* of Criterion B would provide greater distinction and clarity between these two elements of the AMPD. The impairments in capacities would refer to how well someone can demonstrate certain behaviours when they are motivated and the situation calls for it. Maladaptive traits would then suggest how usual it is for that individual not to exhibit the corresponding behaviours or to exhibit them in an inappropriate manner. This would then result in an overlap in Criteria A and B being necessary, rather than redundant (Zimmermann, 2022).

6.2.3 PID-5 Diagnoses

Given the small number of participants who met Criterion A, as well as the prominent criticism of overlap between AMPD Criteria A and B (Calabrese & Simms, 2014; Clark & Ro, 2014; Few et al., 2013; Hentschel & Pukrop, 2014; Sleep et al., 2018), it was also explored whether diagnoses would increase, when the PID-5 was used as the sole AMPD instrument used to diagnose PDs, whilst using the two different scoring methods. The participants who met the LPFS-SR clinical threshold were not included in these additional calculations, so that they were not represented twice. Results suggested that when using the sum method, the PID-5 alone

diagnosed PDs at a higher rate than the LPFS-SR and PID-5 combined ($n = 9$ compared to $n = 47$). This higher rate is consistent with previous PD prevalence research in prison samples (Coid, 2002; Dunsieith et al., 2004; Fazel & Danesh, 2002; Fountoulakis et al., 2008; Timmerman & Emmelkamp, 2001). Furthermore, the high co-occurrence of PDs amongst the present sample (36.99% of participants who did not meet the clinical threshold for Criterion A had at least two co-occurring PDs) is consistent with research on the categorical model (Grant et al., 2005; Stuart et al., 1998), as well as research using the PID-5 only to generate AMPD diagnoses, where 40% of participants were diagnosed with two or more PDs (Orbons et al., 2019).

Inconsistent with previous research, the count method generated only an additional seven participants who met the criteria for at least one AMPD categorical diagnosis. At first it appears that the PID-5 alone better captures PD diagnoses in a prison sample than the LPFS-SR and PID-5 combined, when using the sum method. However, the sum method does not allow for a PD-TS diagnosis (four participants in the present sample received such using the count method). Given that PD-TS is a major benefit of the AMPD in progressing DSM PD conceptualisations, valuable person-centred information could be lost by not using the count method. Clark et al. (2015) have proposed a possible solution to this difficulty; using the PD-TS diagnosis only and making the AMPD an entirely dimensional model. They argue that this eliminates issues of comorbidity, heterogeneity, and the ambiguity of PD-NOS and unspecified PD from both Section II and AMPD categorical PDs. Additionally, although Samuel et al. (2013) reported that the sum method best reproduced DSM-IV-TR PD diagnoses they noted that this does not automatically signify that it is the best scoring method. Rather it allows for comparison between AMPD and DSM-IV-TR PDs. Given that 37 participants (45.12% of the total sample, and 50.68% of the participants who were not above the clinical threshold on Criterion A) received a PD-TS diagnosis when using the count method on the PID-5 alone, which is consistent with expected

PD rates in a prison population, the present research lends support to the proposal of PD-TS being the sole diagnosis in the AMPD (Clark et al., 2015). However, as a diagnosis of PD-TS requires the elevation of only one maladaptive trait domain or facet, there has been concern that this could result in a high number of false positives (Wakefield, 2013). This would likely be compounded by the use of Criterion B only to diagnose PD-TS, as the likelihood is that the vast majority of people would have at least one elevated facet, given that personality lies upon a spectrum, and the AMPD PD conceptualisations have drawn upon normal personality (i.e., level of personality functioning is along a continuum, whilst the five domains within Criterion B come from the FFM and the PSY-5). As such, if PD-TS is to be adopted as the sole PD diagnosis of the AMPD, and perhaps eventually of the DSM, greater refinement of Criterion A and its measures is necessary, to minimise this risk of false positives, by identifying individuals who have both personality functioning impairments and maladaptive personality traits.

6.2.4 Severity of Impairment in Personality Functioning and Pathological Personality Trait Profiles

In light of the disparity in rates between the LPFS-SR and PID-5, as well as the PDQ-4, the severity of impairment in personality functioning and trait profiles in the present sample were mapped. The personality functioning constructs that most often exceeded the LPFS-SR clinically significant threshold were Identity and Self-Direction. As this is the first study to examine the LPFS-SR in a prison, and only 10.98% of the present sample met the LPFS-SR clinical threshold, it is unclear how likely it is that future research will also find that the Identity and Self-Direction constructs are most likely to be endorsed by prisoners. Nevertheless, this may be a useful starting point for future analyses to expand upon.

Conversely, the PID-5 provides a comprehensive offender facet profile. As shown in

Table 11, the Impulsivity facet was the most likely to be endorsed in the current sample, whilst Grandiosity was least likely to be endorsed. Overall, the top six facets that were most likely to be endorsed (Impulsivity, Eccentricity, Anxiousness, Risk Taking, Withdrawal, and Hostility) paint a picture of a misanthropic individual who is driven by bizarre behaviours and worries, and engages in rash and risky behaviours, whereby they act on the spur of the moment, without regard for the consequences of their actions. Overall, there are consistencies and inconsistencies in the trait profiles of the present research with previous studies that have used the PID-5. Table 29 presents an itemisation of each.

In the present sample and Adhiatma and Halim (2016), the Anxiousness and Risk Taking facets were frequently endorsed. However, the Impulsivity, Eccentricity, Withdrawal, and Hostility facets were frequently endorsed in Adhiatma and Halim's (2016) research, but not in the present sample. This inconsistency may be attributable to the inclusion of both males and females in their study, which were not broken down into gender categories. The present study included males only, and whilst it is too early to definitively state that male and female prisoners will have differing PID-5 profiles, one study has explored gender differences on the PID-5 in an undergraduate sample (Dowgwillo et al., 2016), and found some differences. Furthermore, as can be seen in Table 29 the present sample is more consistent with the male undergraduate students in Dowgwillo et al. (2016). Further evidence of gender differences in trait profiles comes from past research on the FFM, which also suggests that gender differences do exist in trait profiles (Costa Jr et al., 2001; Goodwin & Gotlib, 2004; Hines & Saudino, 2003). Overall, it appears likely that the inclusion of males and females in the Adhiatma and Halim (2016) acted as a confounding factor.

Table 29

Comparison of Facets Most Highly Endorsed by Different Samples

| Authors | Sample type | Facets endorsed | Consistent with present research |
|---------------------------|---------------------------------|----------------------------------|----------------------------------|
| Adhiatma and Halim (2016) | Prisoners | Anxiousness | Yes |
| | | Rigid Perfectionism | No |
| | | Restricted Affectivity | No |
| | | Emotional Lability | No |
| | | Attention Seeking | No |
| | | Suspiciousness * | No |
| | | Risk Taking * | Yes |
| Dunne et al. (2018) | Prisoners | Risk Taking | Yes |
| | | Restricted Affectivity | No |
| | | Suspiciousness | No |
| | | Anxiousness | Yes |
| | | Impulsivity | Yes |
| | | Emotional Lability | No |
| Dowgwillo et al. (2016) | Undergraduate students - male | Risk Taking | Yes |
| | | Attention Seeking | No |
| | | Anxiousness | Yes |
| | | Manipulativeness | No |
| | | Submissiveness | No |
| | | Lack of Restricted Affectivity * | No |
| | | Eccentricity * | Yes |
| | Undergraduate students - female | Anxiousness | Yes |
| | | Risk Taking | Yes |
| | | Attention Seeking | No |
| | | Submissiveness | No |
| | | Emotional Lability | No |
| | | Lack of Rigid Perfectionism | No |

Note. * = facets were endorsed equally.

Generally, the PID-5 trait profile in the present research most closely aligned with that seen in Dunne et al. (2018), where the top six endorsed facets were Risk Taking, Restricted Affectivity, Suspiciousness, Anxiousness, Impulsivity, and Emotional Lability. This is

encouraging, given that their study is one of the few to utilise the PID-5 within a prison sample, and one of the only other PID-5 studies undertaken in Australia.

In terms of the domains, consistencies can be explored through studies that have utilised the PID-5-BF, which captures only the five domains. In the present sample the most frequently endorsed domain was Disinhibition. This is consistent with the findings of Bach and Hutsebaut (2018), where prisoners were also most likely to endorse the Disinhibition domain, whilst outpatients were most likely to endorse the Negative Affectivity domain. The present results were inconsistent with the findings of Romero and Alonso (2019), where participants were most likely to endorse the Negative Affectivity domain. However, as this sample was drawn from adolescents in secondary schools, further research on adolescents in forensic settings is required to compare to the present sample.

6.3 Research Aim Two: Ability of the Alternative Model to Predict Aggression

Research aim two explored the criterion validity of the AMPD measures and aggression. It was hypothesised that the strongest relationships would emerge between aggression and the facets of Hostility and Risk Taking. It was also hypothesised that the LPFS-SR total score would be related to aggression, that participants who scored higher on the LPFS-SR Identity construct would be more likely to engage in aggression, that participants who scored higher on the LPFS-SR Self-Direction construct would be more likely to engage in aggression, and that those with lower levels of LPFS-SR Intimacy would have higher levels of violent offending. An exploratory approach was taken to examining the relationship between LPFS-SR Empathy and aggression. Lastly, it was hypothesised that the PDQ-4 total score would be related to aggression.

Both self-report and official criminal records were used to measure violence. When the

official police records were compared to the LHA-S-A total score there were no significant relationships found between any of the violence variables (serious violence present, intermediate violence present, and any violence present) with the official police records. As such, there appears to be a divergence between the participants' self-reported histories of aggression and convictions for violent offending. This is inconsistent with past research, which has found moderate to strong associations between self-reported aggression with official records (Gilbert et al., 2013; Jolliffe et al., 2003; Piquero et al., 2014). Initially, it was postulated that this may have been caused by the item composition of the LHA-S-A, whereby three of the items reference lower levels of aggression that are unlikely to meet the threshold for arrest e.g., "Deliberately struck or deliberately broke objects (for example: windows, dishes, etc.) in anger". Additionally, only arrests were included in the official police data, rather than summons or cautions. These may align with less severe forms of aggression. However, when further analyses were run that used the two LHA-S-A items that elicit descriptions of physical aggression, there was still no significant difference in LHA-S-A-Violence Only scores for those with a history of arrest for violence compared to those people who did not have a history of arrest for a violent offence.

6.3.1 Criterion A and Aggression

It had been hypothesised that higher scores on the constructs of Identity and Self-Direction, and lower scores on the construct of Intimacy, would be associated with aggression. There were weak, but significant positive associations between the two constructs from the Self-Functioning domain (Identity and Self-Direction) and the total score with the LHA-S-A. Despite the significant positive associations between the Identity and Self-Direction constructs and the LHA-S-A, when they were entered into the multivariate analysis (as the Self-Functioning domain), no significant relationship with LHA-S-A was identified. Similarly, when binary

regression analyses were run to explore the relationship between the LPFS-SR and the official police records, no constructs on the LPFS-SR were significantly related to aggression, nor was the total score. The lack of any relationship for the LPFS-SR constructs with self-reported aggression or official police records is inconsistent with past research that has found identity is a weak but significant predictor of aggression (Leclerc et al., 2021). However, there are a variety of factors that may have contributed to this inconsistency. First, Leclerc et al. (2021) studied outpatients rather than prisoners. As few studies have examined the level of personality functioning across various settings, and the present study is the first to examine it in a prison, it is possible that different populations and settings may have different personality dysfunction relationships with aggression and people may respond differently to the LPFS-SR depending on their location and context. Furthermore, as this is the first study to examine the association between the LPFS-SR and aggression, the present identity hypothesis was based upon studies that measured identity using different measures (i.e., the SIFS and the Dimensions of Identity Development Scale; Luyckx et al., 2008), and not the LPFS-SR itself. Consequently, it is possible that these various measures are measuring different elements of identity, especially since the Dimensions of Identity Development Scale focuses on development of one's identity, whereas the LPFS-SR targets the specific identity construct of the AMPD.

The non-significant regression results suggest that use of the Self-Functioning domain to predict aggression is unproductive in a prison population and the prior positive findings between identity and aggression cannot be extrapolated to the assessment of identity with the LPFS-SR. Also, this lack of an association between the Self-Functioning domain and aggression may be attributed to the fact that very few participants in the current sample met the threshold for Criterion A, and thus, due to a lack of statistical power, were unlikely to register an association between this variable and aggression.

As the empirical literature concerning empathy and aggression is mixed, an exploratory approach was taken to examining the relationship between LPFS-SR Empathy and aggression. No significant association was found between the LHA-S-A and Empathy. This is inconsistent with past literature that has found an association between empathy and aggression (Mitsopoulou & Giovazolias, 2015; Vachon et al., 2014). Contrastingly, Jolliffe and Farrington (2004) reported a small negative association between offending and empathy. However, given that the authors highlighted methodological flaws in one of the papers in their meta-analysis (neither intelligence nor socioeconomic status were controlled for – variables that are known to have an influence on effect size – resulting in effect sizes much stronger than the other papers included; Jolliffe & Farrington, 2004) the negative association between offending and empathy may have been inflated. Overall, further research into the empathy-aggression relationship appears warranted.

As hypothesised, and consistent with past research (Leclerc et al., 2021), the LPFS-SR total score was related to self-reported aggression. Although the lack of significant results on the Self-Functioning domain may be attributable to their low endorsement, when the four constructs are amalgamated into a total score, it makes a noteworthy contribution to the prediction of self-reported aggression. It was also hypothesised that because the PDQ-4 total score is a measure of overall personality disturbance that it would be related to aggression. Notably, the PDQ-4 total score did significantly predict aggression as measured by the LHA-S-A but not official police records.

To the authors knowledge, this is the first study that has explored relationships between the LPFS-SR and the PDQ-4 with aggression. Since both the LPFS-SR total score and the PDQ-4 total score are measures of overall personality disturbance, the present findings are consistent with previous research that has demonstrated that PD severity is a predictor of adverse outcomes,

such as aggression (Hopwood et al., 2011; Karukivi et al., 2017; Simonsen & Simonsen, 2014).

As such, further research into these relationships is warranted.

6.3.2 Criterion B and Aggression

Based on the previous literature examining the PID-5 and aggression, it was hypothesised that the facets of Hostility and Risk Taking would be significantly associated with past aggression, and thus acceptable predictors of LHA-S-A scores. In the present sample, 12 significant associations between the PID-5 facets and the LHA-S-A were identified. The facets of Hostility, Irresponsibility, Impulsivity, Deceitfulness and Risk Taking were chosen to be included into the hierarchical multiple regression as they were statistically associated with the LHA-S-A and are underpinned by strong empirical associations with aggression (Dowgwillo et al., 2016; Dunne et al., 2018; Martin et al., 2000; Miller & Lynam, 2001; Munro & Sellbom, 2020; Niemeyer et al., 2021; Sharpe & Desai, 2001). In the subsequent hierarchical multiple regression model, the PID-5 was able to explain a little over a quarter of the variance in self-reported levels of aggression. Whilst both the Hostility and Risk Taking facets were significantly correlated with LHA-S-A scores in the current sample, Hostility was the only facet from the PID-5 that significantly predicted self-reported aggression in the multi-variate analysis. This finding is consistent with the existing literature that demonstrates a relationship between Hostility and aggression (Dunne et al., 2018; Jones et al., 2011; Martin et al., 2000; Miller & Lynam, 2001; Munro & Sellbom, 2020; Sharpe & Desai, 2001). This is further supported by the high rates of antisocial PD present on the PID-5 and the PDQ-4, as well as the high prevalence of paranoid PD on the PDQ-4, given that both of these PDs are characterised by hostile attributions (American Psychiatric Association, 2013a; Esbec & Echeburúa, 2010).

The fact that the other four facets, including Risk Taking, did not uniquely predict

aggression in the multi-variate analysis is inconsistent with prior research (Derefinko et al., 2011; Dowgwillo et al., 2016; Dunne et al., 2018; Jones et al., 2011; Miller et al., 2003). This lack of statistical significance, despite weak to moderate effect sizes (Irresponsibility: $\rho = .28$; Impulsivity: $\rho = .30$; Deceitfulness: $\rho = .22$; and Risk Taking: $\rho = .23$) is likely due to the limited power in the analyses (small sample size; large degrees of freedom).

When binary regression analyses were run to explore the relationship between the PID-5 with the official police records, only the Distractibility facet was significantly able to distinguish between those who had a history of arrest for violent offending and those who did not. This is inconsistent with extant empirical literature. Two other disorders frequently seen in prisons, post-traumatic stress disorder and attention deficit -hyperactivity disorder, feature distractibility as a common trait (American Psychiatric Association, 2013a; Butler et al., 2006; Ginsberg et al., 2010; Morey et al., 2009; Sindicich et al., 2014). Furthermore, both of these conditions have been linked to aggression (Begić & Jokić-Begić, 2001; Connor et al., 2002; Gurnani et al., 2016; Olszewski & Varrasse, 2005). Accordingly, it is possible that the participants who endorsed the distractibility items may experience these disorders. However, this is purely speculative, and the nature of the distractibility-aggression relationship is still unclear. Given that many prior studies of prison populations, which will have also included participants with post-traumatic stress disorder and attention deficit - / hyperactivity disorder, have not seen these associations, further qualitative item-level discussion with participants who endorsed these items (e.g., “you answered yes to this item, does being distractible influence your behaviour/aggressive behaviour”) might help generate hypotheses about the nature of this relationship. Whilst this could not be facilitated in the present research, this is something that future studies may wish to include.

The PID-5 domains of Negative Affectivity and Disinhibition were, as hypothesised, significantly correlated with LHA-S-A scores, but neither uniquely predicted aggression. This is consistent with (Dunne et al., 2018) but inconsistent with Romero and Alonso (2019) who reported that Disinhibition was a good predictor of aggressive behaviours. In contrast to the initial hypothesis, there was no relationship between LHA-S-A scores and Antagonism, which is inconsistent with past research that has reported significant associations between Antagonism and self-reported aggression and aggressive behaviours (Dunne et al., 2021; Romero & Alonso, 2019). Antagonism was rarely endorsed and this is unusual given the strong antagonism-aggression relationship seen in FFM research (Jones et al., 2011; Miller & Lynam, 2001) and in Dunne et al.'s (2018) research. This raises the possibility that the sample was somewhat unique in either their history of aggression or responses to the PID-5.

6.4 Limitations

Whilst the present research was designed to limit methodological weaknesses in so far as possible, the confines of both scope and time and the disruption caused by COVID-19, have resulted in several limitations that need to be considered when interpreting the present findings. Firstly, the sample size was limited, which may have inhibited the data analysis through reduced power to detect significant results. Multiple factors resulted in this smaller than ideal sample size; in some prisons, flyers could only be placed in communal areas, such as the library. This may have limited the reach to potential participants by only having the advertisement seen by prisoners who were engaging with these areas, thus limiting the potential pool and possibly, only leading to the recruitment of certain types of prisoners; many participants who expressed an interest in participating refused when they realised that their official criminal history was going to be collected from Victoria Police. These potential participants voiced concerns that their

answers from the questionnaires would be provided to the police, despite reassurances that this was not the case. As such, this meant that many prisoners who were initially interested in participating ultimately chose not to. Furthermore, the COVID-19 pandemic had a significant impact on the data collection procedure as outlined in section 4.4.3 (COVID-19 Pandemic). These factors resulted in a sample size smaller than planned.

Secondly, the use of self-report measures in the present research presents a significant limitation. Regarding the assessment of PD diagnoses and traits, previous empirical research has supported the use of self-report measures (Clark & Harrison, 2001; Hopwood et al., 2008). However, this research has most often been conducted in clinical settings, and the PID-5 was designed to be used with treatment seeking clinical populations who are willing to describe themselves reliably on self-report measures (Krueger et al., 2013b). Although participants did volunteer in the present research, their participation does not necessarily indicate their willingness to be open. Consequently, there was potential for elevated levels of defensiveness and lowered levels of insight leading to biases in their responses. However, the use of the PDS and subsequent removal of participants with problematic scores, as well validity checking with the ‘too good’ and ‘suspect questionnaire’ scales in the PDQ-4, will have ideally reduced this bias.

