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**THE ROLE OF PSYCHOPATHY AND
CHILDHOOD EXPERIENCES IN RAPE MYTH
ACCEPTANCE IN A SAMPLE OF PRISONERS
AND NON-PRISONERS**

AGATA DEBOWSKA, BA (Hons), MSc

A thesis submitted to the University of Huddersfield in partial fulfilment of the
requirements for the degree of Doctor of Philosophy

The University of Huddersfield

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ABSTRACT

Due to the lack of a suitable measure of psychopathy to be used with Polish participants, the focus of the first empirical chapter was to translate the Self-Report Psychopathy Scale (SRP-III) into Polish with the aim to test construct validity and dimensionality, incremental validity, and composite reliability of the measure in a sample of working adults ($N = 319$). Confirmatory factor analyses revealed that the best fitting model was the bifactor conceptualisation containing two general factors and four grouping factors represented by interpersonal, affective, antisocial, and lifestyle latent variables. This measure was then applied in further chapters to examine the role of psychopathy in rape myth acceptance.

Based on a sample of Polish non-offending adults ($n = 319$) and a sample of prisoners ($n = 129$), the second empirical chapter investigated the direct effects of four psychopathy dimensions (Interpersonal Manipulation, Callous Affect, Erratic Lifestyle and Antisocial Behaviour), exposure to violence, relationship status, age, gender, and type of data (prisoners vs. non-prisoners) on rape myth acceptance. A model of rape myth acceptance was estimated and assessed in AMOS, using structural equation modelling. Results indicated that Callous Affect and childhood exposure to violence had a significant positive effect on attitudes towards rape.

The aim of the third empirical chapter was to extend the findings of the earlier study by including additional psychological variables into the earlier specified model of rape myth acceptance. The study considered the role of psychopathy, aggression, and adverse childhood experiences in rape myth acceptance using a sample of prisoners ($n = 98$) and non-prisoners ($n = 98$). This research employed a quasi-experimental design with propensity score matching in order to control for selection bias. Post-matching regression results indicated that maternal anxious and avoidant attachment, Callous Affect, and aggression were significant predictors of rape myth acceptance.

Key words: psychopathy, rape myth acceptance, childhood exposure to violence, aggression, attachment

LIST OF ABBREVIATIONS

A	Anger
ACC	Anterior cingulate cortex
AIC	Akaike Information Criterion
AMMSA	Acceptance of Modern Myths about Sexual Aggression Scale
arMPFC	Anterior rostral medial prefrontal cortex
ASB	Antisocial Behaviour
ASPD	Antisocial Personality Disorder
ATT	Attachment
α	Cronbach's Alpha
B	Unstandardized Regression Weight
BA	Brodman area
BCS	British Crime Survey
BPAQ	Buss-Perry Aggression Questionnaire
BPD	Borderline Personality Disorder
β	Standardized Regression Weight
CA	Callous Affect
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CI	Confidence Interval
Cr	Creatine
CU	Callous/unemotional
df	Degree of Freedom
DSM	Diagnostic Statistical Manual of Mental Disorders
DZ	Dizygotic

ECR-RS	Relationship Structure Questionnaire
ECVI	Expected Cross-Validation Index
ELS	Erratic Lifestyle
EPBR	Equal per cent bias reducing
$\hat{e}(X)$	Estimated propensity score
F1	Factor 1
F2	Factor 2
F3	Factor 3
F4	Factor 4
FA	Factor Analysis
fMRI	Functional magnetic resonance imaging
G1	General factor 1
G2	General factor 2
GM	Gray matter
H	Hostility
IFI	Incremental Fit Index
IPM	Interpersonal Manipulation
IRMA	Illinois Rape Myth Acceptance Scale
LPSP	Levenson Primary and Secondary Psychopathy Scales
LSDA	Loneliness and Social Dissatisfaction Questionnaire
M	Mean
MAOA	Monoamine oxidase A
MAOA-LPR	Monoamine oxidase A promoter polymorphism
ML	Maximum likelihood
MNS	Mirror neuron system
MPQ-BF	Multidimensional Personality Questionnaire – Brief Form

MRI	Magnetic resonance imaging
MZ	Monozygotic
NE	Negative emotionality
NFI	Normed Fit Index (or Bentler-Bonett Index)
NNFI	Non-Normed Fit Index
NP	Non-prisoners
p	Probability
P	Prisoners
PA	Physical aggression
PCL	Psychopathy Checklist
PCL-R	Psychopathy Checklist-Revised
PCL:YV	Psychopathy Checklist – Youth Version
PPI	Psychopathic Personality Inventory
PSM	Propensity score matching
PTSD	Post-traumatic Stress Disorder
ρ_c	Reliability of the factor structure
$q(X)$	Estimated logit of the propensity score
r	Correlation Coefficient
REVS	Recent Exposure to Violence Scale
RFI	Relative Fit Index
RMA	Rape myth acceptance
RMAS	Rape Myth Acceptance Scale
RMSEA	Root-Mean-Square Error of Approximation
RMSR	Root Mean-Square Residual
SD	Standard Deviation
SE	Standard Error

SEM	Structural Equation Modelling
SRMSR	Standardized Root Mean-Square Residual
SRP	Self-Report Psychopathy Scale
TLI	Tucker Lewis Index
VA	Verbal aggression
VIF	Variance Inflation Factor
VIM	Violence inhibition mechanism
vmPFC	Ventromedial prefrontal cortex
χ^2	Chi-square
η^2	Eta squared
λ_i	Standardized factor loading
θ_i	Standardised error variance

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CHAPTER 1

Theoretical introduction

1.1 INTRODUCTION AND RESEARCH AIMS

Sexual violence towards women has long been a problem of societies with predominantly patriarchal values, and a manifestation of female oppression. Victims of rape experience both sexual and emotional violation which may vary in degree and intensity (Canter, Bennell, Laurence & Reddy, 2003). Research suggested that rape is still largely a crime directed against a woman and perpetrated by a man (Koss et al., 1994). Sexual aggression is perpetuated by traditional gender roles as well as many myths and misconceptions which still linger. Importantly, such erroneous beliefs may act as “psychological neutralisers” that allow men to shed social prohibitions against hurting others, resulting in using force in sexual interactions (Burt, 1980).

Attitudes which condone interpersonal violence against women are held by many individuals in the general and prison population. Sexually aggressive men were found to express greater hostility towards women (Koss & Dinero, 1988). Acceptance of stereotypes pertaining to rape, on the other hand, was found to be positively associated with sexual aggression (DeGue & DiLillo, 2004), exposure to sexually violent media content (Malamuth & Check, 1981), and positive attitudes about aggression in general (Mouislo & Calhoun, 2013). Attitudes toward rape have consistently been found to vary by gender, with men more likely to support rape myths, using a variety of research methodologies and populations (Koss, 1988). Moreover, psychopathy was reported to play a significant role in the endorsement of rape stereotypes (Mouislo & Calhoun, 2013). However, due to the controversy surrounding the structure of psychopathy as a clinical construct, and the lack of studies with diverse populations, the value of psychopathy as a predictor of rape myth acceptance needs to be verified.

Much still remains unknown about rape myth acceptance, and how it is affected by different psychological factors. One of the most prominent limitations of past research studies is the failure to utilise advanced statistical procedures which would allow for investigating the relationship between numerous variables. This would generate a more accurate picture of cognitive distortions pertaining to rape. Thus, the main focus of the current research was to look at the problem of rape myth acceptance from the psychological perspective emphasizing the role of psychopathy, aggression, and childhood experiences of two groups of individuals: offenders currently incarcerated within a medium-security prison, and non-offending general population. Another objective was to prepare and validate a Polish translation of a self-report measure of psychopathy. In order to ensure that the measurement of a central construct in this research work is reliable and valid, the testing of this measure was seen as a vital step prior to the testing of the theoretically formulated models that constitute the body of this thesis. The particular interest was to explore and empirically test the following research aims:

1. Due to the lack of a valid measure of psychopathy which could be administered to participants whose first language is Polish, the first objective of the current project was to translate the most recent version of the Self-Report Psychopathy Scale (SRP-III; Paulhus, Neumann & Hare, in press) into Polish. Furthermore, factor structure and construct validity was assessed using confirmatory factor analysis. This aim was investigated within a sample of general population. (Chapter 2)
2. Previous research indicated a significant role of psychopathy factors in rape myth acceptance. Additionally, Affective/Interpersonal and Impulsive/Antisocial traits as well as childhood exposure to violence were

linked with sexual coercion. The second aim of the current research was to incorporate and empirically test the nature of these associations within a single structural equation model, using two independent samples: prisoners and non-prisoners, in order to determine if being a victim or witness of violence as a child as well as different aspects of psychopathy have a significant impact on the endorsement of stereotypes pertaining to rape and victim culpability. (Chapter 3)

3. Previous psychological studies indicated insecure childhood attachment as an important factor in the formation of violent individuals. Prior research provides support for the theoretical assumption that violent and sexual offenders display insecure attachment patterns, loneliness, and intimacy deficits. Further, aggressive personality traits were found to affect the development of rape-supportive attitudes. What is missing in the literature, however, is an examination of the role of attachment, loneliness, peer rejection, and peer influence in cognitive distortions pertaining to rape. Therefore, the third objective of the study was to verify which psycho-social factors are significant predictors of rape myth acceptance using a sample of prisoners and non-prisoners. This aim was tested with the use of a propensity score matching procedure which mimics experimentation by isolating the effect of the treatment and thus allows for stronger assertions about prediction to be made. (Chapter 4)

Before approaching the research objectives, it is necessary to look at the key operational definitions related to this project in a light of psycho-criminological theories and relevant research.