Additionally, although the PDQ-4 was chosen as an efficient method of measuring Section II PDs it has a number of drawbacks. Given the binary format of the PDQ-4, where a single item is used to capture each symptom listed in the DSM-5. Accordingly, the reliability in the present sample was unacceptable to questionable for the individual diagnoses. Furthermore, given that the clinical significance scale could not be administered in the present sample, it is unclear what the correct PD rates were.

Furthermore, given the split in the literature regarding clinician rated versus self-report inventories, as well as questionnaires compared to diagnostically based interviews, the use of self-report questionnaires alone in the present research means that no evaluation between the two types of assessment approaches of the AMPD could be undertaken. Consequently, no comparison could be made to conclude if one is superior at capturing AMPD PDs than the other. Additionally, the use of self-report measures for all variables (except the official police records) for research aim one (the use of self-report without additional behavioural data or informant reports) may have falsely increased correlations between the LPFS-SR and PID-5 due to common method variance (for example, the significant overlap between LPFS-SR and the PID-5 may have been somewhat caused by the inflation of all correlations due to shared method variance; Campbell & Fiske, 1959). Accordingly, future research exploring the reliability and validity of the AMPD should do so using a variety of methods, such as both self-report (e.g., the LPFS-BF 2.0 and the DLOPFQ) and interview approaches (e.g., SCID-5-AMPD), and obtain data on aggression from multiple sources (e.g., self-report, informant report, police records, and transgressions in prison). This was not permitted by Corrections Victoria.

Thirdly, the present sample was comprised solely of adult male prisoners – as such the results may not generalise to females, other offender samples (e.g., inpatient or community), or adolescents. Additionally, the data was collected exclusively from prisons in Victoria, Australia. As such, whilst the findings may apply to other Australian prison populations, further research into the use of the novel measures will need to be undertaken in other national and overseas locations.

Lastly, the cross-sectional design of the present study means that it was not possible to draw conclusions about the direction of the relationships between PDs and aggression. Future

research may benefit from the use of longitudinal, repeated assessments of the LPFS-SR and the PID-5 (as well as other AMPD measures) to confirm the stability of personality dysfunction and PD traits over time and the relationship between features of PD and aggression.

6.5 Implications

Despite the limitations of this project, the present research findings highlight a number of noteworthy research and practice implications.

6.5.1 Research and Theoretical Implications

As the AMPD is located within the Emerging Measures and Models section of the DSM-5, it has received much interest from researchers, with a particular focus on Criterion B. Given that congruence and replication is crucial to the validation of any new model or measure (Makel et al., 2012), there are a number of encouraging consistencies within the present research. The predictive power of Hostility in regard to LHA-S-A scores (Dunne et al., 2018; Munro & Sellbom, 2020), and the association of the PID-5 domains of Negative Affectivity and Disinhibition with LHA-S-A scores (Dowgwillo et al., 2016; Dunne et al., 2018; Leclerc et al., 2021) indicate that the PID-5 is valid within prison settings. However, the inconsistencies of the present study with past research also have relevant research implications. The low rate of narcissistic PD within the present sample, as measured by the AMPD novel measures suggests that the AMPD conceptualisation of this PD, at least within prisoner populations, may be problematic. Consequently, researchers and clinicians need to be wary of using the AMPD narcissistic PD diagnosis. Inconsistent with past research, the PID-5 Antagonism domain was unrelated to aggression in this study (Dunne et al., 2021; Romero & Alonso, 2019). As the facets that make up the Antagonism domain have a well-documented relationship to aggression, it is

likely that the non-significant finding reflects peculiarities in the current sample or the context in which they were completing the questionnaires. As such, additional research is required to examine whether the present results are anomalous. Similarly, the Distractibility facet being related to aggression was inconsistent with past research (Dowgwillo et al., 2016; Dunne et al., 2018; Munro & Sellbom, 2020). Given that post-traumatic stress disorder and attention deficit - / hyperactivity disorder – also feature distractibility as a common trait, are frequently seen in prisons, and have both been linked to aggression, further exploration of the distractibility-aggression relationship is required particularly amongst a cohort who have these mental health problems.

Furthermore, the overlap between the LPFS-SR and the PID-5, which is consistent with past research (Calabrese & Simms, 2014; Clark & Ro, 2014; Hentschel & Pukrop, 2014), calls into question the separation of personality functioning from pathological traits. As seen by the much higher number of participants who received a PD diagnosis when using the PID-5 without the LPFS-SR, the present findings are consistent with the suggestion that maladaptive traits may accurately capture dysfunction (Sleep et al., 2018). However, the LPFS-SR total score was an acceptable predictor of aggression which is consistent with past research that PD severity is a predictor of adverse outcomes, including aggression (Hopwood et al., 2011; Karukivi et al., 2017; Simonsen & Simonsen, 2014). Altogether, it appears that Criterion A of the AMPD could focus on the overall degree of personality dysfunction when making a diagnosis. The assessment of Criterion A could then be used to assist in treatment planning, as previous research has demonstrated that severity of personality impairment is useful for treatment planning and intensity, psychological formulation, choice of therapeutic modality, and prognosis (Krueger et al., 2014; Morey et al., 2013; Simonsen & Simonsen, 2014; Skodol et al., 2015). Furthermore, once a diagnosis has been made, exploration of the four constructs could ensure targeted

interventions for those constructs that are elevated. Additionally, the overall level of personality functioning could be used in aggression risk management, as the present results demonstrated that overall personality dysfunction was related to self-reported aggression. If this happens the LPFS-SR total score could be used as a measure of overall personality dysfunction. Such a change would bring the AMPD more in line with the personality dysfunction conceptualisation in the ICD-11, which requires clinicians to determine whether a PD is present or not and then evaluate its severity (ranging from mild to severe), with unspecified PD severity as a residual category (Tyrer et al., 2015; World Health Organization, 2019). However, as it is unclear whether the LPFS-SR adequately measured severity of personality impairment in the current sample, further research is needed to determine if the LPFS-SR can be used as an acceptable measure of overall degree of personality dysfunction. This further research could also evaluate other LPFS self-report measures, such as the DLOPFQ and the LPFS-BF 2.0.

The present research aligned with previous studies exploring differing scoring methods for the PID-5 (Samuel et al., 2013). The sum method for the PID-5 was more strongly aligned with the PDQ-4 than the count method. Although the sum method gives an overall score to reach a diagnosis, but not information about which traits have high and low scores, this can be overcome by a thorough examination of the profile by a treating clinician. However, it does not confer a PD-TS diagnosis, which is a key benefit of the AMPD. Furthermore, although the count method can bestow a PD-TS diagnosis, it most strongly aligns with the Section II categorical model (i.e., using thresholds). Given the well documented disadvantages to the categorical approach, it calls into question whether such a method should be employed within the AMPD. This is furthered by the fact that no participant in the current sample received a diagnosis of antisocial PD using the count method, despite doing so using the sum method, the PDQ-4, and being well documented as one of the most prevalent PDs in forensic settings. Altogether it

appears that the sum method provides a greater number of diagnoses, whilst the count method can confer a PD-TS diagnosis. Consequently, further research is required to determine which method provides the most valid, reliable and clinically helpful AMPD diagnoses, or if PD-TS should be the sole diagnosis within the AMPD, as suggested by Clark et al. (2015), before being adapted into psychological and psychiatric practice.

In order to further PD-aggression research, aspects of the AMPD could be incorporated into evidence based models of aggression. One example would be the general aggression model (GAM; Anderson & Bushman, 2002), which acknowledges the importance of personality but is limited by social-cognitive language. The role of personality in aggression is not clearly outlined within the GAM, as it constructs personality as a collection of scripts and schemas, which some have argued does little to illuminate the role of personality in aggression (Ferguson & Dyck, 2012). However, as the GAM is one of the only aggression models to make explicit reference to personality, this may allow for Criterion B traits to be integrated into the GAM to better understand the role they play in an individual's propensity for violence (Dunne, 2017). At present, there is not enough empirical evidence to support the integration of Criterion A into the GAM. Overall, incorporating Criterion B traits would bring the GAM up to date with contemporary conceptualisations and language of PDs, align the GAM and the DSM, and make the GAM more clinically relevant.

6.5.2 Practice Implications

The current study had two notable research questions: to explore the LPFS-SR within a prison setting and test its predictive power in relation to aggression. Although the LPFS-SR did predict LHA-S-A scores, it appears to be insufficient for assessing Criterion A within a prisoner population. As the present research did not employ any other measure of Criterion A, it could not

be tested whether the issues lies within the LPFS-SR itself, the four Criterion A constructs, or the inherent difficulties in measuring the complexities of personality and identity (Borghans et al., 2011). Additional relevant information could possibly be gathered from observational or interview measures (e.g., SCID-5 AMPD Module I), such as participants interpersonal style, that could not be collected via self- report. Whilst investigating these multiple confounding factors was beyond the scope of the present research and cannot be answered without a larger investigation, prior research has demonstrated the convergent validity of the AMPD level of personality functioning and the LPFS-SR with DSM-IV PD categories (Hopwood et al., 2018; Morey & Skodol, 2013; Sleep et al., 2019; Sleep et al., 2020). As such, it appears that the LPFS-SR does not adequately capture personality functioning in prison settings (or with certain individuals in prison settings) and it may benefit from review and revision before it can be adopted into psychological practice in that context. Conversely, the PID-5 demonstrated good abilities to assess for pathological traits within a male Australian prisoner sample. As such, greater integration of this tool into forensic settings is warranted; clinicians could move from using traditional categorical measures (e.g., the Coolidge Axis-Two Inventory or the IPDE) to the PID-5.

Within psycho-legal settings psychopathology is frequently used to inform criminal responsibility, fitness to stand trial, offender management, and risk assessments (Melton et al., 2017). Recently, the Victorian Supreme Court of Appeal case – *Brown v The Queen* (2020) VSCA 212 – overturned an earlier decision (*DPP v O'Neill* [2015] 47 VR 395) which had excluded PDs from being considered when a court was assessing the culpability of the accused. In the case of *Brown v The Queen* the court noted that the accused's PD would need to be severe enough to profoundly affect their cognitive capacity and behaviour to be relevant to sentencing, and that this severity is of more importance than the categorical diagnosis. Notably, the expert

witness in the case employed the dimensional model of PDs in ICD-11, in which there is a single dimension of severity for all personality dysfunction and assessment of prominent maladaptive personality traits (World Health Organization, 2019). Consequently, as the emphasis is placed on severity of impairment rather than categorical diagnoses, the AMPD could be employed within psycho-legal contexts where the impact of PD is being considered. However, given the aforementioned issues of the LPFS-SR, and Criterion A itself, clinicians working in legal settings and psycho-legal decision makers may currently be best served by utilising elevated Criterion B facets, wherein a mean score of 2 or more indicates clinical elevation, or by focussing on the LPFS-SR total scale to assess severity of PD. If, as suggested above, Criterion A is revised to an overall degree of personality dysfunction, it could then also assist with forensic outcomes. The most desirable outcome would seem to be a model that communicates the severity of an individual's dysfunction, whilst also indicating specific trait manifestations.

Previous empirical evidence demonstrates that Hostility and Impulsivity have been linked with a range of aggressive behaviours, such as assaults by patients (Maiuro et al., 1989), violent recidivism (Craig et al., 2004; Niemeyer et al., 2021), and general violence (Allen & Anderson, 2017). As the present sample revealed high levels of these facets (see Table 11), it appears pertinent that both Hostility and Impulsivity should be assessed in prisoners who are at risk of aggression. Furthermore, many structured risk assessment tools, such as the Historical Clinical Risk Management-20, Version 3 (Douglas et al., 2013), include presence of a PD as a significant risk factor. However, the present results suggest that comprehensive assessment of Criterion A (as a measure of overall personality dysfunction) and Criterion B, rather than just the presence of a PD diagnosis, may prove useful in these tools. Given the extremely variable manifestation of PDs, assessing for traits that have empirically been linked to aggression, such as Hostility, may produce better outcomes.

6.6 Future Research

In addition to the areas of potential future research already mentioned above, this study has brought several other avenues to light. Firstly, given that PD research needs an agreed model and framework to correctly guide the collection and interpretation of empirical findings (Livesley, 2018), further exploration of dimensional models is of the utmost importance. As the current study has focused entirely on the DSM-5 AMPD, future research could further explore the ICD Dimensional Model, both in relation to its utility and validity in Australian forensic settings as a diagnostic tool, but also its predictive power in relation to aggression. Furthermore, a comparison of the AMPD and the ICD is important, to see whether there is consistency with diagnoses identified by using the two approaches and their associated measurement instruments.

Secondly, future studies should investigate whether retaining the six PD diagnoses currently in the AMPD or if moving to an entirely trait-based system would be more beneficial to researchers, patients and practitioners. Without valid and reliable diagnostic models, researchers and clinicians cannot develop and offer evidence-based treatments in prison settings. Additionally, this can also impact on custodial decisions. For example, concerning decisions being made by paroling authorities, if someone is incorrectly diagnosed with a PD and then kept in prison or if someone receives a false negative PD diagnosis on a risk assessment tool and they are then released into the community because they are designated lower risk than they truly are, then this is problematic. This task itself opens up questions of phenomenology, clinical utility, and simplicity of understanding for patients of potential new models. As outlined in the Literature Review, PDs have a complex past, with many differing points of view adding to their conceptualisation. Furthermore, the AMPD has been criticised as being overly complex, thereby threatening user acceptability, accuracy, inter-rater reliability, validity, and utility (Verheul,

2012). However, difficulties of topics should not deter future researchers from attempting to find a model that best helps individuals with PD.

Thirdly, the LPFS is consistent with previous PD conceptualisations, has shown acceptable psychometric properties, and has filled the gap of a measure of impairment severity, which had previously been lacking in the DSM (Bender et al., 2011; Hopwood et al., 2011). However, in the present sample the LPFS-SR identified far fewer participants than expected. Accordingly, future research should look to design a self-report LPFS measure that accurately measures level of personality functioning in prisoners.

Lastly, as this is one of the first studies to explore the links between the LPFS-SR and aggression, it cannot be conclusively claimed that there is no relationship between these Criterion A constructs and aggression, despite the present results finding no significant link. Contrastingly, the LPFS-SR total score was found to predict LHA-S-A scores. Given the low power in the present research, future investigations may wish to further explore the LPFS-SR-aggression relationship to confirm or repudiate the present findings.

6.7 Conclusions

The AMPD purportedly overcomes many of the limitations of the categorical approach to PD diagnosis by conceptualising PDs in terms of dimensional impairments in self and interpersonal functioning (Criterion A) and maladaptive PD trait domains and facets (Criterion B). This thesis sought to investigate the internal consistency, and the convergent, discriminant and criterion validity of two self-report AMPD measures. Although the present research did not find support for the use of the LPFS-SR within a prison population, beyond total scores being related to aggression, the PID-5 did appear to accurately assess pathological personality traits

within this cohort. This thesis also explored the prevalence rates of PD within the present prisoner sample. Results suggested that PD prevalence differed between the measures employed (novel versus categorical), and between scoring methods used for the PID-5 (sum method versus count method). The present findings have a number of implications for future research. First, empirical investigation is required to determine if the AMPD is best served by inclusion of the four level of personality functioning constructs or a general factor of impairment in personality functioning. Second, the low rate of narcissistic PD within the present sample suggests that researchers and clinicians need to be wary of using the narcissistic PD diagnosis until further research can examine and potentially make changes to its AMPD conceptualisation. Third, further investigation into the scoring of the PID-5 and retention of the six categorical diagnoses is required. There are also a number of findings that have implications for psychological practice. Most importantly, greater integration of the PID-5 into forensic practice is supported, both to assist in the identification of PD, to help risk assessment and treatment planning. Consideration of Criterion A dimensions and total impairment may also be useful for practitioners who wish to consider the extent/severity of impairment. However, the present results suggest that the use of Criterion A for diagnostic purposes may result in an under-identification of PD, so caution is recommended when considering the use of the LPFS-SR alone when determining whether PD is present. The addition of clinical interviews, whether they are structured and formal or not, may improve assessment of Criterion A, and diagnosis of PD.

Within the scientific literature there is an established relationship between PDs and aggression, as well as evidence that the relationship between pathological PD traits and aggression may yield more useful results than categorical PD conceptualisations. As such, the second research aim of this thesis sought to explore the relationship between AMPD personality functioning, maladaptive personality trait domains and facets, and participant's histories of

aggression. Results suggested that the PID-5 Hostility facet significantly predicted LHA-S-A scores, whilst the PID-5 Distractibility facet significantly predicted the presence of violence in official police records; a finding which may require future study. The present research is the first to explore the relationship between the LPFS-SR with either self-reported aggression or official police records. The hypotheses that LPFS-SR Identity, Self-Direction, and Intimacy would predict aggression were not met. Furthermore, there was no relationship between LPFS-SR Empathy and aggression. However, the hypothesis that the LPFS-SR total score would be related to self-reported aggression was supported. The present findings have a number of implications for future research. First, the significant relationship between LPFS-SR total score and aggression, is cause for further research. Second, the PID-5 Antagonism domain being unrelated to aggression was inconsistent with past research (Dunne et al., 2018; Romero & Alonso, 2019), whilst the Disinhibition domain being related to aggression was an anomalous finding. Both require further research. Lastly, Criterion B could be incorporated into evidence based models of aggression, such as the GAM. There are also a number of findings that have implications for psychological practice. Firstly, clinicians working in legal settings would likely be best served by assessing for Criterion B to give an overview of current and future dysfunction, as well as pathological personality traits. Furthermore, risk assessment tools, such as the Historical Clinical Risk Management-20, Version 3, that assess for PD more generally, could consider assessing for those particular features of PD that are associated with aggression, such as Hostility.

As a final summation, the findings of the present thesis suggest that the AMPD, and related measures, hold some validity, reliability, and clinical utility in the on-going conceptualisation of PDs, but require continued research and refinement in order to produce a model that communicates the severity of an individual's dysfunction, that also indicates their particular trait manifestations, and accurately guides prognosis and treatment.

References

- Abdin, E., Koh, K. G., Subramaniam, M., Guo, M.-E., Leo, T., Teo, C., Tan, E. E., & Chong, S. A. (2011). Validity of the Personality Diagnostic Questionnaire—4 (PDQ-4+) among

- mentally ill prison inmates in Singapore. *Journal of Personality Disorders*, 25(6), 834-841. <https://doi.org/https://doi.org/10.1521/pedi.2011.25.6.834>
- Abraham, K. (2018). *Selected Papers on Psychoanalysis*. Routledge.
<https://doi.org/https://doi.org/10.4324/9780429479854>
- Adhiatma, W., & Halim, M. S. (2016). Personality Profile Differences Between Prisoners and Non-Prisoners Using the Personality Inventory for DSM-5 (PID-5). *ANIMA Indonesian Psychological Journal*, 31(2), 91-99.
- Al-Dajani, N., Gralnick, T. M., & Bagby, R. M. (2016). A psychometric review of the Personality Inventory for DSM–5 (PID–5): Current status and future directions. *Journal of Personality Assessment*, 98(1), 62-81.
<https://doi.org/http://dx.doi.org/10.1080/00223891.2015.1107572>
- Albrecht, F. M. (1970). A reappraisal of faculty psychology. *Journal of the History of the Behavioral Sciences*, 6(1), 36-40. [https://doi.org/https://doi.org/10.1002/1520-6696\(197001\)6:1%3C36::aid-jhbs2300060105%3E3.0.co;2-n](https://doi.org/https://doi.org/10.1002/1520-6696(197001)6:1%3C36::aid-jhbs2300060105%3E3.0.co;2-n)
- Allen, J. J., & Anderson, C. A. (2017). General aggression model. In P. Roessler, C. A. Hoffner, & L. v. Zoonen (Eds.), *The international encyclopedia of media effects* (pp. 1-15). Wiley-Blackwell. <https://doi.org/https://10.1002/9781118783764.wbieme0078>
- American Psychiatric Association. (1952). *Diagnostic and statistical manual for mental disorders* (1st ed.). American Psychiatric Association, Washington.
- American Psychiatric Association. (1968). *Diagnostic and statistical manual of mental disorders* (2nd ed.). American Psychiatric Publishing.
- American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (3rd ed.). American Psychiatric Publishing.

- American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders* (3rd, rev ed.). American Psychiatric Publishing.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th, Text Revision ed.). American Psychiatric Publishing.
- American Psychiatric Association. (2013a). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Publishing.
<https://doi.org/https://doi.org/10.1176/appi.books.9780890425596>
- American Psychiatric Association. (2013b). *Highlights of changes from DSM-IV-TR to DSM-5*
<https://doi.org/https://doi.org/10.1176/appi.books.9780890425596.changes>
- Anderson, C. A., & Bushman, B. J. (2002). Human aggression. *Annual Review of Psychology*, 53, 27-51. <https://doi.org/https://doi.org/10.1146/annurev.psych.53.100901.135231>
- Anderson, J., Snider, S., Sellbom, M., Krueger, R., & Hopwood, C. (2014). A comparison of the DSM-5 Section II and Section III personality disorder structures. *Psychiatry Research*, 216(3), 363-372. <https://doi.org/https://doi.org/10.1016/j.psychres.2014.01.007>
- Anderson, J. L., Sellbom, M., Bagby, R. M., Quilty, L. C., Veltri, C. O., Markon, K. E., & Krueger, R. F. (2013). On the convergence between PSY-5 domains and PID-5 domains and facets: Implications for assessment of DSM-5 personality traits. *Assessment*, 20(3), 286-294. <https://doi.org/https://doi.org/10.1177/1073191112471141>
- Anderson, J. L., Sellbom, M., & Salekin, R. T. (2018). Utility of the Personality Inventory for DSM-5–Brief Form (PID-5-BF) in the measurement of maladaptive personality and psychopathology. *Assessment*, 25(5), 596-607. <https://doi.org/https://doi-org.ezproxy.lib.swin.edu.au/10.1177%2F1073191116676889>
- Andrews, G., Henderson, S., & Hall, W. (2001). Prevalence, comorbidity, disability and service utilisation: overview of the Australian National Mental Health Survey. *The British*

Journal of Psychiatry, 178(2), 145-153.

<https://doi.org/https://doi.org/10.1192/bjp.178.2.145>

Ardolf, B. R., Denney, R. L., & Houston, C. M. (2007). Base rates of negative response bias and malingered neurocognitive dysfunction among criminal defendants referred for neuropsychological evaluation. *The Clinical Neuropsychologist*, 21(6), 899-916.

<https://doi.org/https://doi.org/10.1080/13825580600966391>

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55(5), 469-480.

<https://doi.org/https://doi.org/10.1037/0003-066x.55.5.469>

Australian Bureau of Statistics. (2008). *Australian Standard Offence Classification (Second Edition)*

<https://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/98B6005C8EB5F1B7CA2578A200143106?opendocument>

Bach, B., & Hutsebaut, J. (2018). Level of Personality Functioning Scale–Brief Form 2.0: Utility in Capturing Personality Problems in Psychiatric Outpatients and Incarcerated Addicts. *Journal of Personality Assessment*, 100(6), 1-11.

<https://doi.org/https://doi.org/10.1080/00223891.2018.1428984>

Bach, B., Markon, K., Simonsen, E., & Krueger, R. F. (2015). Clinical utility of the DSM-5 alternative model of personality disorders: Six cases from practice. *Journal of Psychiatric Practice*, 21(1), 3-25. <https://doi.org/https://doi.org/10.1097/01.pra.0000460618.02805.ef>

Bagby, R. M., Quilty, L. C., Segal, Z. V., McBride, C. C., Kennedy, S. H., & Costa Jr, P. T. (2008). Personality and differential treatment response in major depression: a randomized controlled trial comparing cognitive-behavioural therapy and pharmacotherapy. *The*

Canadian Journal of Psychiatry, 53(6), 361-370.

<https://doi.org/https://doi.org/10.1177/070674370805300605>

- Bagby, R. M., & Sellbom, M. (2018). The Validity and Clinical Utility of the Personality Inventory for DSM–5 Response Inconsistency Scale. *Journal of Personality Assessment*, 100(4), 1-8. <https://doi.org/https://doi.org/10.1080/00223891.2017.1420659>
- Bailey, J., & Macculloch, M. (1992). Patterns of reconviction in patients discharged directly to the community from a special hospital: implications for aftercare. *Journal of Forensic Psychiatry*, 3(3), 445-461. <https://doi.org/https://doi.org/10.1080/09585189208409021>
- Beck, A. T., & Beck, J. S. (1991). *The Personality Belief Questionnaire*. Unpublished assessment instrument. The Beck Institute for Cognitive Therapy and Research.
- Beck, J. S. (1995). *Cognitive therapy: Basics and beyond*. Guilford Press.
- Beer, J. S., & Ochsner, K. N. (2006). Social cognition: a multi level analysis. *Brain Research*, 1079(1), 98-105. <https://doi.org/https://doi.org/10.1016/j.brainres.2006.01.002>
- Begić, D., & Jokić-Begić, N. (2001). Aggressive behavior in combat veterans with post-traumatic stress disorder. *Military Medicine*, 166(8), 671-676. <https://doi.org/https://doi.org/10.1093/milmed/166.8.671>
- Ben-Porath, Y. S., & Tellegen, A. (2008). *MMPI-2-RF: Manual for administration, scoring and interpretation*. University of Minnesota Press.
- Bender, D. S., Dolan, R. T., Skodol, A. E., Sanislow, C. A., Dyck, I. R., McGlashan, T. H., Shea, M. T., Zanarini, M. C., Oldham, J. M., & Gunderson, J. G. (2001). Treatment utilization by patients with personality disorders. *American Journal of Psychiatry*, 158(2), 295-302. <https://doi.org/https://doi.org/10.1176/appi.ajp.158.2.295>
- Bender, D. S., Morey, L. C., & Skodol, A. E. (2011). Toward a model for assessing level of personality functioning in DSM–5, part I: A review of theory and methods. *Journal of*

Personality Assessment, 93(4), 332-346.

<https://doi.org/https://doi.org/10.1080/00223891.2011.583808>

Bender, D. S., Skodol, A. E., First, M. B., & Oldham, J. M. (2018). Module I: Structured Clinical Interview for the Level of Personality Functioning Scale. In M. B. First, A. E. Skodol, D. S. Bender, & J. M. Oldham (Eds.), *Structured Clinical Interview for the DSM-5 Alternative Model for Personality Disorders (SCID-AMPD)*. American Psychiatric Association Publishing.

Benish-Weisman, M. (2019). What can we learn about aggression from what adolescents consider important in life? The contribution of values theory to aggression research. *Child Development Perspectives*, 13(4), 260-266.

<https://doi.org/https://doi.org/10.1111/cdep.12344>

Berkowitz, L. (1993). *Aggression: Its causes, consequences, and control*. McGraw-Hill.

Berman, L. (1922). *The glands regulating personality: a study of the glands of internal secretion in relation to the types of human nature*. Macmillan.

Berman, M. E., Fallon, A. E., & Coccaro, E. F. (1998). The relationship between personality psychopathology and aggressive behavior in research volunteers. *Journal of Abnormal Psychology*, 107(4), 651-658. <https://doi.org/https://doi.org/10.1037/0021-843x.107.4.651>

Bernstein, D. P., Kasapis, C., Bergman, A., Weld, E., Mitropoulou, V., Horvath, T., Klar, H. M., Silverman, J., & Siever, L. J. (1997). Assessing Axis II disorders by informant interview. *Journal of Personality Disorders*, 11(2), 158-167.

<https://doi.org/https://doi.org/10.1521/pedi.1997.11.2.158>

- Bernstein, R. F. (1998). Reconceptualizing personality disorder diagnosis in the DSM-V: the discriminant validity challenge. *Clinical Psychology: Science and Practice*, 5(3), 333-343. <https://doi.org/https://doi.org/10.1111/j.1468-2850.1998.tb00153.x>
- Berrios, G. E. (1984). Descriptive psychopathology: conceptual and historical aspects. *Psychological Medicine*, 14(2), 303-313.
<https://doi.org/https://doi.org/10.1017/s0033291700003573>
- Berrios, G. E. (1988). Historical background to abnormal psychology. In E. Miller & J. Cooper (Eds.), *Adult abnormal psychology* (pp. 26-51). Churchill Livingstone.
- Berrios, G. E. (1993). European views on personality disorders: a conceptual history. *Comprehensive Psychiatry*, 34(1), 14-30. [https://doi.org/https://doi.org/10.1016/0010-440x\(93\)90031-x](https://doi.org/https://doi.org/10.1016/0010-440x(93)90031-x)
- Birmingham, L., Mason, D., & Grubin, D. (1996). Prevalence of mental disorder in remand prisoners: consecutive case study. *BMJ*, 313(7071), 1521-1524.
<https://doi.org/https://doi.org/10.1136/bmj.313.7071.1521>
- Black, D. W., Gunter, T., Allen, J., Blum, N., Arndt, S., Wenman, G., & Sieleni, B. (2007). Borderline personality disorder in male and female offenders newly committed to prison. *Comprehensive Psychiatry*, 48(5), 400-405.
<https://doi.org/https://doi.org/10.1016/j.comppsy.2007.04.006>
- Black, D. W., Gunter, T., Loveless, P., Allen, J., & Sieleni, B. (2010). Antisocial personality disorder in incarcerated offenders: Psychiatric comorbidity and quality of life. *Annals of Clinical Psychiatry*, 22(2), 113-120.
- Blackburn, R., & Coid, J. W. (1998). Psychopathy and the dimensions of personality disorder in violent offenders. *Personality and Individual Differences*, 25(1), 129-145.
[https://doi.org/https://doi.org/10.1016/s0191-8869\(98\)00027-0](https://doi.org/https://doi.org/10.1016/s0191-8869(98)00027-0)

- Blackburn, R., & Coid, J. W. (1999). Empirical clusters of DSM-III personality disorders in violent offenders. *Journal of Personality Disorders*, 13(1), 18-34.
<https://doi.org/https://doi.org/10.1521/pedi.1999.13.1.18>
- Blair, R. J. R. (1995). A cognitive developmental approach to morality: Investigating the psychopath. *Cognition*, 57(1), 1-29. [https://doi.org/https://doi.org/10.1016/0010-0277\(95\)00676-p](https://doi.org/https://doi.org/10.1016/0010-0277(95)00676-p)
- Blashfield, R. K. (1984). *The classification of psychopathology*. Plenum Press.
- Blashfield, R. K., Keeley, J. W., Flanagan, E. H., & Miles, S. R. (2014). The Cycle of Classification: DSM-I Through DSM-5. *Annual Review of Clinical Psychology*, 10, 25-51. <https://doi.org/10.1146/annurev-clinpsy-032813-153639>
- Blatt, S. J., Auerbach, J. S., & Levy, K. N. (1997). Mental representations in personality development, psychopathology, and the therapeutic process. *Review of General Psychology*, 1(4), 351-374. <https://doi.org/https://doi.org/10.1037/1089-2680.1.4.351>
- Bolton, D. (2008). *What is mental disorder?: An essay in philosophy, science, and values*. Oxford University Press. <https://doi.org/doi:10.1093/med/9780198565925.001.0001>
- Borghans, L., Golsteyn, B. H., Heckman, J., & Humphries, J. E. (2011). Identification problems in personality psychology. *Personality and Individual Differences*, 51(3), 315-320.
<https://doi.org/https://doi.org/10.26481/umamet.2011025>
- Boring, E. G. (1961). The beginning and growth of measurement in psychology. *Isis*, 52(2), 238-257. <https://doi.org/https://doi.org/10.1086/349471>
- Bouvard, M., Vuachet, M., & Marchand, C. (2011). Examination of the screening properties of the Personality Diagnostic Questionnaire-4+(PDQ-4+) in a non-clinical sample. *Clinical Neuropsychiatry*, 8(2), 151-159.

- Boyle, M. H. (1998). Guidelines for evaluating prevalence studies. *Evidence-Based Mental Health*, 1(2), 37-39. <https://doi.org/https://doi.org/10.1136/ebmh.1.2.37>
- Brinded, P. M., Mulder, R. T., Stevens, I., Fairley, N., & Malcolm, F. (1999). The Christchurch prisons psychiatric epidemiology study: Personality disorders assessment in a prison population. *Criminal Behaviour and Mental Health*, 9(2), 144-155.
<https://doi.org/https://doi.org/10.1002/cbm.302>
- Brown, G. L., Goodwin, F. K., Ballenger, J. C., Goyer, P. F., & Major, L. F. (1979). Aggression in humans correlates with cerebrospinal fluid amine metabolites. *Psychiatry research*, 1(2), 131-139.
- Brown, T. A., & Barlow, D. H. (2009). A proposal for a dimensional classification system based on the shared features of the DSM-IV anxiety and mood disorders: implications for assessment and treatment. *Psychological Assessment*, 21(3), 256-271.
<https://doi.org/https://doi.org/10.1037/a0016608>
- Brown, T. A., Campbell, L. A., Lehman, C. L., Grisham, J. R., & Mancill, R. B. (2001). Current and lifetime comorbidity of the DSM-IV anxiety and mood disorders in a large clinical sample. *Journal of Abnormal Psychology*, 110(4), 585-599.
<https://doi.org/https://doi.org/10.1037/0021-843x.110.4.585>
- Buer Christensen, T., Paap, M. C., Arnesen, M., Koritzinsky, K., Nysaeter, T.-E., Eikenaes, I., Germans Selvik, S., Walther, K., Torgersen, S., & Bender, D. S. (2018). Interrater reliability of the structured clinical interview for the DSM–5 alternative model of personality disorders module I: level of personality functioning scale. *Journal of Personality Assessment*, 100(6), 630-641.
<https://doi.org/https://doi.org/10.1080/00223891.2018.1483377>

- Bushman, B. J. (2002). Does venting anger feed or extinguish the flame? Catharsis, rumination, distraction, anger, and aggressive responding. *Personality and Social Psychology Bulletin*, 28(6), 724-731. <https://doi.org/https://doi.org/10.1177/0146167202289002>
- Bushman, B. J., Bonacci, A. M., Pedersen, W. C., Vasquez, E. A., & Miller, N. (2005). Chewing on it can chew you up: effects of rumination on triggered displaced aggression. *Journal of Personality and Social Psychology*, 88(6), 969-983. <https://doi.org/https://doi.org/10.1037/0022-3514.88.6.969>
- Buss, A. H., & Perry, M. (1992). The aggression questionnaire. *Journal of Personality and Social Psychology*, 63(3), 452-459. <https://doi.org/https://doi.org/10.1037/0022-3514.63.3.452>
- Butler, T., & Allnutt, S. (2003). *Mental illness among New South Wales prisoners*. Corrections Health Service Sydney, NSW.
- Butler, T., Andrews, G., Allnutt, S., Sakashita, C., Smith, N. E., & Basson, J. (2006). Mental disorders in Australian prisoners: a comparison with a community sample. *Australian and New Zealand Journal of Psychiatry*, 40(3), 272-276. <https://doi.org/https://doi.org/10.1080/j.1440-1614.2006.01785.x>
- Bynum, W. F. (1984). Alcoholism and degeneration in 19th century European medicine and psychiatry. *British Journal of Addiction*, 79(1), 59-70. <https://doi.org/https://doi.org/10.1111/j.1360-0443.1984.tb03841.x>
- Calabrese, W. R., & Simms, L. J. (2014). Prediction of daily ratings of psychosocial functioning: Can ratings of personality disorder traits and functioning be distinguished? *Personality Disorders: Theory, Research, and Treatment*, 5(3), 314-322. <https://doi.org/https://doi.org/10.1037/per0000071>

- Calvo, N., Gutiérrez, F., & Casas, M. (2013). Diagnostic agreement between the personality diagnostic questionnaire-4+(PDQ-4+) and its clinical significance scale. *Psicothema*, 25(4), 427-432. <https://doi.org/https://doi.org/10.7334/psicothema2013.59>.
- Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56(2), 81-105. <https://doi.org/https://doi.org/10.1037/h0046016>
- Carey, K. B. (1994). Use of the Structured Clinical Interview for DSM-III-R Personality Questionnaire in the presence of severe Axis 1 disorders: A cautionary note. *Journal of Nervous and Mental Disease*, 182(11), 669-671. <https://doi.org/https://doi.org/10.1097/00005053-199411000-00014>
- Carlo, G., Mestre, M. V., McGinley, M. M., Tur-Porcar, A., Samper, P., & Opal, D. (2014). The protective role of prosocial behaviors on antisocial behaviors: The mediating effects of deviant peer affiliation. *Journal of Adolescence*, 37(4), 359-366. <https://doi.org/https://doi.org/10.1016/j.adolescence.2014.02.009>
- Clark, L. A. (2007). Assessment and diagnosis of personality disorder: Perennial issues and an emerging reconceptualization. *Annual Review of Psychology*, 58, 227-257. <https://doi.org/https://doi.org/10.1146/annurev.psych.57.102904.190200>
- Clark, L. A., & Harrison, J. A. (2001). Assessment instruments. In W. J. Livesley (Ed.), *Handbook of personality disorders: theory, research, and treatment* (pp. 277-306). Guilford Press. <https://ebookcentral.proquest.com/lib/swin/reader.action?docID=330567&ppg=301>
- Clark, L. A., Livesley, W. J., & Morey, L. (1997). Personality disorder assessment: The challenge of construct validity. *Journal of Personality Disorders*, 11(3), 205-231. <https://doi.org/https://doi.org/10.1521/pedi.1997.11.3.205>

- Clark, L. A., & Ro, E. (2014). Three-pronged assessment and diagnosis of personality disorder and its consequences: Personality functioning, pathological traits, and psychosocial disability. *Personality Disorders: Theory, Research, and Treatment*, 5(1), 55-69.
<https://doi.org/https://doi.org/10.1037/per0000063>
- Clark, L. A., Simms, L., Wu, K., & Casillas, A. (1993). *Schedule for Nonadaptive And Adaptive Personality (SNAP). Manual for Administration, Scoring, and Interpretation*. University of Minnesota Press.
- Clark, L. A., Vanderbleek, E. N., Shapiro, J. L., Nuzum, H., Allen, X., Daly, E., Kingsbury, T. J., Oiler, M., & Ro, E. (2015). The brave new world of personality disorder-trait specified: Effects of additional definitions on coverage, prevalence, and comorbidity. *Psychopathology review*, 2(1), 52-82. <https://doi.org/https://doi.org/10.5127/pr.036314>
- Cloninger, C. (1987). *The Tridimensional Personality Questionnaire, Version IV*. . Washington University School of Medicine.
- Clower, C. E., & Bothwell, R. K. (2001). An exploratory study of the relationship between the Big Five and inmate recidivism. *Journal of Research in Personality*, 35(2), 231-237.
<https://doi.org/https://doi.org/10.1006/jrpe.2000.2312>
- Côté, J. E., & Levine, C. (1988). A critical examination of the ego identity status paradigm. *Developmental Review*, 8(2), 147-184. [https://doi.org/https://doi.org/10.1016/0273-2297\(88\)90002-0](https://doi.org/https://doi.org/10.1016/0273-2297(88)90002-0)
- Cobb-Clark, D. A., & Schurer, S. (2012). The stability of big-five personality traits. *Economics Letters*, 115(1), 11-15. <https://doi.org/https://doi.org/10.1016/j.econlet.2011.11.015>
- Coccaro, E. F., Berman, M. E., & Kavoussi, R. J. (1997). Assessment of life history of aggression: development and psychometric characteristics. *Psychiatry research*, 73(3), 147-157.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd edition ed.).

Lawrence Earlbaum Associates.

Cohen, P., Brown, J., & Smailes, E. (2001). Child abuse and neglect and the development of mental disorders in the general population. *Development and Psychopathology*, 13(4), 981-999. <https://doi.org/https://doi.org/10.1017/s0954579401004126>

Coid, J. W. (1992). DSM-III diagnosis in criminal psychopaths: a way forward. *Criminal Behaviour and Mental Health*, 2(2), 78-94.

Coid, J. W. (1998). Axis II disorders and motivation for serious criminal behavior. In A. E. Skodol (Ed.), *Psychopathology and violent crime* (pp. 53-97). American Psychiatric Association Inc.