1.2 PSYCHOPATHY

Psychopathy is often referred to as the oldest mental disorder (Buzina, 2012). The concept of psychopathy has aroused increasing interest in many researchers, practitioners and theorists, however, the lack of agreement on what constitutes psychopathy has resulted in an ambiguous construct (Ogloff, 2006). The lack of clear definition is especially perplexing for clinicians whose role is to diagnose and make recommendations for the criminal justice system about individuals affected by this condition. A similar pattern of confusion applies when it comes to determining how psychopaths are formed. It remains unclear to what extent biological predispositions, environmental determinants, or the combination of the two affect the shaping of the disorder (Arrigo & Shipley, 2001).

1.2.1 Historical context

Being aware of the historical context of psychopathy is especially important to understand the psychological construct as it is conceptualised today. The first person to recognise psychopathy as a mental disorder was a French physician, Phillippe Pinel in the early 1800s. Pinel was an advocate of a more humane approach to psychiatrically ill individuals, the so-called moral therapy (Smith, 1978). When treating his patients, Pinel noticed that some of them were abnormally impulsive and expressed extreme violence, often directed against the self (Arrigo & Shipley, 2001). He also observed that those behaviours were not demonstrations of an irrational mind, i.e. the patients did not suffer from psychotic episodes, and hence he referred to them as *manie sans délire* (insanity without confusion of the mind) (Ogloff, 2006).

Another prominent figure to influence the conceptualisation of the construct of psychopathy was an American psychiatrist, Benjamin Rush. Rush described individuals affected by psychopathy as morally deprived, but having a perfectly clear mind. He was looking for explanations of the disorder in birth defects, but also emphasised the significance of unstable environments in its development. Rush began the era of social censure of psychopaths. His line of thought was continued by J. C. Prichard, a British physician, who was the first to use expressions such as moral insanity and moral imbecility in relation to psychopathy. Prichard saw psychopaths as morally deranged, yet able to distinguish between right and wrong (Arrigo & Shipley, 2001; Buzina, 2012).

By the same token, in 1891, J. L. Koch, a German psychiatrist, coined the term psychopathic inferiority, which was used to describe wicked, deprived of morality individuals who did not suffer from delusions or hallucinations. Koch searched for the causes of psychopathic inferiority in congenital factors (Ellard, 1988). He divided his group of psychopathic inferiorities into three categories: psychopathic disposition, psychic inferiority and psychopathic degeneration. The last disorder was thought to be catalysed by cerebral defects (Schneider, 1958). Moreover, cerebral defects were also considered to be causative of moral deprivation and criminality by a British psychiatrist, Henry Maudsley. Maudsley described the so-called criminal class, i.e. individuals with a long history of criminal endeavours. He contended that those individuals cannot control their behaviour and thence should not be punished. Also, he believed that prisons could not succeed in rehabilitating offenders belonging to the criminal class (Toch, 1998). Furthermore, R. F. Krafft-Ebing popularised such terms as sadism and masochism in relation to psychopathy (Arrigo & Shipley, 2001).

A more thorough understanding of the above conceptualisations of psychopathy and criminality can be gained by considering the positivist movement in which they are embedded. The new approach, which developed in the nineteenth century as a challenge to the prevailing ideas of classical criminology, glorified the utilisation of scientific methods in the study of human behaviour (Joyce, 2006). The novel scientific criminology triggered the formulation of biological explanations of crime. The basic assertion of biological criminology is that some people genetically inherit proneness to crime. Offenders, therefore, are seen as abnormal. Such an approach to crime stresses the deterministic nature of human conduct and is strongly affected by Darwin's theory of evolution (McLaughlin & Muncie, 2003).

Biological perspectives on crime were first represented by phrenologists. They sought to establish a link between the shape of the skull, the brain, and behaviour. The assumption was that there was a close association between cranial abnormalities and the deformity of the brain. External features, hence, were indicative of the internal structure of each individual. Phrenology contributed to the departure from the focus on crime to the focus on the criminal (Williams, 2001).