Coid, J. W. (2002). Personality disorders in prisoners and their motivation for dangerous and disruptive behaviour. *Criminal Behaviour and Mental Health*, 12(3), 209-226. <https://doi.org/https://doi.org/10.1002/cbm.497>

Coid, J. W., Kahtan, N., Gault, S., & Jarman, B. (1999). Patients with personality disorder admitted to secure forensic psychiatry services. *The British Journal of Psychiatry*, 175(6), 528-536. <https://doi.org/https://doi.org/10.1192/bjp.175.6.528>

Coid, J. W., Moran, P., Bebbington, P., Brugha, T., Jenkins, R., Farrell, M., Singleton, N., & Ullrich, S. (2009). The co-morbidity of personality disorder and clinical syndromes in prisoners. *Criminal Behaviour and Mental Health*, 19(5), 321-333. <https://doi.org/https://doi.org/10.1080/1478994031000116381>

Coid, J. W., Yang, M., Roberts, A., Ullrich, S., Moran, P., Bebbington, P., Brugha, T., Jenkins, R., Farrell, M., & Lewis, G. (2006). Violence and psychiatric morbidity in a national household population - a report from the British Household Survey. *American Journal of*

Epidemiology, 164(12), 1199-1208. [https://doi.org/https://doi.org/10.1016/s0084-3970\(08\)70699-6](https://doi.org/https://doi.org/10.1016/s0084-3970(08)70699-6)

Connor, D. F., Glatt, S. J., Lopez, I. D., Jackson, D., & Melloni Jr, R. H. (2002).

Psychopharmacology and aggression. I: A meta-analysis of stimulant effects on overt/covert aggression-related behaviors in ADHD. *Journal of the American Academy of Child & Adolescent Psychiatry*, 41(3), 253-261.

<https://doi.org/https://doi.org/10.1097/00004583-200203000-00004>

Coolidge, F. L., & Merwin, M. M. (1992). Reliability and validity of the Coolidge Axis II

Inventory: A new inventory for the assessment of personality disorders. *Journal of Personality Assessment*, 59(2), 223-238.

https://doi.org/https://doi.org/10.1207/s15327752jpa5902_1

Cooper, L. D., & Balsis, S. (2009). When less is more: How fewer diagnostic criteria can indicate greater severity. *Psychological Assessment*, 21(3), 285-293.

<https://doi.org/https://doi.org/10.1037/a0016698>

Cornell, D. G., Warren, J., Hawk, G., Stafford, E., Oram, G., & Pine, D. (1996). Psychopathy in instrumental and reactive violent offenders. *Journal of Consulting and Clinical*

Psychology, 64(4), 783-790. <https://doi.org/https://doi.org/10.1037/0022-006x.64.4.783>

Costa Jr, P. T., & McCrae, R. R. (1990). Personality disorders and the five-factor model of personality. *Journal of Personality Disorders*, 4(4), 362-371.

<https://doi.org/https://doi.org/10.1521/pedi.1990.4.4.362>

Costa Jr, P. T., Terracciano, A., & McCrae, R. R. (2001). Gender differences in personality traits across cultures: robust and surprising findings. *Journal of Personality and Social*

Psychology, 81(2), 322-331. <https://doi.org/https://doi.org/10.1037/0022-3514.81.2.322>

Costa, P. T., & McCrae, R. R. (1985). *The NEO personality inventory: Professional Manual*. Psychological Assessment Resources.

Craig, L. A., Browne, K. D., Beech, A., & Stringer, I. (2004). Personality characteristics associated with reconviction in sexual and violent offenders. *Journal of Forensic Psychiatry & Psychology*, 15(3), 532-551.

<https://doi.org/https://doi.org/10.1080/14789940412331270726>

Craig, L. A., Browne, K. D., Beech, A., & Stringer, I. (2006). Differences in personality and risk characteristics in sex, violent and general offenders. *Criminal Behaviour and Mental Health*, 16(3), 183-194. <https://doi.org/https://doi.org/10.1002/cbm.618>

Crawford, M. J., Koldobsky, N., Mulder, R., & Tyrer, P. (2011). Classifying personality disorder according to severity. *Journal of Personality Disorders*, 25(3), 321-330.

<https://doi.org/https://doi.org/10.1521/pedi.2011.25.3.321>

Crego, C., Gore, W. L., Rojas, S. L., & Widiger, T. A. (2015). The discriminant (and convergent) validity of the Personality Inventory for DSM-5. *Personality Disorders: Theory, Research, and Treatment*, 6(4), 321-335.

<https://doi.org/https://doi.org/10.1037/per0000118>

Crick, N. R., Werner, N. E., Casas, J. F., O'Brien, K. M., Nelson, D. A., Grottpeter, J. K., & Markon, K. (1999). Childhood aggression and gender: a new look at an old problem. In D. Bernstein (Ed.), *Nebraska symposium on motivation*. University of Nebraska Press.

Critchfield, K. L., Levy, K. N., Clarkin, J. F., & Kernberg, O. F. (2008). The relational context of aggression in borderline personality disorder: Using adult attachment style to predict forms of hostility. *Journal of Clinical Psychology*, 64(1), 67-82.

<https://doi.org/https://doi.org/10.1002/jclp.20434>

- Cross, C. P., & Campbell, A. (2012). The effects of intimacy and target sex on direct aggression: Further evidence. *Aggressive Behavior*, 38(4), 272-280.
<https://doi.org/https://doi.org/10.1002/ab.21430>
- Cully, J. A., & Teten, A. L. (2008). A therapist's guide to brief cognitive behavioral therapy. *Houston: Department of Veterans Affairs South Central MIRECC*.
- Cuthbert, B. N., & Insel, T. R. (2013). Toward the future of psychiatric diagnosis: the seven pillars of RDoC. *BMC Medicine*, 11(1), 1-8. <https://doi.org/https://doi.org/10.1186/1741-7015-11-126>
- Daniel, A., Robins, A. J., Reid, J. C., & Wilfley, D. E. (1988). Lifetime and six-month prevalence of psychiatric disorders among sentenced female offenders. *Journal of the American Academy of Psychiatry and the Law Online*, 16(4), 333-342.
- Davison, S., Leese, M., & Taylor, P. J. (2001). Examination of the screening properties of the Personality Diagnostic Questionnaire 4+(PDQ-4+) in a prison population. *Journal of Personality Disorders*, 15(2), 180-194.
<https://doi.org/https://doi.org/10.1521/pedi.15.2.180.19212>
- de Barros, D. M., & de Pádua Serafim, A. (2008). Association between personality disorder and violent behavior pattern. *Forensic Science International*, 179(1), 19-22.
<https://doi.org/https://doi.org/10.1016/j.forsciint.2008.04.013>
- De Ruiter, C., & Trestman, R. L. (2007). Prevalence and treatment of personality disorders in Dutch forensic mental health services. *The Journal of the American Academy Of Psychiatry And The Law*, 35(1), 92-97. <http://jaapl.org/content/jaapl/35/1/92.full.pdf>
- Dereboy, F., Dereboy, Ç., & Eskin, M. (2018). Validation of the DSM–5 Alternative Model Personality Disorder Diagnoses in Turkey, Part 1: LEAD Validity and Reliability of the

- Personality Functioning Ratings. *Journal of Personality Assessment*, 100(6), 1-9.
<https://doi.org/https://doi.org/10.1080/00223891.2018.1423989>
- Derefinko, K., DeWall, C. N., Metze, A. V., Walsh, E. C., & Lynam, D. R. (2011). Do different facets of impulsivity predict different types of aggression? *Aggressive Behavior*, 37(3), 223-233. <https://doi.org/https://doi.org/10.1002/ab.20387>
- Dodge, K. A., Coie, J. D., Pettit, G. S., & Price, J. M. (1990). Peer status and aggression in boys' groups: Developmental and contextual analyses. *Child Development*, 61(5), 1289-1309.
<https://doi.org/https://doi.org/10.1111/j.1467-8624.1990.tb02862.x>
- Donaldson, S. I., & Grant-Vallone, E. J. (2002). Understanding self-report bias in organizational behavior research. *Journal of Business and Psychology*, 17(2), 245-260.
<https://doi.org/https://doi.org/10.1023/a:1019637632584>
- Douglas, K. S., Hart, S. D., Webster, C. D., & Belfrage, H. (2013). *HCR-20V3: Assessing risk for violence: User guide*. Mental Health, Law, and Policy Institute, Simon Fraser University.
- Dowgwillo, E. A., Ménard, K. S., Krueger, R. F., & Pincus, A. L. (2016). DSM-5 pathological personality traits and intimate partner violence among male and female college students. *Violence and Victims*, 31(3), 416-437. <https://doi.org/https://doi.org/10.1891/0886-6708.vv-d-14-00109>
- Dowgwillo, E. A., Roche, M. J., & Pincus, A. L. (2018). Examining the Interpersonal Nature of Criterion A of the DSM–5 Section III Alternative Model for Personality Disorders Using Bootstrapped Confidence Intervals for the Interpersonal Circumplex. *Journal of personality assessment*, 1-12.
- Dowson, J. H. (1992a). Assessment of DSM–III–R personality disorders by self-report questionnaire: The role of informants and a screening test for co-morbid personality

disorders (STCPD). *The British Journal of Psychiatry*, 161(3), 344-352.

<https://doi.org/https://doi.org/10.1192/bjp.161.3.344>

Dowson, J. H. (1992b). DSM-III-R narcissistic personality disorder evaluated by patients' and informants' self-report questionnaires: relationships with other personality disorders and a sense of entitlement as an indicator of narcissism. *Comprehensive Psychiatry*, 33(6), 397-406. [https://doi.org/https://doi.org/10.1016/0010-440x\(92\)90062-u](https://doi.org/https://doi.org/10.1016/0010-440x(92)90062-u)

Duggan, C., & Howard, R. (2009). The 'functional link' between personality disorder and violence: A critical appraisal. In M. McMurran & R. Howards (Eds.), *Personality, personality disorder and violence* (pp. 19-37). Wiley-Blackwell.

Dunne, A. (2017). *Extending the Utility of the General Aggression Model*. Swinburne University of Technology.

Dunne, A., Gilbert, F., & Daffern, M. (2017). Elucidating the relationship between personality disorder traits and aggression using the new DSM-5 dimensional–categorical model for personality disorder. *Psychology of Violence*, 8(5), 615-629.

<https://doi.org/https://doi.org/10.1037/vio0000144>

Dunne, A., Gilbert, F., & Daffern, M. (2018). Investigating the relationship between DSM-5 personality disorder domains and facets and aggression in an offender population using the personality inventory for the DSM-5. *Journal of Personality Disorders*, 32(5), 668-693. https://doi.org/https://doi.org/10.1521/pedi_2017_31_322

Dunne, A. L., Trounson, J. S., Skues, J., Pfeifer, J. E., Ogloff, J. R., & Daffern, M. (2021). The Personality Inventory for DSM-5–Brief Form: An examination of internal consistency, factor structure, and relationship to aggression in an incarcerated offender sample.

Assessment, 28(4), 1136-1146. <https://doi.org/https://doi.org/10.1177/1073191120916790>

- Dunsieth, N. W., Nelson, E. B., Brusman-Lovins, L. A., Holcomb, J. L., Beckman, D., Welge, J. A., Roby, D., Taylor, P., Soutullo, C. A., & McElroy, S. L. (2004). Psychiatric and legal features of 113 men convicted of sexual offenses. *The Journal of Clinical Psychiatry*, 65(3), 397-409. <https://doi.org/https://doi.org/10.1080/00223891.2013.852563>
- Dutton, D. G. (2002). The neurobiology of abandonment homicide. *Aggression and Violent Behavior*, 7(4), 407-421. [https://doi.org/https://doi.org/10.1016/s1359-1789\(01\)00066-0](https://doi.org/https://doi.org/10.1016/s1359-1789(01)00066-0)
- Eaton, N., Krueger, R., South, S., Simms, L., & Clark, L. (2011). Contrasting prototypes and dimensions in the classification of personality pathology: Evidence that dimensions, but not prototypes, are robust. *Psychological Medicine*, 41(6), 1151-1163. <https://doi.org/https://doi.org/10.1017/s0033291710001650>
- Engstrom, E. J. (2007). 'On the Question of Degeneration' by Emil Kraepelin (1908) 1. *History of Psychiatry*, 18(3), 389-398. <https://doi.org/https://doi.org/10.1177/0957154x07079689>
- Erikson, E. H. (1968). *Identity: Youth and crisis*. WW Norton & company.
- Esbec, E., & Echeburúa, E. (2010). Violence and personality disorders: clinical and forensic implications. *Actas Esp Psiquiatr*, 38(5), 249-261. [https://doi.org/http://dx.doi.org/38\(5\):249-261](https://doi.org/http://dx.doi.org/38(5):249-261)
- Esterberg, M. L., Goulding, S. M., & Walker, E. F. (2010). Cluster A personality disorders: schizotypal, schizoid and paranoid personality disorders in childhood and adolescence. *Journal of Psychopathology and Behavioral Assessment*, 32(4), 515-528. <https://doi.org/https://doi.org/10.1007/s10862-010-9183-8>
- Fazel, S., & Danesh, J. (2002). Serious mental disorder in 23 000 prisoners: a systematic review of 62 surveys. *The Lancet*, 359(9306), 545-550. [https://doi.org/https://doi.org/10.1016/s0140-6736\(02\)07740-1](https://doi.org/https://doi.org/10.1016/s0140-6736(02)07740-1)

- Felson, R. B., Ackerman, J., & Yeon, S. J. (2003). The infrequency of family violence. *Journal of Marriage and Family*, 65(3), 622-634. <https://doi.org/https://doi.org/10.1111/j.1741-3737.2003.00622.x>
- Ferguson, C. J., & Dyck, D. (2012). Paradigm change in aggression research: The time has come to retire the General Aggression Model. *Aggression and Violent Behavior*, 17(3), 220-228. <https://doi.org/https://doi.org/10.1016/j.avb.2012.02.007>
- Few, L. R., Miller, J. D., Rothbaum, A. O., Meller, S., Maples, J., Terry, D. P., Collins, B., & MacKillop, J. (2013). Examination of the Section III DSM-5 diagnostic system for personality disorders in an outpatient clinical sample. *Journal of Abnormal Psychology*, 122(4), 1057-1069. <https://doi.org/https://doi.org/10.1037/a0034878>
- Fineberg, N. A., Reghunandanan, S., Kolli, S., & Atmaca, M. (2014). Obsessive-compulsive (anankastic) personality disorder: Toward the ICD-11 classification. *Brazilian Journal of Psychiatry*, 36, 40-50. <https://doi.org/https://doi.org/10.1590/1516-4446-2013-1282>
- First, M. B., Benjamin, L. S., Gibbon, M., Spitzer, R. L., & Williams, J. B. (1997). *Structured clinical interview for DSM-IV Axis II personality disorders*. American Psychiatric Press.
- First, M. B., Pincus, H. A., Levine, J. B., Williams, J. B., Ustun, B., & Peele, R. (2004). Clinical utility as a criterion for revising psychiatric diagnoses. *American Journal of Psychiatry*, 161(6), 946-954. <https://doi.org/https://doi.org/10.1176/appi.ajp.161.6.946>
- First, M. B., Skodol, A. E., Bender, D. S., & Oldham, J. M. (2018). *User's Guide for the Structured Clinical Interview for the DSM-5 Alternative Model for Personality Disorders (SCID-5-AMPD)*. American Psychiatric Association Publishing.
- Flanagan, E., & Blashfield, R. (2006). Do Clinicians See Axis I and Axis II as Different Kinds of Disorders? *Comprehensive Psychiatry*, 47(6), 496-502. <https://doi.org/https://doi.org/10.1016/j.comppsy.2006.02.009>

- Flight, J. I., & Forth, A. E. (2007). Instrumentally violent youths: The roles of psychopathic traits, empathy, and attachment. *Criminal Justice and Behavior*, 34(6), 739-751.
<https://doi.org/https://doi.org/10.1177/0093854807299462>
- Follingstad, D. R., Coyne, S., & Gambone, L. (2005). A representative measure of psychological aggression and its severity. *Violence and Victims*, 20(1), 25-38.
<https://doi.org/https://doi.org/10.1891/vivi.2005.20.1.25>
- Fossati, A., Krueger, R. F., Markon, K. E., Borroni, S., & Maffei, C. (2013). Reliability and validity of the Personality Inventory for DSM-5 (PID-5) predicting DSM-IV personality disorders and psychopathy in community-dwelling Italian adults. *Assessment*, 20(6), 689-708.
- Fountoulakis, K. N., Leucht, S., & Kaprinis, G. S. (2008). Personality disorders and violence. *Current Opinion in Psychiatry*, 21(1), 84-92.
<https://doi.org/https://doi.org/10.1097/ycp.0b013e3282f31137>
- Freud, S. (1925). *Collected Papers Vol. IV*. Hogarth.
- Friedman, H. S., & Schustack, M. W. (2012). *Personality: classic theories and modern research* (5th Edition ed.). Allyn & Bacon.
- Frodl, T., Schaub, A., Banac, S., Charypar, M., Jäger, M., Kümmler, P., Bottlender, R., Zetsche, T., Born, C., & Leinsinger, G. (2006). Reduced hippocampal volume correlates with executive dysfunctioning in major depression. *Journal of Psychiatry and Neuroscience*, 31(5), 316-323.
- Furnham, A., Milner, R., Akhtar, R., & De Fruyt, F. (2014). A review of the measures designed to assess DSM-5 personality disorders. *Psychology*, 5(14), 1646-1686.
<https://doi.org/https://doi.org/10.4236/psych.2014.514175>

- Furr, R. M. (2010). The double-entry intraclass correlation as an index of profile similarity: Meaning, limitations, and alternatives. *Journal of Personality Assessment*, 92(1), 1-15.
<https://doi.org/https://doi.org/10.1080/00223890903379134>
- Gadamer, H. G. (1996). *Philosophical hermeneutics* (D. E. Linge, Ed.). University of California Press.
- Gamache, D., & Savard, C. (2017). *Self and Interpersonal Functioning Scale*. PsycTESTS Dataset. <https://doi.org/https://doi.org/10.1037/t72315-000>
- Gamache, D., Savard, C., Leclerc, P., & Côté, A. (2019). Introducing a short self-report for the assessment of DSM–5 level of personality functioning for personality disorders: The Self and Interpersonal Functioning Scale. *Personality Disorders: Theory, Research, and Treatment*, 10(5), 438-447. <https://doi.org/https://doi.org/10.1037/per0000335>
- Gamache, D., Savard, C., Lemieux, R., & Berthelot, N. (2021). Impact of level of personality pathology on affective, behavioral, and thought problems in pregnant women during the coronavirus disease 2019 pandemic. *Personality Disorders: Theory, Research, and Treatment*, 13(1), 41-51. <https://doi.org/https://doi.org/10.1037/per0000479>
- Gannon, T. A. (2009). Social cognition in violent and sexual offending: An overview. *Psychology, Crime & Law*, 15(2-3), 97-118.
<https://doi.org/https://doi.org/10.1080/10683160802190822>
- Garcia, D. J., Skadberg, R. M., Schmidt, M., Bierma, S., Shorter, R. L., & Waugh, M. H. (2018). It's not that Difficult: An Interrater Reliability Study of the DSM–5 Section III Alternative Model for Personality Disorders. *Journal of personality assessment*, 1-9.
- Gilbert, F., & Daffern, M. (2011). Illuminating the relationship between personality disorder and violence: Contributions of the General Aggression Model. *Psychology of Violence*, 1(3), 230-244. <https://doi.org/https://doi.org/10.1037/a0024089>

- Gilbert, F., & Daffern, M. (2017). Aggressive scripts, violent fantasy and violent behavior: A conceptual clarification and review. *Aggression and Violent Behavior, 36*, 98-107.
<https://doi.org/https://doi.org/10.1016/j.avb.2017.05.001>
- Gilbert, F., Daffern, M., Talevski, D., & Ogloff, J. R. (2013). Assessment of past aggression: Examination of the convergent validity of three instruments. *Psychiatry, Psychology and Law, 20*(6), 882-886. <https://doi.org/https://doi.org/10.1080/13218719.2013.768193>
- Ginsberg, Y., Hirvikoski, T., & Lindefors, N. (2010). Attention deficit hyperactivity disorder (ADHD) among longer-term prison inmates is a prevalent, persistent and disabling disorder. *BMC Psychiatry, 10*(1), 1-13. <https://doi.org/https://doi.org/10.1186/1471-244x-10-112>
- Glenn, A. L., & Raine, A. (2009). Psychopathy and instrumental aggression: Evolutionary, neurobiological, and legal perspectives. *International Journal of Law and Psychiatry, 32*(4), 253-258. <https://doi.org/https://doi.org/10.1016/j.ijlp.2009.04.002>
- Goodwin, R. D., & Gotlib, I. H. (2004). Gender differences in depression: the role of personality factors. *Psychiatry Research, 126*(2), 135-142.
<https://doi.org/https://doi.org/10.1016/j.psychres.2003.12.024>
- Gore, W. L., & Widiger, T. A. (2013). The DSM-5 dimensional trait model and five-factor models of general personality. *Journal of Abnormal Psychology, 122*(3), 816-821.
<https://doi.org/https://doi.org/10.1037/a0032822>
- Goth, K., Birkhölzer, M., & Schmeck, K. (2018a). Assessment of personality functioning in adolescents with the LoPF-Q 12-18 self-report questionnaire. *Journal of Personality Assessment, 100*(6), 680-690.
<https://doi.org/https://doi.org/10.1080/00223891.2018.1489258>

- Goth, K., Birkhölzer, M., & Schmeck, K. (2018b). *LoPF-Q 12-18 (Levels of Personality Functioning Questionnaire): A self-report questionnaire for measuring personality functioning in adolescence - short description*. Academic-Tests.
- Grant, B. F., Hasin, D. S., Stinson, F. S., Dawson, D. A., Chou, S. P., Ruan, W., & Pickering, R. P. (2004). Prevalence, correlates, and disability of personality disorders in the United States: results from the National Epidemiologic Survey on Alcohol and Related Conditions. *The Journal of Clinical Psychiatry*.
<https://doi.org/https://doi.org/10.1016/j.comppsy.2004.07.019>
- Grant, B. F., Stinson, F. S., Dawson, D. A., Chou, S. P., & Ruan, W. J. (2005). Co-occurrence of DSM-IV personality disorders in the United States: results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Comprehensive Psychiatry*, 46(1), 1-5. <https://doi.org/https://doi.org/10.1016/j.comppsy.2004.07.019>
- Grotpeter, J. K., & Crick, N. R. (1996). Relational aggression, overt aggression, and friendship. *Child Development*, 67(5), 2328-2338. <https://doi.org/https://doi.org/10.1111/j.1467-8624.1996.tb01860.x>
- Gunderson, J. G., Kolb, J. E., & Austin, V. (1981). The diagnostic interview for borderline patients. *The American Journal of Psychiatry*, 138(7), 896-903.
<https://doi.org/https://doi.org/10.1176/ajp.138.7.896>
- Gunderson, J. G., Ronningstam, E., & Bodkin, A. (1990). The diagnostic interview for narcissistic patients. *Archives of General Psychiatry*, 47(7), 676-680.
<https://doi.org/https://doi.org/10.1001/archpsyc.1990.01810190076011>
- Gurnani, T., Ivanov, I., & Newcorn, J. H. (2016). Pharmacotherapy of aggression in child and adolescent psychiatric disorders. *Journal of Child and Adolescent Psychopharmacology*, 26(1), 65-73. <https://doi.org/https://doi.org/10.1089/cap.2015.0167>

- Guthrie, P. C., & Mobley, B. D. (1994). A comparison of the differential diagnostic efficiency of three personality disorder inventories. *Journal of Clinical Psychology*, 50(4), 656-665.
[https://doi.org/https://doi.org/10.1002/1097-4679\(199407\)50:4%3C656::aid-jclp2270500425%3E3.0.co;2-v](https://doi.org/https://doi.org/10.1002/1097-4679(199407)50:4%3C656::aid-jclp2270500425%3E3.0.co;2-v)
- Hagelstam, C., & Häkkinen, H. (2006). Adolescent homicides in Finland: offence and offender characteristics. *Forensic science international*, 164(2-3), 110-115.
<https://doi.org/https://doi.org/10.1016/j.forsciint.2005.12.006>
- Hamburger, L., & Hastings, J. (1986). Characteristics of spouse abusers. *Journal of Interpersonal Violence*, 1(3), 363-373.
<https://doi.org/https://doi.org/10.1177/088626086001003008>
- Hamby, S. (2016a). Advancing survey science for intimate partner violence: The Partner Victimization Scale and other innovations. *Psychology of Violence*, 6(2), 352-359.
<https://doi.org/https://doi.org/10.1037/vio0000053>
- Hamby, S. (2016b). Self-report measures that do not produce gender parity in intimate partner violence: A multi-study investigation. *Psychology of Violence*, 6(2), 323-335.
<https://doi.org/https://doi.org/10.1037/a0038207>
- Hamby, S. (2017). On defining violence, and why it matters. *Psychology of Violence*, 7(2), 167-180. <https://doi.org/https://doi.org/10.1037/vio0000117>
- Harkness, A. R., & McNulty, J. L. (1994). The Personality Psychopathology Five (PSY-5): Issues from the pages of a diagnostic manual instead of a dictionary. In S. S. M. Lorr (Ed.), *Differentiating normal and abnormal personality* (pp. 291-315). Springer.
- Harris, M. A., Brett, C. E., Johnson, W., & Deary, I. J. (2016). Personality stability from age 14 to age 77 years. *Psychology and Aging*, 31(8), 862-874.
<https://doi.org/https://doi.org/10.1037/pag0000133>

- Harsch, S., Bergk, J. E., Steinert, T., Keller, F., & Jockusch, U. (2006). Prevalence of mental disorders among sexual offenders in forensic psychiatry and prison. *International Journal of Law and Psychiatry*, 29(5), 443-449.
<https://doi.org/https://doi.org/10.1016/j.ijlp.2005.11.001>
- Hart, S. D., Hare, R. D., & Harpur, T. J. (1992). The Psychopathy Checklist—Revised (PCL-R). In *Advances in psychological assessment* (pp. 103-130). Springer.
- Haslam, N., Holland, E., & Kuppens, P. (2012). Categories versus dimensions in personality and psychopathology: a quantitative review of taxometric research. *Psychological Medicine*, 42(5), 903-920. <https://doi.org/https://doi.org/10.1017/s0033291711001966>
- Helmes, E., Holden, R. R., & Ziegler, M. (2015). Response bias, malingering, and impression management. In G. J. Boyle, D. H. Saklofske, & G. Matthews (Eds.), *Measures of personality and social psychological constructs* (pp. 16-43). Elsevier.
- Hendin, H. M., & Cheek, J. M. (1997). Assessing hypersensitive narcissism: A reexamination of Murray's Narcism Scale. *Journal of Research in Personality*, 31(4), 588 - 599.
<https://doi.org/https://doi.org/10.1006/jrpe.1997.2204>
- Henry, C., Mitropoulou, V., New, A. S., Koenigsberg, H. W., Silverman, J., & Siever, L. J. (2001). Affective instability and impulsivity in borderline personality and bipolar II disorders: similarities and differences. *Journal of Psychiatric Research*, 35(6), 307-312.
[https://doi.org/https://doi.org/10.1016/s0022-3956\(01\)00038-3](https://doi.org/https://doi.org/10.1016/s0022-3956(01)00038-3)
- Hentschel, A. G., & Pukrop, R. (2014). The essential features of personality disorder in DSM-5: The relationship between criteria A and B. *The Journal of Nervous and Mental Disease*, 202(5), 412-418. <https://doi.org/https://doi.org/10.1097/nmd.0000000000000129>

- Hepper, E. G., Hart, C. M., Meek, R., Cisek, S., & Sedikides, C. (2014). Narcissism and empathy in young offenders and non-offenders. *European Journal of Personality*, 28(2), 201-210.
<https://doi.org/https://doi.org/10.1002/per.1939>
- Hines, D. A., & Saudino, K. J. (2003). Gender differences in psychological, physical, and sexual aggression among college students using the Revised Conflict Tactics Scales. *Violence and victims*, 18(2), 197-217.
- Hirschfeld, R. M. (1993). Personality disorders: Definition and diagnosis. *Journal of Personality Disorders*, 7, 9-17.
- Hoermann, S., Zupanick, C., & Dombeck, M. (2019). *Defining Features Of Personality Disorders: Impulse Control Problems*. Retrieved 25th February from
<https://www.mentalhelp.net/articles/defining-features-of-personality-disorders-impulse-control-problems/>
- Holtzworth-Munroe, A., & Stuart, G. L. (1994). Typologies of male batterers: three subtypes and the differences among them. *Psychological Bulletin*, 116(3), 476-497.
<https://doi.org/https://doi.org/10.1037/0033-2909.116.3.476>
- Hopwood, C. J. (2018). A Framework for Treating DSM-5 Alternative Model for Personality Disorder Features. *Personality and Mental Health*, 12(2), 107-125.
<https://doi.org/https://doi.org/10.1002/pmh.1414>
- Hopwood, C. J., & Donnellan, M. B. (2010). How should the internal structure of personality inventories be evaluated? *Personality and Social Psychology Review*, 14(3), 332-346.
<https://doi.org/https://doi.org/10.1177/1088868310361240>
- Hopwood, C. J., Donnellan, M. B., Ackerman, R. A., Thomas, K. M., Morey, L. C., & Skodol, A. E. (2013). The validity of the personality diagnostic questionnaire–4 narcissistic personality disorder scale for assessing pathological grandiosity. *Journal of Personality*

Assessment, 95(3), 274-283.

<https://doi.org/https://doi.org/10.1080/00223891.2012.732637>

Hopwood, C. J., Good, E. W., & Morey, L. C. (2018). Validity of the DSM–5 Levels of Personality Functioning Scale–Self Report. *Journal of Personality Assessment*, 100(6), 1-10. <https://doi.org/https://doi.org/10.1080/00223891.2017.1420660>

Hopwood, C. J., Malone, J. C., Ansell, E. B., Sanislow, C. A., Grilo, C. M., McGlashan, T. H., Pinto, A., Markowitz, J. C., Shea, M. T., & Skodol, A. E. (2011). Personality assessment in DSM-5: Empirical support for rating severity, style, and traits. *Journal of Personality Disorders*, 25(3), 305-320. <https://doi.org/https://doi.org/10.1521/pedi.2011.25.3.305>

Hopwood, C. J., Morey, L. C., Edelen, M. O., Shea, M. T., Grilo, C. M., Sanislow, C. A., McGlashan, T. H., Daversa, M. T., Gunderson, J. G., & Zanarini, M. C. (2008). A comparison of interview and self-report methods for the assessment of borderline personality disorder criteria. *Psychological Assessment*, 20(1), 81.

Hopwood, C. J., & Sellbom, M. (2013). Implications of DSM-5 personality traits for forensic psychology. *Psychological Injury and Law*, 6(4), 314-323.

<https://doi.org/https://doi.org/10.1007/s12207-013-9176-5>

Hopwood, C. J., & Thomas, K. (2012). Paranoid and Schizoid Personality Disorders. In T. Widiger (Ed.), *The Oxford handbook of personality disorders*. Oxford University Press. <https://www-oxfordhandbooks-com.ezp.lib.unimelb.edu.au/view/10.1093/oxfordhb/9780199735013.001.0001/oxfordhb-9780199735013-e-27>, 8 Jul. 2019

Hopwood, C. J., Thomas, K. M., Markon, K. E., Wright, A. G., & Krueger, R. F. (2012). DSM-5 personality traits and DSM–IV personality disorders. *Journal of Abnormal Psychology*, 121(2), 424-432. <https://doi.org/https://doi.org/10.1037/a0026656>

- Horowitz, L. M., Rosenberg, S. E., Baer, B. A., Ureño, G., & Villaseñor, V. S. (1988). Inventory of interpersonal problems: psychometric properties and clinical applications. *Journal of Consulting and Clinical Psychology*, 56(6), 885-892.
<https://doi.org/https://doi.org/10.1037/0022-006x.56.6.885>
- Hosie, J., Dunne, A., Simpson, K., & Daffern, M. (2021). Aggressive script rehearsal in adult offenders: Characteristics and association with self-reported aggression. *Journal of Interpersonal Violence*, 08862605211062992.
<https://doi.org/https://doi.org/10.1177/08862605211062992>
- Howells, K., Daffern, M., & Day, A. (2008). Aggression and violence. In K. Soothill, M. Dolan, & P. Rogers (Eds.), *Handbook of forensic mental health* (pp. 351-374). Taylor & Francis.
- Huff, C. (2004). Where personality goes awry. *Monitor*, 35(3), 42.
<https://doi.org/https://doi.org/10.1037/e319132004-025>
- Hume, D. (1739). *A treatise of human nature: Being an attempt to introduce the experimental method of reasoning into moral subjects*. John Noon.
<https://web.archive.org/web/20180712120258/http://www.davidhume.org/texts/thn.html>
- Hunt, C., & Andrews, G. (1992). Measuring personality disorder: The use of self-report questionnaires. *Journal of Personality Disorders*, 6(2), 125-133.
<https://doi.org/https://doi.org/10.1521/pedi.1992.6.2.125>
- Huprich, S. K., Dauphin, V. B., Haggerty, G., Meehan, K. B., Nelson, S. M., Seifert, C., & Sexton, J. (2015). *DSM-5 levels of personality functioning questionnaire*. PsycTESTS Dataset. <https://doi.org/https://doi.org/10.1037/t70105-000>
- Huprich, S. K., Nelson, S. M., Meehan, K. B., Siefert, C. J., Haggerty, G., Sexton, J., Dauphin, V. B., Macaluso, M., Jackson, J., & Zackula, R. (2018). Introduction of the DSM-5 Levels of Personality Functioning Questionnaire. *Personality Disorders: Theory,*

Research, and Treatment, 9(6), 553-563.

<https://doi.org/https://doi.org/10.1037/per0000264>

Hutsebaut, J., Kamphuis, J. H., Feenstra, D. J., Weekers, L. C., & De Saeger, H. (2017).

Assessing DSM–5-oriented level of personality functioning: Development and psychometric evaluation of the Semi-Structured Interview for Personality Functioning DSM–5 (STiP-5.1). *Personality Disorders: Theory, Research, and Treatment*, 8(1), 94-

101. <https://doi.org/https://doi.org/10.1037/per0000197>

Hyler, S. E. (1994). *Personality diagnostic questionnaire-4*. New York State Psychiatric Institute.

Hyler, S. E., Kellman, H., Oldham, J., & Skodol, A. (1992). Diagnosis of DSM-III-R personality disorders by two structured interviews: patterns of comorbidity. *American Journal of Psychiatry*, 149, 213-220. <https://doi.org/https://doi.org/10.1176/ajp.149.2.213>

Jackson, H. J., & Burgess, P. M. (2000). Personality disorders in the community: a report from the Australian National Survey of Mental Health and Wellbeing. *Social Psychiatry and Psychiatric Epidemiology*, 35(12), 531-538.

<https://doi.org/https://doi.org/10.1007/s001270200017>

Jeung, H., & Herpertz, S. C. (2014). Impairments of interpersonal functioning: empathy and intimacy in borderline personality disorder. *Psychopathology*, 47(4), 220-234.

<https://doi.org/https://doi.org/10.1159/000357191>

Johnson, B. N., & Levy, K. N. (2017). Personality disorder not otherwise specified (PDNOS). In *Encyclopedia of personality and individual differences* (pp. 1-11). Springer.

https://doi.org/https://doi.org/10.1007/978-3-319-28099-8_924-1

Johnson, J. G., Cohen, P., Smailes, E., Kasen, S., Oldham, J. M., Skodol, A. E., & Brook, J. S. (2000). Adolescent Personality Disorders Associated with Violence and Criminal

- Behavior During Adolescence and Early Adulthood. *American Journal of Psychiatry*, 157(9), 1406-1412. <https://doi.org/https://doi.org/10.1176/appi.ajp.157.9.1406>
- Johnson, J. G., First, M. B., Cohen, P., Skodol, A. E., Kasen, S., & Brook, J. S. (2005). Adverse Outcomes Associated With Personality Disorder Not Otherwise Specified in a Community Sample. *American Journal of Psychiatry*, 162(10), 1926-1932. <https://doi.org/https://doi.org/10.1176/appi.ajp.162.10.1926>
- Jolliffe, D., & Farrington, D. P. (2004). Empathy and offending: A systematic review and meta-analysis. *Aggression and Violent Behavior*, 9(5), 441-476. <https://doi.org/https://doi.org/10.1016/j.avb.2003.03.001>
- Jolliffe, D., Farrington, D. P., Hawkins, J. D., Catalano, R. F., Hill, K. G., & Kosterman, R. (2003). Predictive, concurrent, prospective and retrospective validity of self-reported delinquency. *Criminal Behaviour and Mental Health*, 13(3), 179-197. <https://doi.org/https://doi.org/10.1002/cbm.541>
- Jones, S. E., Miller, J. D., & Lynam, D. R. (2011). Personality, antisocial behavior, and aggression: A meta-analytic review. *Journal of Criminal Justice*, 39(4), 329-337. <https://doi.org/https://doi.org/10.1016/j.jcrimjus.2011.03.004>
- Jordan, B. K., Schlenger, W. E., Fairbank, J. A., & Caddell, J. M. (1996). Prevalence of psychiatric disorders among incarcerated women: II. Convicted felons entering prison. *Archives of General Psychiatry*, 53(6), 513-519.
- Jung, C. G. (1981). *Collected Works of CG Jung, Volume 17: Development of Personality* (Vol. 17). Princeton University Press.
- Jung, J., & Schröder-Abé, M. (2019). Prosocial behavior as a protective factor against peers' acceptance of aggression in the development of aggressive behavior in childhood and

adolescence. *Journal of Adolescence*, 74, 146-153.

<https://doi.org/https://doi.org/10.1016/j.adolescence.2019.06.002>

Kant, I. (1788). *Critique of practical reason*.

Karukivi, M., Vahlberg, T., Horjamo, K., Nevalainen, M., & Korkeila, J. (2017). Clinical importance of personality difficulties: diagnostically sub-threshold personality disorders. *BMC Psychiatry*, 17(1), 1-9. <https://doi.org/https://doi.org/10.1186/s12888-017-1200-y>

Kawa, S., & Giordano, J. (2012). A brief historicity of the Diagnostic and Statistical Manual of Mental Disorders: issues and implications for the future of psychiatric canon and practice. *Philosophy, Ethics, and Humanities in Medicine*, 7(1), 2.

<https://doi.org/https://doi.org/10.1186/1747-5341-7-2>

Kaya, S., Yildirim, H., & Atmaca, M. (2020). Reduced hippocampus and amygdala volumes in antisocial personality disorder. *Journal of Clinical Neuroscience*, 75, 199-203.

<https://doi.org/https://doi.org/10.1016/j.jocn.2020.01.048>

Keeley, J. W., Webb, C., Peterson, D., Roussin, L., & Flanagan, E. H. (2016). Development of a response inconsistency scale for the personality inventory for DSM–5. *Journal of Personality Assessment*, 98(4), 351-359.

<https://doi.org/https://doi.org/10.1080/00223891.2016.1158719>

Kendell, R., & Jablensky, A. (2003). Distinguishing between the validity and utility of psychiatric diagnoses. *American Journal of Psychiatry*, 160(1), 4-12.