The most famous exponent of the above approach was Cesare Lombroso, an Italian psychiatrist and physician. Lombroso proposed that criminals were born into crime. They were described as individuals who failed to evolve and thus constituted the group of primitive throwbacks. Further, proclivity towards crime could be concluded from certain physical characteristics. Lombroso maintained that the body was a reflection of mind and consequently endeavoured to scrutinize human physiology in order to discover traits suggestive of criminality.

He argued that the criminal shared bodily abnormalities with the mentally ill, the epileptic, apes, and women. These evolutionary regressions were referred to as atavism, i.e. a failure to adapt to the environment (Horn, 2003).

Lombroso conducted a study whose aim was to assign people into different classes according to their cerebral capacity. He measured the skulls of deceased prisoners and divided them into such categories as dolicocephalic, mesocephalic, brachycephalic and ultrabrachycephalic (Horn, 2003). The research and its outcome was published in 1876 in *L'Uomo Delinquente* (Criminal Man) (Rennie, 1978). The corporeal features of particular interest to Lombroso included shape of head, asymmetrical face, misshaped and too large or too small ears, rodent-like teeth, wrinkles, enlarged jaw, long arms, dark skin, and sloping forehead. Lombroso also maintained that the born criminal could not feel pain, did not blush, was stronger in left limbs, had numerous tattoos, used slang and lacked in morality (Williams, 2001).

Except for the born criminal, Lombroso also distinguished the groups of insane criminals and criminaloids. The latter category is especially important for the understanding of psychopathy. Individuals classed as criminaloids were described as emotionally and mentally disturbed, and hence capable of engaging in fiendish and criminal behaviour. Importantly, Lombroso's ideas left a discernible trace on the conceptualisation of psychopathy, and are clearly reflected in Emil Kraepelin's understanding to the disorder (Arrigo & Shipley, 2001). Kraepelin saw psychopaths as the most vicious category of disordered offenders (Ellard, 1988). He continued to use Lombroso's term born criminal and described this group of individuals as antisocial, deceptive, and excitable (Schneider, 1958).

Furthermore, the publication of Cleckley's *The Mask of Sanity* (1941) marked the beginning of the modern conceptualisation of the construct of psychopathy (Arrigo & Shipley, 2001). Cleckley created a Clinical Profile with 16 features that characterise psychopaths. These are: (1) charm and intelligence, (2) absence of delusions, (3) absence of neuroticism, (4) unreliability, (5) dishonesty, (6) no feelings of remorse or regret, (7) antisocial behaviour, (8) failure to learn from mistakes, (9) egocentricity, (10) deficiency in affective reactions, (11) lack of insight, (12) unresponsiveness, (13) fantastic behaviour, (14) rarely suicidal, (15) trivial sex life, and (16) no life plan (Hare & Neumann, 2008). Cleckley depicted psychopaths as callous, grandiose, unreliable, dishonest, lacking of empathy, and not feeling regret, remorse or anxiety. His suggestion was to rename the disorder semantic dementia in order to highlight its core characteristic - the habit of lying. As for the behavioural manifestation of psychopathy, Cleckley suggested impulsivity and the proneness to transgress social and legal norms. He claimed that the above listed characteristics suggestive of psychopathy could make one successful in both criminal and non-criminal endeavours (Millon, Simonsen & Birket-Smith, 1998). Moreover, Cleckley argued that psychopaths are characterised by superior intellectual abilities and, consequently, they can be charming and highly manipulative interlocutors. Nevertheless, they are also risk-takers and do not learn from own mistakes, suggesting the lack of insight into own behaviour. Additionally, they fail to form long-term objectives and do not plan for the future (Buzina, 2012).

Currently, Hare (e.g. 1993, 2003) is one of the most influential researchers in the area psychopathy. Hare's specific goal was to create a reliable and valid tool for clinicians to diagnose individuals with psychopathic personality traits.

Hare Psychopathy Checklist (PCL) was the first measure to be developed. The scale consists of 22 items and requires the use of interviews as well as case-history information (Hare, 1980). A revised 20-item version of the scale (PCL-R) also relies on interviews and case-history data. The scale items are rated on a 3-point scale (0, 1, 2), with scores varying from 0 to 40. A cut-off score of 30 has been suggested for diagnosing psychopathy (Hare & Neumann, 2008). Further, 18 of the scale items load on two factors consisting of two facets: Interpersonal/Affective and Lifestyle/Antisocial. Factor 1 measures such characteristics as superficial charm, lack of remorse, and lack of empathy. Factor 2, on the other hand, clusters items measuring antisocial behaviour, e.g. impulsivity, irresponsibility, and juvenile delinquency (Blair, Mitchell & Blair, 2005; Hare et al., 1990). Two scale items (promiscuous sexual behaviour and inability to maintain relationships) do not load on any factor (Ogloff, 2006). PCL as well as PCL-R are strongly correlated with Cleckley's Clinical Profile ($r = .83$), suggesting they measure the same construct. Hare and colleagues, however, omitted items listed in the Clinical Profile for which item-total correlation was small and which indicate positive adjustment (e.g. high intelligence, absence of delusions, rarely suicidal). This suggests that the researchers conceptualised psychopathy as a pathological rather than adaptive constellation of traits.