<https://doi.org/https://doi.org/10.1176/appi.ajp.160.1.4>

Kendler, K. (2012a). The dappled nature of causes of psychiatric illness: Replacing the organic–functional/hardware–software dichotomy with empirically based pluralism. *Molecular Psychiatry*, 17(4), 377-388. <https://doi.org/https://doi.org/10.1038/mp.2011.182>

- Kendler, K. (2012b). Levels of explanation in psychiatric and substance use disorders: implications for the development of an etiologically based nosology. *Molecular Psychiatry*, 17(1), 11-21. <https://doi.org/https://doi.org/10.1038/mp.2011.70>
- Kendler, K., Myers, J., & Reichborn-Kjennerud, T. (2011). Borderline personality disorder traits and their relationship with dimensions of normative personality: A web-based cohort and twin study. *Acta Psychiatrica Scandinavica*, 123(5), 349-359. <https://doi.org/https://doi.org/10.1111/j.1600-0447.2010.01653.x>
- Kirkpatrick, T., Draycott, S., Freestone, M., Cooper, S., Twiselton, K., Watson, N., Evans, J., Hawes, V., Jones, L., & Moore, C. (2010). A descriptive evaluation of patients and prisoners assessed for dangerous and severe personality disorder. *The Journal of Forensic Psychiatry & Psychology*, 21(2), 264-282. <https://doi.org/https://doi.org/10.1080/14789940903388978>
- Klein, M., & Benjamin, L. (1996). *The Wisconsin Personality Disorders Inventory-IV*. Unpublished test, Available from Dr. M. H. Klein, Department of Psychiatry, Wisconsin Psychiatric Institute and Clinic, 6001 Research Park Blvd., Madison, WI 53719-1179.
- Klerman, G. L. (1978). *The evolution of a scientific nosology* (J. C. Shershow, Ed.). Harvard University Press.
- Klerman, G. L. (1986). Historical perspective on psychopathology. In T. E. Millon & G. L. Klerman (Eds.), *Contemporary directions in psychopathology: Toward the DSM-IV* (pp. 3-28). Guilford Press.
- Koch, J. A. (1891). *Die psychopathischen Minderwertigkeiten* Maier.
- Koenigsberg, H. W., Harvey, P. D., Mitropoulou, V., Schmeidler, J., New, A. S., Goodman, M., Silverman, J. M., Serby, M., Schopick, F., & Siever, L. J. (2002). Characterizing

- affective instability in borderline personality disorder. *American Journal of Psychiatry*, 159(5), 784-788. <https://doi.org/https://doi.org/10.1176/appi.ajp.159.5.784>
- Kraepelin, E. (1913). *Dementia praecox and paraphrenia*. Livingstone.
- Kretschmer, E. (1925). *Physique and Character*, New York. Harcourt Brace Jovanovich.
- Kroll, J. (1988). *The challenge of the borderline patient: Competency in diagnosis and treatment*. W.W. Norton & Co.
- Kross, E., & Ayduk, O. (2008). Facilitating adaptive emotional analysis: Distinguishing distanced-analysis of depressive experiences from immersed-analysis and distraction. *Personality and Social Psychology Bulletin*, 34(7), 924-938. <https://doi.org/https://doi.org/10.1177/0146167208315938>
- Kross, E., & Ayduk, O. (2011). Making meaning out of negative experiences by self-distancing. *Current Directions in Psychological Science*, 20(3), 187-191. <https://doi.org/https://doi.org/10.1177/0963721411408883>
- Krueger, R. F., Derringer, J., Markon, K., Watson, D., & Skodol, A. (2013a). *Personality Inventory for DSM-5 – Brief Form*
- Krueger, R. F., Derringer, J., Markon, K. E., Watson, D., & Skodol, A. E. (2013b). Initial construction of a maladaptive personality trait model and inventory for DSM-5. *Psychological Medicine*, 42(9), 1879-1890. <https://doi.org/https://doi.org/10.1017/s0033291711002674>
- Krueger, R. F., Eaton, N. R., Clark, L. A., Watson, D., Markon, K. E., Derringer, J., Skodol, A. E., & Livesley, W. J. (2011). Deriving an empirical structure of personality pathology for DSM-5. *Journal of Personality Disorders*, 25(2), 170-191.
- Krueger, R. F., & Hobbs, K. A. (2020). An Overview of the DSM-5 Alternative Model of Personality Disorders. *Psychopathology*, 53(3), 126-132.

- Krueger, R. F., Hopwood, C. J., Wright, A. G., & Markon, K. E. (2014). DSM-5 and the path toward empirically based and clinically useful conceptualization of personality and psychopathology. *Clinical Psychology: Science and Practice*, 21(3), 245-261.
<https://doi.org/https://doi.org/10.1111/cpsp.12073>
- Krueger, R. F., & Markon, K. E. (2014). The role of the DSM-5 personality trait model in moving toward a quantitative and empirically based approach to classifying personality and psychopathology. *Annual Review of Clinical Psychology*, 10, 477-501.
<https://doi.org/https://doi.org/10.1146/annurev-clinpsy-032813-153732>
- Lacey, J. H., & Evans, C. (1986). The impulsivist: A multi-impulsive personality disorder. *British Journal of Addiction*, 81(5), 641-649.
<https://doi.org/https://doi.org/10.1111/j.1360-0443.1986.tb00382.x>
- Lambe, S., Hamilton-Giachritsis, C., Garner, E., & Walker, J. (2018). The role of narcissism in aggression and violence: A systematic review. *Trauma, Violence, & Abuse*, 19(2), 209-230. <https://doi.org/https://doi.org/10.1177/1524838016650190>
- Langbehn, D. R., Pfohl, B. M., Reynolds, S., Clark, L. A., Battaglia, M., Bellodi, L., Cadoret, R., Grove, W., Pilkonis, P., & Links, P. (1999). The Iowa Personality Disorder Screen: Development and preliminary validation of a brief screening interview. *Journal of Personality Disorders*, 13(1), 75-89.
<https://doi.org/https://doi.org/10.1521/pedi.1999.13.1.75>
- Långström, N., Sjöstedt, G., & Grann, M. (2004). Psychiatric disorders and recidivism in sexual offenders. *Sexual Abuse: A Journal of Research and Treatment*, 16(2), 139-150.
<https://doi.org/https://doi.org/10.1177/107906320401600204>
- Leclerc, P., Savard, C., Vachon, D. D., Faucher, J., Payant, M., Lampron, M., Tremblay, M., & Gamache, D. (2021). Analysis of the interaction between personality dysfunction and

traits in the statistical prediction of physical aggression: Results from outpatient and community samples. *Personality and Mental Health*.

<https://doi.org/https://doi.org/10.1002/pmh.1522>

Lehrner, A., & Allen, N. E. (2014). Construct validity of the Conflict Tactics Scales: A mixed-method investigation of women's intimate partner violence. *Psychology of violence*, 4(4), 477-490. <https://doi.org/https://doi.org/10.1037/a0037404>

Leising, D., & Zimmermann, J. (2011). An integrative conceptual framework for assessing personality and personality pathology. *Review of General Psychology*, 15(4), 317-330. <https://doi.org/https://doi.org/10.1037/a0025070>

Lenzenweger, M. F., Loranger, A. W., Korfine, L., & Neff, C. (1997). Detecting personality disorders in a nonclinical population: Application of a 2-stage procedure for case identification. *Archives of General Psychiatry*, 54(4), 345-351. <https://doi.org/https://doi.org/10.1001/archpsyc.1997.01830160073010>

Levy, K. N. (2012). Subtypes, dimensions, levels, and mental states in narcissism and narcissistic personality disorder. *Journal of Clinical Psychology*, 68(8), 886-897. <https://doi.org/https://doi.org/10.1002/jclp.21893>

Lieb, K., Zanarini, M. C., Schmahl, C., Linehan, M. M., & Bohus, M. (2004). Borderline personality disorder. *The Lancet*, 364(9432), 453-461. [https://doi.org/https://doi.org/10.1016/s0140-6736\(04\)16770-6](https://doi.org/https://doi.org/10.1016/s0140-6736(04)16770-6)

Liu, J., Lewis, G., & Evans, L. (2013). Understanding aggressive behaviour across the lifespan. *Journal of Psychiatric and Mental Health Nursing*, 20(2), 156-168. <https://doi.org/https://doi.org/10.1111/j.1365-2850.2012.01902.x>

- Livesley, W. J. (1998). Suggestions for a framework for an empirically based classification of personality disorder. *The Canadian Journal of Psychiatry*, 43(2), 137-147.
<https://doi.org/https://doi.org/10.1177/070674379804300202>
- Livesley, W. J. (2009). *General Assessment of Personality Disorder (GAPD)*. Sigma Assessment Systems, Inc.
- Livesley, W. J. (2018). Conceptual Issues. In W. J. Livesley & R. Larstone (Eds.), *Handbook of personality disorders: Theory, research, and treatment, Second Edition* (pp. 3-24). Guilford Publications.
<https://ebookcentral.proquest.com/lib/swin/reader.action?docID=5247394>
- Livesley, W. J., & Jackson, D. (2009). *Manual for the Dimensional Assessment of Personality Pathology—Basic Questionnaire*. Sigma.
- Livesley, W. J., & Jang, K. L. (2000). Toward an empirically based classification of personality disorder. *Journal of Personality Disorders*, 14(2), 137-151.
<https://doi.org/https://doi.org/10.1521/pedi.2000.14.2.137>
- Livesley, W. J., Schroeder, M. L., Jackson, D. N., & Jang, K. L. (1994). Categorical distinctions in the study of personality disorder: implications for classification. *Journal of Abnormal Psychology*, 103(1), 6-17. <https://doi.org/https://doi.org/10.1037/0021-843x.103.1.6>
- Locke, J. (1689). *An essay concerning human understanding*.
- Logan, C. (2009). Narcissism. In M. McMurran & R. Howard (Eds.), *Personality, personality disorder and violence: An evidence based approach* (Vol. 38, pp. 85-112). Wiley-Blackwell Publishing.
- Logan, C., & Johnstone, L. (2010). Personality disorder and violence: Making the link through risk formulation. *Journal of Personality Disorders*, 24(5), 610-633.
<https://doi.org/https://doi.org/10.1521/pedi.2010.24.5.610>

- Loranger, A. W. (1988). *Personality Disorder Examination (PDE) Manual*. DV Communications.
- Loranger, A. W. (1994). *Omnibus Personality Inventory Manual*. New York Hospital-Cornell Medical Center, Westchester Division.
- Loranger, A. W. (1999). *International Personality Disorders Examination (IPDE)*. Psychological Assessment Resources.
- Luyckx, K., Schwartz, S. J., Berzonsky, M. D., Soenens, B., Vansteenkiste, M., Smits, I., & Goossens, L. (2008). Capturing ruminative exploration: Extending the four-dimensional model of identity formation in late adolescence. *Journal of Research in Personality*, 42(1), 58-82. <https://doi.org/https://doi.org/10.1016/j.jrp.2007.04.004>
- Maiuro, R. D., O'Sullivan, M. J., Michael, M. C., & Vitaliano, P. P. (1989). Anger, hostility, and depression in assaultive vs. suicide-attempting males. *Journal of Clinical Psychology*, 45(4), 531-541. <https://doi.org/>
- Maiuro, R. D., O'Sullivan, M. J., Micheal, M. C. & Vitaliano, P. P. (1989) Anger, hostility and depression in assaultive vs. suicide-attempting males
- Makel, M. C., Plucker, J. A., & Hegarty, B. (2012). Replications in psychology research: How often do they really occur? *Perspectives on Psychological Science*, 7(6), 537-542. <https://doi.org/https://doi.org/10.1177/1745691612460688>
- Maples, J. L., Carter, N. T., Few, L. R., Crego, C., Gore, W. L., Samuel, D. B., Williamson, R. L., Lynam, D. R., Widiger, T. A., & Markon, K. E. (2015). Testing whether the DSM-5 personality disorder trait model can be measured with a reduced set of items: An item response theory investigation of the Personality Inventory for DSM-5. *Psychological Assessment*, 27(4), 1195-1210. <https://doi.org/https://doi.org/10.1037/pas0000120>
- Margo, J. (2021). *How Australia adopted America's bible of psychiatry*.

- Markon, K. E., Quilty, L. C., Bagby, R. M., & Krueger, R. F. (2013). The development and psychometric properties of an informant-report form of the Personality Inventory for DSM-5 (PID-5). *Assessment*, 20(3), 370-383.
<https://doi.org/https://doi.org/10.1177/1073191113486513>
- Marlowe, D. B., Husband, S. D., Bonieskie, L. M., Kirby, K. C., & Platt, J. J. (1997). Structured interview versus self-report test vantages for the assessment of personality pathology in cocaine dependence. *Journal of Personality Disorders*, 11(2), 177-190.
<https://doi.org/https://doi.org/10.1521/pedi.1997.11.2.177>
- Martin, R., Watson, D., & Wan, C. K. (2000). A three-factor model of trait anger: Dimensions of affect, behavior, and cognition. *Journal of Personality*, 68(5), 869-897.
<https://doi.org/https://doi.org/10.1111/1467-6494.00119>
- Maudsley, H. (1874). *Responsibility in mental disease*. King.
- McCabe, G. A., Oltmanns, J. R., & Widiger, T. A. (2021). Criterion A scales: convergent, discriminant, and structural relationships. *Assessment*, 28(3), 813-828.
<https://doi.org/https://doi.org/10.1177/1073191120947160>
- McCloskey, M. S., & Coccaro, E. F. (2003). Questionnaire and interview measures of aggression in adults. *MEDICAL PSYCHIATRY*, 22, 167-194.
- McDonald, R. P. (1970). The theoretical foundations of principal factor analysis, canonical factor analysis, and alpha factor analysis. *British Journal of Mathematical and Statistical Psychology*, 23(1), 1-21. <https://doi.org/https://doi.org/10.1111/j.2044-8317.1970.tb00432.x>
- McGrath, R. E., Mitchell, M., Kim, B. H., & Hough, L. (2010). Evidence for response bias as a source of error variance in applied assessment. *Psychological Bulletin*, 136(3), 450-470.
<https://doi.org/https://doi.org/10.1037/a0019216>

- McMurran, M. (2008). Personality Disorders. In K. Soothill, P. Rogers, & M. Dolan (Eds.), *Handbook of forensic mental health* (pp. 374-398). United Kingdom.
- Meehl, P. (1972). A critical afterward. In I. I. Gottesman & J. Shil (Eds.), *Schizophrenia and genetics* (pp. 367-416). Academic Press.
- Melton, G. B., Petrila, J., Poythress, N. G., Slobogin, C., Otto, R. K., Mossman, D., & Condie, L. O. (2017). *Psychological evaluations for the courts: A handbook for mental health professionals and lawyers*. Guilford Publications.
- Mezger, E. (1939). *Zum Begriff der Psychopathen*. Monatssuch für Krim Biol.
- Miller, J. D., & Lynam, D. (2001). Structural models of personality and their relation to antisocial behavior: A meta-analytic review. *Criminology*, 39(4), 765-798.
<https://doi.org/https://doi.org/10.1111/j.1745-9125.2001.tb00940.x>
- Miller, J. D., Lynam, D., & Leukefeld, C. (2003). Examining antisocial behavior through the lens of the Five Factor Model of Personality. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, 29(6), 497-514.
<https://doi.org/https://doi.org/10.1002/ab.10064>
- Miller, J. D., Zeichner, A., & Wilson, L. F. (2012). Personality correlates of aggression: Evidence from measures of the five-factor model, UPPS model of impulsivity, and BIS/BAS. *Journal of interpersonal violence*, 27(14), 2903-2919.
<https://doi.org/https://doi.org/10.1177/0886260512438279>
- Miller, P. A., & Eisenberg, N. (1988). The relation of empathy to aggressive and externalizing/antisocial behavior. *Psychological Bulletin*, 103(3), 324-344.
<https://doi.org/https://doi.org/10.1037/0033-2909.103.3.324>
- Millon, T. (1983). *Millon Clinical Multiaxial Inventory*. Interpretive Scoring Systems.

- Mischkowski, D., Kross, E., & Bushman, B. J. (2012). Flies on the wall are less aggressive: Self-distancing “in the heat of the moment” reduces aggressive thoughts, angry feelings and aggressive behavior. *Journal of Experimental Social Psychology*, 48(5), 1187-1191.
<https://doi.org/https://doi.org/10.1016/j.jesp.2012.03.012>
- Mitsopoulou, E., & Giovazolias, T. (2015). Personality traits, empathy and bullying behavior: A meta-analytic approach. *Aggression and violent behavior*, 21, 61-72.
<https://doi.org/https://doi.org/10.1016/j.avb.2015.01.007>
- Mohr, P., Howells, K., Gerace, A., Day, A., & Wharton, M. (2007). The role of perspective taking in anger arousal. *Personality and Individual Differences*, 43(3), 507-517.
<https://doi.org/https://doi.org/10.1016/j.paid.2006.12.019>
- Moore, F. C. T. (1970). *The psychology of Maine de Biran*. Clarendon.
- Morel, B. A. (1857). *Traité des dégénérescences physiques, intellectuelles et morales de l'espèce humaine et des causes qui produisent ces variétés malades*. J.B Balliere.
- Morey, L. C. (2007). *Personality Assessment Inventory professional manual* (2nd ed.). Psychological Assessment Resources.
- Morey, L. C. (2017). Development and initial evaluation of a self-report form of the DSM–5 Level of Personality Functioning Scale. *Psychological Assessment*, 29(10), 1302-1308.
<https://doi.org/https://doi.org/10.1037/pas0000450>
- Morey, L. C. (2019). Thoughts on the assessment of the DSM–5 alternative model for personality disorders: Comment on Sleep et al.(2019). *Psychological Assessment*, 31(10), 1192-1199. <https://doi.org/https://doi.org/10.1037/pas0000710>
- Morey, L. C., Bender, D. S., & Skodol, A. E. (2013). Validating the proposed diagnostic and statistical manual of mental disorders, severity indicator for personality disorder. *The*

Journal of nervous and mental disease, 201(9), 729-735.

<https://doi.org/https://doi.org/10.1097/nmd.0b013e3182a20ea8>

Morey, L. C., & Benson, K. T. (2016). Relating DSM-5 section II and section III personality disorder diagnostic classification systems to treatment planning. *Comprehensive Psychiatry*, 68, 48-55. <https://doi.org/https://doi.org/10.1016/j.comppsy.2016.03.010>

Morey, L. C., Benson, K. T., Busch, A. J., & Skodol, A. E. (2015). Personality disorders in DSM-5: Emerging research on the alternative model. *Current Psychiatry Reports*, 17(4), 24-33. <https://doi.org/https://doi.org/10.1007/s11920-015-0558-0>

Morey, L. C., Berghuis, H., Bender, D. S., Verheul, R., Krueger, R. F., & Skodol, A. E. (2011). Toward a model for assessing level of personality functioning in DSM-5, Part II: Empirical articulation of a core dimension of personality pathology. *Journal of Personality Assessment*, 93(4), 347-353.

<https://doi.org/https://doi.org/10.1080/00223891.2011.577853>

Morey, L. C., & Henry, W. (1994). Personality Assessment Inventory. In M. E. Maruish (Ed.), *The use of psychological testing for treatment planning and outcome assessment* (pp. 185-216). Erlbaum.

Morey, L. C., & Skodol, A. E. (2013). Convergence between DSM-IV-TR and DSM-5 diagnostic models for personality disorder: Evaluation of strategies for establishing diagnostic thresholds. *Journal of Psychiatric Practice*®, 19(3), 179-193.

<https://doi.org/https://doi.org/10.1097/01.pra.0000430502.78833.06>

Morey, L. C., & Stagner, B. H. (2012). Narcissistic pathology as core personality dysfunction: Comparing the DSM-IV and the DSM-5 proposal for narcissistic personality disorder. *Journal of Clinical Psychology*, 68(8), 908-921.

<https://doi.org/https://doi.org/10.1002/jclp.21895>

- Morey, L. C., Waugh, M. H., & Blashfield, R. K. (1985). MMPI scales for DSM-III personality disorders: Their derivation and correlates. *Journal of Personality Assessment*, 49(3), 245-251. https://doi.org/https://doi.org/10.1207/s15327752jpa4903_5
- Morey, R. A., Dolcos, F., Petty, C. M., Cooper, D. A., Hayes, J. P., LaBar, K. S., & McCarthy, G. (2009). The role of trauma-related distractors on neural systems for working memory and emotion processing in posttraumatic stress disorder. *Journal of Psychiatric Research*, 43(8), 809-817.
- Morsünbül, Ü. (2015). The effect of identity development, self-esteem, low self-control and gender on aggression in adolescence and emerging adulthood. *Eurasian Journal of Educational Research*(61), 99-116. <https://doi.org/https://doi.org/10.14689/ejer.2015.61.6>
- Müller-Hill, B. (1988). *Murderous science: elimination by scientific selection of Jews, Gypsies, and others, Germany 1933-1945*. Oxford University Press.
- Munro, O. E., & Sellbom, M. (2020). Elucidating the relationship between borderline personality disorder and intimate partner violence. *Personality and Mental Health*, 14(3), 284-303. <https://doi.org/https://doi.org/10.1002/pmh.1480>
- Murray-Close, D., Ostrov, J. M., & Crick, N. R. (2007). A short-term longitudinal study of growth of relational aggression during middle childhood: Associations with gender, friendship intimacy, and internalizing problems. *Development and Psychopathology*, 19(1), 187-203. <https://doi.org/https://doi.org/10.1017/s0954579407070101>
- Nelson, S. M., Huprich, S. K., Meehan, K. B., Siefert, C., Haggerty, G., Sexton, J., Dauphin, V. B., Macaluso, M., Zackula, R., & Baade, L. (2018). Convergent and discriminant validity and utility of the DSM–5 Levels of Personality Functioning Questionnaire (DLOPFQ): Associations with medical health care provider ratings and measures of physical health.

Journal of Personality Assessment, 100(6), 671-679.

<https://doi.org/https://doi.org/10.1080/00223891.2018.1492415>

Nestor, P. Mental disorders and violence: Personality dimensions and clinical features. *The American Journal of Psychiatry*, 159(12), 1973 -1978.

<https://doi.org/https://doi.org/10.1176/appi.ajp.159.12.1973>

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(5), 893-899. <https://doi.org/https://doi.org/10.1037/0022-006x.76.5.893>

Nicolò, G., Semerari, A., Lysaker, P. H., Dimaggio, G., Conti, L., D'Angerio, S., Procacci, M., Popolo, R., & Carcione, A. (2011). Alexithymia in personality disorders: Correlations with symptoms and interpersonal functioning. *Psychiatry Research*, 190(1), 37-42.

<https://doi.org/https://doi.org/10.1016/j.psychres.2010.07.046>

Niemeyer, L. M., Grosz, M. P., Zimmermann, J., & Back, M. D. (2021). Assessing maladaptive personality in the forensic context: Development and validation of the Personality Inventory for DSM-5 Forensic Faceted Brief Form (PID-5-FFBF). *Journal of Personality Assessment*, 1-14. <https://doi.org/https://doi.org/10.1080/00223891.2021.1923522>

Nunes, P. M., Wenzel, A., Borges, K. T., Porto, C. R., Caminha, R. M., & De Oliveira, I. R. (2009). Volumes of the hippocampus and amygdala in patients with borderline personality disorder: a meta-analysis. *Journal of personality disorders*, 23(4), 333-345.

<https://doi.org/https://doi.org/10.1521/pedi.2009.23.4.333>

O'Driscoll, C., Larney, S., Indig, D., & Basson, J. (2012). The impact of personality disorders, substance use and other mental illness on re-offending. *Journal of Forensic Psychiatry & Psychology*, 23(3), 382-391.

<https://doi.org/https://doi.org/10.1080/14789949.2012.686623>

- Ojanen, T., Grönroos, M., & Salmivalli, C. (2005). An interpersonal circumplex model of children's social goals: links with peer-reported behavior and sociometric status. *Developmental Psychology*, 41(5), 699-710. <https://doi.org/https://doi.org/10.1037/0012-1649.41.5.699>
- Okada, M., & Oltmanns, T. F. (2009). Comparison of three self-report measures of personality pathology. *Journal of Psychopathology and Behavioral Assessment*, 31(4), 358-367.
- Oldham, J. M. (2005). Personality Disorders. *Focus*, 3(3), 372-382. <https://doi.org/https://doi.org/10.1176/foc.3.3.372>
- Olszewski, T. M., & Varrasse, J. F. (2005). The Neurobiology of PTSD: Implication for nurses. *Journal of Psychosocial Nursing and Mental Health Services*, 43(6), 40-47. <https://doi.org/https://doi.org/10.3928/02793695-20050601-09>
- Orbons, I. M., Rossi, G., Verheul, R., Schoutrop, M. J., Derksen, J. L., Segal, D. L., & van Alphen, S. P. (2019). Continuity between DSM–5 section II and III personality disorders in a Dutch clinical sample. *Journal of Personality Assessment*, 101(3), 274-283. <https://doi.org/https://doi.org/10.1080/00223891.2018.1467427>
- Padilla-Walker, L. M., Carlo, G., & Nielson, M. G. (2015). Does helping keep teens protected? Longitudinal bidirectional relations between prosocial behavior and problem behavior. *Child Development*, 86(6), 1759-1772. <https://doi.org/https://doi.org/10.1111/cdev.12411>
- Pallant, J. (2016). *SPSS survival manual : a step by step guide to data analysis using SPSS*. Open University Press/McGraw-Hill.
- Parker, G., Hadzi-Pavlovic, D., Both, L., Kumar, S., Wilhelm, K., & Olley, A. (2004). Measuring disordered personality functioning: To love and to work revisited. *Acta Psychiatrica Scandinavica*, 110(3), 230-239. <https://doi.org/https://doi.org/10.1111/j.1600-0447.2004.00312.x>

- 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(3), 913-938.
<https://doi.org/https://doi.org/10.1017/s0954579409000492>
- Paulhus, D. L. (1998). *Paulhus deception scales (PDS): the balanced inventory of desirable responding-7: user's manual*. Multi-Health Systems North Tanawanda, NY.
- Paunonen, S. V., & Ashton, M. C. (2001). Big five factors and facets and the prediction of behavior. *Journal of personality and social psychology*, 81(3), 524-539.
<https://doi.org/https://doi.org/10.1037/0022-3514.81.3.524>
- Pearce, J. M. (2012). Brain disease leading to mental illness: a concept initiated by the discovery of general paralysis of the insane. *European Neurology*, 67(5), 272-278.
<https://doi.org/https://doi.org/10.1159/000336538>
- Perry, J. C. (1992). Problems and considerations in the valid assessment of personality disorders. *The American Journal of Psychiatry*.
<https://doi.org/https://doi.org/10.1176/ajp.149.12.1645>
- Pfohl, B., Blum, N., & Zimmerman, M. (1997). *Structured Interview for DSM-IV Personality*. American Psychiatric Press.
- Pfohl, B., Blum, N., Zimmerman, M., & Stangl, D. (1989). *Structured Interview for DSM-III-R Personality (SIDP-R)*. Department of Psychiatry.
- Piedmont, R. L., McCrae, R. R., Riemann, R., & Angleitner, A. (2000). On the invalidity of validity scales: Evidence from self-reports and observer ratings in volunteer samples. *Journal of Personality and Social Psychology*, 78(3), 582-593.
<https://doi.org/https://doi.org/10.1037/0022-3514.78.3.582>

Pilkonis, P. A., Heape, C. L., Proietti, J. M., Clark, S. W., McDavid, J. D., & Pitts, T. E. (1995).

The reliability and validity of two structured diagnostic interviews for personality disorders. *Archives of General Psychiatry*, 52(12), 1025-1033.

<https://doi.org/https://doi.org/10.1001/archpsyc.1995.03950240043009>

Pincus, A. L. (2018). An interpersonal perspective on Criterion A of the DSM-5 Alternative Model for Personality Disorders. *Current Opinion in Psychology*, 21, 11-17.

<https://doi.org/https://doi.org/10.1016/j.copsyc.2017.08.035>

Pincus, A. L., & Roche, M. J. (2019). Paradigms of Personality and Level of Personality in Criterion A of the Assessment Functioning. In C. J. Hopwood, A. L. Mulay, & M. H. Waugh (Eds.), *The DSM-5 Alternative Model for Personality Disorders: Integrating Multiple Paradigms of Personality Assessment* (pp. 48-59). Taylor & Francis Group.

<https://ebookcentral.proquest.com/lib/swin/detail.action?docID=5631802>

Piquero, A. R., Schubert, C. A., & Brame, R. (2014). Comparing official and self-report records of offending across gender and race/ethnicity in a longitudinal study of serious youthful offenders. *Journal of Research in Crime and Delinquency*, 51(4), 526-556.

<https://doi.org/https://doi.org/10.1177/0022427813520445>

Pondé, M. P., Caron, J., Mendonça, M. S., Freire, A. C., & Moreau, N. (2014). The relationship between mental disorders and types of crime in inmates in a Brazilian prison. *Journal of Forensic Sciences*, 59(5), 1307-1314. [https://doi.org/https://doi.org/10.1111/1556-](https://doi.org/https://doi.org/10.1111/1556-4029.12462)

[4029.12462](https://doi.org/https://doi.org/10.1111/1556-4029.12462)

Preti, E., Di Pierro, R., Costantini, G., Benzi, I. M., De Panfilis, C., & Madeddu, F. (2018).

Using the Structured Interview of Personality Organization for DSM-5 Level of Personality Functioning Rating Performed by Inexperienced Raters. *Journal of*

Personality Assessment, 100(6), 621-629.

<https://doi.org/https://doi.org/10.1080/00223891.2018.1448985>

Prichard, J. C. (1835). *Treatise on insanity*. Sherwood, Gilbert & Piper.

Putkonen, H., Komulainen, E. J., Virkkunen, M., Eronen, M., & Lönnqvist, J. (2003). Risk of repeat offending among violent female offenders with psychotic and personality disorders. *American Journal of Psychiatry*, 160(5), 947-951.

<https://doi.org/https://doi.org/10.1176/appi.ajp.160.5.947>

Quilty, L. C., Ayearst, L., Chmielewski, M., Pollock, B. G., & Bagby, R. M. (2013). The psychometric properties of the Personality Inventory for DSM-5 in an APA DSM-5 field trial sample. *Assessment*, 20(3), 362-369.

<https://doi.org/https://doi.org/10.1177/1073191113486183>

Raskin, R. N., & Hall, C. S. (1979). A narcissistic personality inventory. *Psychological Reports*, 45(2), 590. <https://doi.org/https://doi.org/10.2466%2Fpr0.1979.45.2.590>

Rigonatti, S. P., de Padua Serafim, A., de Freitas Caires, M. A., AH, G. V. F., & Arboleda-Florez, J. (2006). Personality disorders in rapists and murderers from a maximum security prison in Brazil. *International Journal of Law and Psychiatry*, 29(5), 361-369.

<https://doi.org/https://doi.org/10.1016/j.ijlp.2006.01.003>

Roche, M. J., Jacobson, N. C., & Pincus, A. L. (2016). Using repeated daily assessments to uncover oscillating patterns and temporally-dynamic triggers in structures of psychopathology: Applications to the DSM-5 alternative model of personality disorders. *Journal of Abnormal Psychology*, 125(8), 1090-1102.

<https://doi.org/https://doi.org/10.1037/abn0000177>

Rodriguez-Seijas, C., Ruggero, C., Eaton, N. R., & Krueger, R. F. (2019). The DSM-5 alternative model for personality disorders and clinical treatment: A review. *Current*

Treatment Options in Psychiatry, 6(4), 284-298.

<https://doi.org/https://doi.org/10.1007/s40501-019-00187-7>

Rogers, C. R. (1951). *Client-centered therapy*.

Romero, E., & Alonso, C. (2019). Maladaptive personality traits in adolescence: Behavioural, emotional and motivational correlates of the PID-5-BF scales. *Psicothema*, 31(3), 263-270. <https://doi.org/https://doi.org/10.7334/psicothema2019.86>

Rosenhan, D. L. (1973). On Being Sane in Insane Places. *Science*, 179(4070), 250-258. <https://doi.org/https://doi.org/10.1126/science.179.4070.250>

Rösler, M., Retz, W., Retz-Junginger, P., Hengesbach, G., Schneider, M., Supprian, T., Schwitzgebel, P., Pinhard, K., Dovi-Akue, N., & Wender, P. (2004). Prevalence of attention deficit/hyperactivity disorder (ADHD) and comorbid disorders in young male prison inmates. *European Archives of Psychiatry and Clinical Neuroscience*, 254(6), 365-371. <https://doi.org/https://doi.org/10.1007/s00406-004-0516-z>

Rotter, M., Way, B., Steinbacher, M., Sawyer, D., & Smith, H. (2002). Personality disorders in prison: Aren't they all antisocial? *Psychiatric Quarterly*, 73(4), 337-349. <https://doi.org/https://doi.org/10.1023/a:1020468117930>

Ruiter, C. d., & Greeven, P. G. (2000). Personality disorders in a Dutch forensic psychiatric sample: Convergence of interview and self-report measures. *Journal of Personality Disorders*, 14(2), 162-170. <https://doi.org/https://doi.org/10.1521/pedi.2000.14.2.162>

Ruocco, A. C. (2015). *Cognitive Functioning and Functional Abilities in Borderline Personality Disorder* [Lecture]. https://borderlinepersonalitydisorder.org/wp-content/uploads/2018/09/Ruocco_NEA-BPD_2015-02-22a.pdf

Rutter, M. (1987). Temperament, personality and personality disorder. *The British Journal of Psychiatry*, 150(4), 443-458. <https://doi.org/https://doi.org/10.1192/bjp.150.4.443>

- Sabbarton-Leary, N., Bortolitti, L., & Broome, M. R. (2015). Natural and para-natural kinds in psychiatry. In P. Zachar, D. S. Stoyanov, M. Aragona, & A. Jablensky (Eds.), *Alternative perspectives on psychiatric validation* (pp. 76-83). Oxford University Press.
- Sadler, J. Z. (2005). *Values and psychiatric diagnosis* (Vol. 2). Oxford University Press.
<https://doi.org/https://doi.org/10.1093/med/9780198526377.003.0011>
- Salerian, A. J. (2012). DSM-5 may have adverse effects. *Mental Health and Addiction Research*, 2, 1-4. <https://doi.org/https://doi.org/10.15761/mhar.1000131>
- Samuel, D. B., Hopwood, C. J., Krueger, R. F., Thomas, K. M., & Ruggero, C. J. (2013). Comparing methods for scoring personality disorder types using maladaptive traits in DSM-5. *Assessment*, 20(3), 353-361.
- Samuels, J., & Costa, P. T. (2012). Obsessive-Compulsive Personality Disorder. In T. A. Widiger (Ed.), *The Oxford Handbook of Personality Disorders*. Oxford University Press.
<https://doi.org/10.1093/oxfordhb/9780199735013.013.0026>
- Schneider, K. (1923). *Psychopathic personalities*. Cassell.
- Schwartz, S. J., Beyers, W., Luyckx, K., Soenens, B., Zamboanga, B. L., Forthun, L. F., Hardy, S. A., Vazsonyi, A. T., Ham, L. S., & Kim, S. Y. (2011). Examining the light and dark sides of emerging adults' identity: A study of identity status differences in positive and negative psychosocial functioning. *Journal of Youth and Adolescence*, 40(7), 839-859.
<https://doi.org/https://doi.org/10.1007/s10964-010-9606-6>
- Segal, D. L., Coolidge, F. L., O'Riley, A., & Heinz, B. A. (2006). Structured and semistructured interviews. In *Clinician's handbook of adult behavioral assessment* (pp. 121-144). Elsevier.

- Sellbom, M., Dhillon, S., & Bagby, R. M. (2018). Development and validation of an Overreporting Scale for the Personality Inventory for DSM–5 (PID-5). *Psychological Assessment, 30*(5), 582-593. <https://doi.org/https://doi.org/10.1037/pas0000507>
- Sharpe, J., & Desai, S. (2001). The revised Neo Personality Inventory and the MMPI-2 Psychopathology Five in the prediction of aggression. *Personality and Individual Differences, 31*(4), 505-518. [https://doi.org/https://doi.org/10.1016/s0191-8869\(00\)00155-0](https://doi.org/https://doi.org/10.1016/s0191-8869(00)00155-0)
- Shea, M. T., Stout, R., Gunderson, J., Morey, L. C., Grilo, C. M., McGlashan, T., Skodol, A. E., Dolan-Sewell, R., Dyck, I., & Zanarini, M. C. (2002). Short-term diagnostic stability of schizotypal, borderline, avoidant, and obsessive-compulsive personality disorders. *American Journal of Psychiatry, 159*(12), 2036-2041. <https://doi.org/https://doi.org/10.1176/appi.ajp.159.12.2036>
- Shedler, J., & Westen, D. (2007). The Shedler–Westen assessment procedure (SWAP): making personality diagnosis clinically meaningful. *Journal of Personality Assessment, 89*(1), 41-55. <https://doi.org/https://doi.org/10.1080/00223890701357092>
- Sheehan, D., Lecrubier, Y., Sheehan, K., Amorim, P., Janavs, J., Weiller, E., Hergueta, T., Baker, R., & Dunbar, G. (1998). The Mini International Neuropsychiatric Interview (MINI): the development and validation of a structured psychiatric diagnostic interview for DSM-IV and ICD-10. *J Clin Psychiatry, 59*(Suppl 20), 23-33. <https://doi.org/https://doi.org/10.4088/JCP.09m05305whi>
- Shepherd, S. M., Campbell, R. E., & Ogloff, J. R. (2016). Psychopathy, antisocial personality disorder, and reconviction in an Australian sample of forensic patients. *International Journal of Offender Therapy and Comparative Criminology, 62*(3), 609-628. <https://doi.org/https://doi.org/10.1177/0306624x16653193>

- Siegel, D. J. (2001). Toward an interpersonal neurobiology of the developing mind: Attachment relationships, “mindsight,” and neural integration. *Infant Mental Health Journal: Official Publication of The World Association for Infant Mental Health*, 22(1-2), 67-94.
[https://doi.org/https://doi.org/10.1002/1097-0355\(200101/04\)22:1%3C67::aid-imhj3%3E3.0.co;2-g](https://doi.org/https://doi.org/10.1002/1097-0355(200101/04)22:1%3C67::aid-imhj3%3E3.0.co;2-g)
- Simms, L. (2013). Science and technology enable quick, comprehensive personality disorder assessment: The CAT-PD project.
- Simms, L. J., Goldberg, L. R., Roberts, J. E., Watson, D., Welte, J., & Rotterman, J. H. (2011). Computerized adaptive assessment of personality disorder: Introducing the CAT-PD project. *Journal of Personality Assessment*, 93(4), 380-389.
<https://doi.org/https://doi.org/10.1080/00223891.2011.577475>
- Simonsen, S., & Simonsen, E. (2014). Contemporary directions in theories and psychotherapeutic strategies in treatment of personality disorders: Relation to level of personality functioning. *Journal of Contemporary Psychotherapy*, 44(2), 141-148.
<https://doi.org/https://doi.org/10.1007/s10879-014-9261-4>
- Sindicich, N., Mills, K. L., Barrett, E. L., Indig, D., Sunjic, S., Sannibale, C., Rosenfeld, J., & Najavits, L. M. (2014). Offenders as victims: post-traumatic stress disorder and substance use disorder among male prisoners. *The Journal of Forensic Psychiatry & Psychology*, 25(1), 44-60. <https://doi.org/https://doi.org/10.1080/14789949.2013.877516>
- Singleton, N., Meltzer, H., Gatward, R., Coid, J. W., & Deasy, D. (1998). *Psychiatric morbidity among prisoners: Summary report*. Office for National Statistics.
- Sirotich, F. (2008). Correlates of crime and violence among persons with mental disorder: An evidence-based review. *Brief Treatment and Crisis Intervention*, 8(2), 171-194.
<https://doi.org/https://doi.org/10.1093/brief-treatment/mhn006>

- Skodol, A. E. (2012). Personality disorders in DSM-5. *Annual Review of Clinical Psychology*, 8, 317-344. <https://doi.org/https://doi.org/10.1146/annurev-clinpsy-032511-143131>
- Skodol, A. E., Clark, L. A., Bender, D. S., Krueger, R. F., Morey, L. C., Verheul, R., Alarcon, R. D., Bell, C. C., Siever, L. J., & Oldham, J. M. (2011). Proposed changes in personality and personality disorder assessment and diagnosis for DSM-5 Part I: Description and rationale. *Personality Disorders: Theory, Research, and Treatment*, 2(1), 4-22. <https://doi.org/https://doi.org/10.1037/a0021891>
- Skodol, A. E., First, M. B., Bender, D. S., & Oldham, J. M. (2018). Module II: Structured clinical interview for personality traits. In M. B. First, A. E. Skodol, D. S. Bender, & J. M. Oldham (Eds.), *Structured Clinical Interview for the DSM-5 Alternative Model for Personality Disorders (SCID-AMPD)*. American Psychiatric Association.
- Skodol, A. E., Morey, L. C., Bender, D. S., & Oldham, J. M. (2015). The alternative DSM-5 model for personality disorders: A clinical application. *American Journal of Psychiatry*, 172(7), 606-613. <https://doi.org/https://doi.org/10.1176/appi.ajp.2015.14101220>
- Sleep, C. E., Lynam, D. R., Widiger, T. A., Crowe, M. L., & Miller, J. D. (2019). An evaluation of DSM–5 Section III personality disorder Criterion A (impairment) in accounting for psychopathology. *Psychological Assessment*, 31(10), 1181. <https://doi.org/https://doi.org/10.31234/osf.io/z48tv>
- Sleep, C. E., Weiss, B., Lynam, D. R., & Miller, J. D. (2020). The DSM–5 section III personality disorder criterion a in relation to both pathological and general personality traits. *Personality Disorders: Theory, Research, and Treatment*, 11(3), 202. <https://doi.org/https://doi.org/10.31234/osf.io/3f459>
- Sleep, C. E., Wygant, D. B., & Miller, J. D. (2018). Examining the incremental utility of DSM-5 Section III traits and impairment in relation to traditional personality disorder scores in a

- female correctional sample. *Journal of Personality Disorders*, 32(6), 738-752.
https://doi.org/https://doi.org/10.1521/pedi_2017_31_320
- Smith, E., Nolen-Hoeksema, S., Fredrickson, B., Loftus, G., Bem, D., & Maren, S. (2003). *Atkinson and Hilgard's introduction to psychology*. Wadsworth/Thomson Learning.
- Soeteman, D. I., Roijen, L. H.-v., Verheul, R., & Busschbach, J. J. (2008). The economic burden of personality disorders in mental health care. *Journal of Clinical Psychiatry*, 69(2), 259.
- Somma, A., Borroni, S., Carlotta, D., Giarolli, L., Barranca, M., Cerioli, C., Franzoni, C., Masci, E., Manini, R., & Busso, S. (2019). The inter-rater reliability and convergent validity of the Italian translation of the Structured Clinical Interview for the DSM-5 Alternative Model of Personality Disorders Module III in a psychotherapy outpatient sample. *Journal of Psychopathology*, 195-204. <https://doi.org/https://doi.org/10.1037/t77448-000>
- Somma, A., Borroni, S., Gialdi, G., Carlotta, D., Emanuela Giarolli, L., Barranca, M., Cerioli, C., Franzoni, C., Masci, E., & Manini, R. (2020). The Inter-Rater Reliability and Validity of the Italian Translation of the Structured Clinical Interview for DSM-5 Alternative Model for Personality Disorders Module I and Module II: A Preliminary Report on Consecutively Admitted Psychotherapy Outpatients. *Journal of Personality Disorders*, 34(Supplement C), 95-123. https://doi.org/https://doi.org/10.1521/pedi_2020_34_511
- Spitzer, R., Williams, J., Gibbon, M., & First, M. (1988). *Structured Clinical Interview for DSM III (SCID)*. Biometrics Research Department, New York State Psychiatric Institute.
- Spitzer, R. L. (1983). Psychiatric diagnosis: are clinicians still necessary? *Comprehensive Psychiatry*, 24(5), 399-411. [https://doi.org/https://doi.org/10.1016/0010-440x\(83\)90032-9](https://doi.org/https://doi.org/10.1016/0010-440x(83)90032-9)
- Stevens, J. P. (1996). *Applied multivariate statistics for the social sciences* (3rd ed.). Lawrence Erlbaum Associates.

- Strack, S. (1987). Development and validation of an adjective check list to assess the Millon personality types in a normal population. *Journal of Personality Assessment*, 51(4), 572-587. https://doi.org/https://doi.org/10.1207/s15327752jpa5104_9
- Straus, M. A., Hamby, S. L., Boney-McCoy, S., & Sugarman, D. B. (1996). The revised conflict tactics scales (CTS2) development and preliminary psychometric data. *Journal of Family Issues*, 17(3), 283-316.
- Stuart, S., Pfohl, B., Battaglia, M., Bellodi, L., Grove, W., & Cadoret, R. (1998). The cooccurrence of DSM-III-R personality disorders. *Journal of Personality Disorders*, 12(4), 302-315.
- Svindseth, M. F., Nøttestad, J. A., Wallin, J., Roaldset, J. O., & Dahl, A. A. (2008). Narcissism in patients admitted to psychiatric acute wards: its relation to violence, suicidality and other psychopathology. *BMC psychiatry*, 8(1), 1-11.
<https://doi.org/https://doi.org/10.1186/1471-244x-8-13>
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics*. Pearson.
- Thylstrup, B., Simonsen, S., Nemery, C., Simonsen, E., Noll, J. F., Myatt, M. W., & Hesse, M. (2016). Assessment of personality-related levels of functioning: a pilot study of clinical assessment of the DSM-5 level of personality functioning based on a semi-structured interview. *BMC Psychiatry*, 16(1), 298. <https://doi.org/https://doi.org/10.1186/s12888-016-1011-6>
- Timmerman, I. G., & Emmelkamp, P. M. (2001). The prevalence and comorbidity of Axis I and Axis II pathology in a group of forensic patients. *International Journal of Offender Therapy and Comparative Criminology*, 45(2), 198-213.

- Trapnell, P. D., & Wiggins, J. S. (1990). Extension of the Interpersonal Adjective Scales to include the Big Five dimensions of personality. *Journal of personality and Social Psychology*, 59(4), 781.
- Trull, T. J., & Larson, S. L. (1994). External validity of two personality disorder inventories. *Journal of Personality Disorders*, 8(2), 96-103.
<https://doi.org/https://doi.org/10.1521/pedi.1994.8.2.96>
- Turkheimer, E. (2015). The nature of nature. In K. S. Kendler & J. Parnas (Eds.), *Philosophical issues in psychiatry III: the nature and sources of historical change*. Oxford University Press, USA.
- Turkheimer, E., Ford, D. C., & Oltmanns, T. F. (2008). Regional Analysis of Self-Reported Personality Disorder Criteria. *Journal of Personality*, 76(6), 1587-1622.
<https://doi.org/https://doi.org/10.1111/j.1467-6494.2008.00532.x>
- Tyrer, P. (2000). *Personality assessment schedule: PAS-I (ICD-10 version)*. Arnold.
- Tyrer, P., Reed, G., & Crawford, M. (2015). Classification, assessment, prevalence, and effect of personality disorder. *The Lancet*, 385(9969), 717-726.
[https://doi.org/https://doi.org/10.1016/s0140-6736\(14\)61995-4](https://doi.org/https://doi.org/10.1016/s0140-6736(14)61995-4)
- Vachon, D. D., Lynam, D. R., & Johnson, J. A. (2014). The (non) relation between empathy and aggression: surprising results from a meta-analysis. *Psychological Bulletin*, 140(3), 751-773. <https://doi.org/https://doi.org/10.1037/a0035236>
- Van Dam, C., Janssens, J. M., & De Bruyn, E. E. (2005). PEN, Big Five, juvenile delinquency and criminal recidivism. *Personality and Individual Differences*, 39(1), 7-19.
<https://doi.org/https://doi.org/10.1016/j.paid.2004.06.016>

- van Hoof, A. (1999). The identity status approach: In need of fundamental revision and qualitative change. *Developmental Review*, 19(4), 622-647.
<https://doi.org/https://doi.org/10.1006/drev.1999.0499>
- Varga, S. (2015). *Naturalism, interpretation, and mental disorder*. Oxford University Press.
- Varley Thornton, A. J., Graham-Kevan, N., & Archer, J. (2010). Adaptive and maladaptive personality traits as predictors of violent and nonviolent offending behavior in men and women. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, 36(3), 177-186. <https://doi.org/https://doi.org/10.1002/ab.20340>
- Verheul, R. (2012). Personality disorder proposal for DSM-5: A heroic and innovative but nevertheless fundamentally flawed attempt to improve DSM-IV. *Clinical Psychology & Psychotherapy*, 19(5), 369-371. <https://doi.org/https://doi.org/10.1002/cpp.1809>
- Verheul, R., Andrea, H., Berghout, C. C., Dolan, C., Busschbach, J. J., van der Kroft, P. J., Bateman, A. W., & Fonagy, P. (2008). Severity Indices of Personality Problems (SIPP-118): Development, factor structure, reliability, and validity. *Psychological Assessment*, 20(1), 23-24. <https://doi.org/https://doi.org/10.1037/1040-3590.20.1.23>
- Verheul, R., & Widiger, T. A. (2004). A meta-analysis of the prevalence and usage of the personality disorder not otherwise specified (PDNOS) diagnosis. *Journal of Personality Disorders*, 18(4), 309-319. <https://doi.org/https://doi.org/10.1521/pedi.2004.18.4.309>
- Vicens, E., Tort, V., Dueñas, R. M., Muro, Á., Pérez-Arnau, F., Arroyo, J. M., Acín, E., De Vicente, A., Guerrero, R., & Lluch, J. (2011). The prevalence of mental disorders in Spanish prisons. *Criminal Behaviour and Mental Health*, 21(5), 321-332.
<https://doi.org/https://doi.org/10.1002/cbm.815>

- Vigil-Colet, A., Lorenzo-Seva, U., & Morales-Vives, F. (2015). The effects of ageing on self-reported aggression measures are partly explained by response bias. *Psicothema*, 209-2015. <https://doi.org/https://doi.org/10.7334/psicothema2015.32>
- Wakefield, J. C. (2013). DSM-5 and the general definition of personality disorder. *Clinical Social Work Journal*, 41(2), 168-183. <https://doi.org/https://doi.org/10.1007/s10615-012-0402-5>
- Walsh, Z., Swogger, M. T., Walsh, T., & Kosson, D. S. (2007). Psychopathy and violence: Increasing specificity. *Netherlands journal of psychology*, 63(4), 125-132. <https://doi.org/https://doi.org/10.1007/bf03061075>
- Walter, M., Wiesbeck, G. A., Dittmann, V., & Graf, M. (2011). Criminal recidivism in offenders with personality disorders and substance use disorders over 8 years of time at risk. *Psychiatry Research*, 186(2-3), 443-445. <https://doi.org/https://doi.org/10.1016/j.psychres.2010.08.009>
- Warren, J. I., Burnette, M., South, S. C., Chauhan, P., Bale, R., & Friend, R. (2002). Personality disorders and violence among female prison inmates. *Journal of the American Academy of Psychiatry and the Law Online*, 30(4), 502-509.
- Watson, D. (2009). Differentiating the mood and anxiety disorders: A quadripartite model. *Annual Review of Clinical Psychology*, 5(1), 221-247. <https://doi.org/https://doi.org/10.1146/annurev.clinpsy.032408.153510>
- Watters, C. A., Bagby, R. M., & Sellbom, M. (2019). Meta-analysis to derive an empirically based set of personality facet criteria for the alternative DSM-5 model for personality disorders. *Personality Disorders: Theory, Research, and Treatment*, 10(2), 97-104. <https://doi.org/https://doi.org/10.1037/per0000307>

- Waugh, M. H., Hopwood, C. J., Krueger, R. F., Morey, L. C., Pincus, A. L., & Wright, A. G. (2017). Psychological assessment with the DSM–5 Alternative Model for Personality Disorders: Tradition and innovation. *Professional Psychology: Research and Practice*, 48(2), 79-89. <https://doi.org/https://doi.org/10.1037/pro0000071>
- Waugh, M. H., McClain, C. M., Mariotti, E. C., Mulay, A. L., DeVore, E. N., Lenger, K. A., Russell, A. N., Florimbio, A. R., Lewis, K. C., & Ridenour, J. M. (2021). Comparative content analysis of self-report scales for level of personality functioning. *Journal of Personality Assessment*, 103(2), 161-173. <https://doi.org/https://doi.org/10.1080/00223891.2019.1705464>
- Webb, C. A., Trivedi, M. H., Cohen, Z. D., Dillon, D. G., Fournier, J. C., Goer, F., Fava, M., McGrath, P. J., Weissman, M., & Parsey, R. (2019). Personalized prediction of antidepressant v. placebo response: evidence from the EMBARC study. *Psychological Medicine*, 49(7), 1118-1127. <https://doi.org/https://doi.org/10.1017/s0033291718001708>
- Weekers, L. C., Hutsebaut, J., & Kamphuis, J. H. (2019). The Level of Personality Functioning Scale-Brief Form 2.0: Update of a brief instrument for assessing level of personality functioning. *Personality and Mental Health*, 13(1), 3-14. <https://doi.org/https://doi.org/10.1002/pmh.1434>
- Whitlock, F. (1982). A note on moral insanity and psychopathic disorders. *Bulletin of the Royal College of Psychiatrists*, 6(4), 57-59. <https://doi.org/https://doi.org/10.1192/pb.6.4.57>
- Widiger, T. A. (1993). The DSM-III-R categorical personality disorder diagnoses: A critique and an alternative. *Psychological Inquiry*, 4(2), 75-90. https://doi.org/https://doi.org/10.1207/s15327965pli0402_1
- Widiger, T. A. (2003). Personality disorder diagnosis. *World Psychiatry*, 2(3), 131-135.

- Widiger, T. A., & Frances, A. (1987). Interviews and inventories for the measurement of personality disorders. *Clinical Psychology Review*, 7(1), 49-75.
[https://doi.org/https://doi.org/10.1016/0272-7358\(87\)90004-3](https://doi.org/https://doi.org/10.1016/0272-7358(87)90004-3)
- Widiger, T. A., Livesley, W. J., & Clark, L. A. (2009). An integrative dimensional classification of personality disorder. *Psychological assessment*, 21(3), 243-255.
<https://doi.org/https://doi.org/10.1037/a0016606>
- Widiger, T. A., Mangine, S., Corbitt, E. M., Ellis, C. G., & Thomas, G. V. (1995). *Personality Disorder Interview-IV. A semi structured interview for the assessment of personality disorders. Professional manual*. Psychological Assessment Resources.
- Widiger, T. A., & Samuel, D. B. (2005). Evidence-based assessment of personality disorders. *Psychological Assessment*, 17(3), 278-287. <https://doi.org/https://doi.org/10.1037/1040-3590.17.3.278>
- Widiger, T. A., & Trull, T. J. (2007). Plate tectonics in the classification of personality disorder: shifting to a dimensional model. *American Psychologist*, 62(2), 71-83.
<https://doi.org/https://doi.org/10.1037/0003-066x.62.2.71>
- Wilberg, T., Hummelen, B., Pedersen, G., & Karterud, S. (2008). A Study Of Patients With Personality Disorder Not Otherwise Specified. *Comprehensive Psychiatry*, 49(5), 460-468. <https://doi.org/https://doi.org/10.1016/j.comppsy.2007.12.008>
- Williams, G. E., Daros, A. R., Graves, B., McMain, S. F., Links, P. S., & Ruocco, A. C. (2015). Executive functions and social cognition in highly lethal self-injuring patients with borderline personality disorder. *Personality Disorders: Theory, Research, and Treatment*, 6(2), 107-116. <https://doi.org/https://doi.org/10.1037/per0000105>

- Wilson, S., Stroud, C. B., & Durbin, C. E. (2017). Interpersonal dysfunction in personality disorders: A meta-analytic review. *Psychological Bulletin*, 143(7), 677.
<https://doi.org/https://doi.org/10.1037/bul0000101>
- Wong, S. C. P., & Gordon, A. (1998 – 2003). *Violence Risk Scale*.
- World Health Organization. (1978). *World Health Organisation's International Statistical Classification Of Diseases and Related Health Problems – 9th Revision*. World Health Organization.
- World Health Organization. (1994). *International statistical classification of diseases and related health problems (10th Revision)*. <https://icd.who.int/browse10/2016/en>
- World Health Organization. (2019). *International statistical classification of diseases and related health problems (11th ed)* <https://icd.who.int/>
- Wright, A. G., Calabrese, W. R., Rudick, M. M., Yam, W. H., Zelazny, K., Williams, T. F., Rotterman, J. H., & Simms, L. J. (2015). Stability of the DSM-5 Section III pathological personality traits and their longitudinal associations with psychosocial functioning in personality disordered individuals. *Journal of Abnormal Psychology*, 124(1), 199-207.
<https://doi.org/https://doi.org/10.1037/abn0000018>
- Wright, A. G., Hopwood, C. J., Skodol, A. E., & Morey, L. C. (2016). Longitudinal validation of general and specific structural features of personality pathology. *Journal of Abnormal Psychology*, 125(8), 1120.
- Wright, A. G., Thomas, K. M., Hopwood, C. J., Markon, K. E., Pincus, A. L., & Krueger, R. F. (2012). The hierarchical structure of DSM-5 pathological personality traits. *Journal of Abnormal Psychology*, 121(4), 951-957. <https://doi.org/https://doi.org/10.1037/a0027669>
- Yan, X. (2012). *Amygdala, Childhood Adversity and Psychiatric Disorders*.

- Zachar, P., & First, M. B. (2015). Transitioning to a dimensional model of personality disorder in DSM 5.1 and beyond. *Current Opinion in Psychiatry*, 28(1), 66-72.
<https://doi.org/https://doi.org/10.1097/ycp.0000000000000115>
- Zanarini, M. C., Frankenburg, F. R., Reich, D. B., & Fitzmaurice, G. (2010). Time to attainment of recovery from borderline personality disorder and stability of recovery: A 10-year prospective follow-up study. *American Journal of Psychiatry*, 167(6), 663-667.
<https://doi.org/https://doi.org/10.1176/appi.ajp.2009.09081130>
- Zanarini, M. C., Frankenburg, F. R., Sickel, A. E., & Yong, L. (1996). *The diagnostic interview for DSM-IV personality disorders (DIPD-IV)* (Vol. 340). McLean Hospital.
- Zanarini, M. C., Gunderson, J. G., Frankenburg, F. R., & Chauncey, D. L. (1989). The revised diagnostic interview for borderlines: discriminating BPD from other axis II disorders. *Journal of Personality Disorders*, 3(1), 10-18.
<https://doi.org/https://doi.org/10.1521/pedi.1989.3.1.10>
- Zimmerman, M. (1994). Diagnosing personality disorders: A review of issues and research methods. *Archives of General Psychiatry*, 51(3), 225-245.
<https://doi.org/https://doi.org/10.1001/archpsyc.1994.03950030061006>
- Zimmerman, M. (2012). Is there adequate empirical justification for radically revising the personality disorders section for DSM-5? *Personality Disorders: Theory, Research, and Treatment*, 3(4), 444.
- Zimmerman, M., Rothschild, L., & Chelminski, I. (2005). The prevalence of DSM-IV personality disorders in psychiatric outpatients. *American Journal of Psychiatry*, 162(10), 1911-1918. <https://doi.org/https://doi.org/10.1176/appi.ajp.162.10.1911>
- Zimmermann, J. (2022). Beyond Defending or Abolishing Criterion A: Comment on Morey et al. (2022). <https://doi.org/https://doi.org/10.31234/osf.io/ypg4b>

Zimmermann, J., Benecke, C., Bender, D. S., Skodol, A. E., Schauenburg, H., Cierpka, M., & Leising, D. (2014). Assessing DSM–5 level of personality functioning from videotaped clinical interviews: A pilot study with untrained and clinically inexperienced students. *Journal of Personality Assessment*, 96(4), 397-409.

<https://doi.org/https://doi.org/10.1080/00223891.2013.852563>

Zlotnick, C. (1999). Antisocial personality disorder, affect dysregulation and childhood abuse among incarcerated women. *Journal of Personality Disorders*, 13(1), 90-95.

APPENDICES

Appendix A: Ethical approval (2019)

Appendix B: Recruitment poster

Appendix C: Explanatory statement

Appendix D: Consent form

Appendix E: Certificate of participation

Appendix F: Ethical approval (2020)

Appendix G: Assessment of Level of Personality Functioning

Appendix H: Personality Inventory for DSM-5

Appendix I: Life History of Aggression – Self-Report – Aggression