There are certain limitations associated with the administration of the PCL-R. Firstly, the use of the measure is extremely time-consuming and requires extensive training. Access to files with relevant information can also prove problematic. The task may be easier when participants recruited in clinical settings are being assessed, however, most of the time detailed clinical history does not exist for subclinical samples (Lilienfeld & Fowler, 2007). With these

limitations in mind, a number of self-report measures of psychopathy have been developed in recent years such as the Levenson Primary and Secondary Psychopathy Scales (LPSP; Levenson, Kiehl & Fitzpatrick, 1995), the Psychopathic Personality Inventory (PPI; Lilienfeld, 1990), and the Self-Report Psychopathy Scale (SRP; Hare, 1985).

The first measure, the Levenson Primary and Secondary Psychopathy Scales (LPSP), was developed by Levenson et al. (1995). The LPSP consists of 26 Likert-type items which have been divided into two distinct scales, i.e. primary and secondary psychopathy. The researchers' intention was for the former to reflect the PCL-R Factor 1, whereas the latter – Factor 2. Therefore, the primary psychopathy items assess characteristics such as selfishness, unconcern, and manipulateness, and the secondary psychopathy items refer to impulsivity and a self-defeating lifestyle. As predicted, an exploratory factor analysis within a sample of 487 undergraduate students revealed a two-factorial solution. The internal consistency for the primary psychopathy scale as measured by the Cronbach's alpha (Cronbach, 1951) was good ($\alpha = .82$), and questionable for the secondary psychopathy subscale ($\alpha = .63$). Correlation between the two subscales revealed to be moderate ($r = .40$).

In order to validate the instrument, Levenson and colleagues (1995) investigated its relations with other personality measures. It was found that secondary psychopathy scale was positively correlated with trait anxiety, which is consistent with previous research in the area. Hale, Goldstein, Abramowitz, Calamari and Kosson (2004) found trait anxiety to be positively associated with the antisocial behaviour facet of psychopathy in a sample of 157 male prisoners. Surprisingly, a weak positive correlation ($r = .09$) was also discovered between

primary psychopathy and trait anxiety. According to theoretical assumptions, there should be a significant negative correlation between the two and hence the scale's construct validity was called into question (Lilienfeld & Fowler, 2007).

Furthermore, a study by Lynam, Whiteside and Jones (1999) found the two-factor model to be an optimal fit for the data, but the internal consistency for the secondary psychopathy subscale was reported as weak ($\alpha = .68$). The two-factor solution was also confirmed by Brinkley, Schmitt, Smith and Newman's (2001) examination. Brinkley and colleagues assessed the instrument's concurrent validity and, as hypothesised, the primary psychopathy subscale correlated with the PCL-R Factor 1. Unexpectedly, the secondary scale correlated with Factor 1 and Factor 2 at a similar level. Lilienfeld and Fowler (2007) argued that the greatest weakness of the LPSP is that it measures behavioural aspects of psychopathy, rather than the key features of psychopathic personality as delineated in the Cleckley's Clinical Profile.

The Psychopathic Personality Inventory (PPI) (Lilienfeld, 1990), which is another self-report instrument, was designed for non-criminal samples. It is composed of 187 items, measured on a four-point Likert scale. Factor analyses revealed the questionnaire to be composed of eight factors. These are: Machiavellian Egocentricity, Social Potency, Fearlessness, Coldheartedness, Impulsive Nonconformity, Blame Externalization, Carefree Nonplanfulness, and Stress Immunity (Lilienfeld & Fowler, 2007). However, Benning, Patrick, Hicks, Blonigen and Krueger's (2003) principal axis factor analysis found a two-factorial solution to be the best fit for the data obtained from a community sample. The first factor was composed of four PPI subscales: Impulsive Nonconformity, Blame Externalization, Machiavellian Egocentricity and Carefree

Nonplanfulness, whereas Stress Immunity, Social Potency and Fearlessness subscales loaded on the second factor. The Coldheartedness subscale did not load on either factor. Finally, the two factors were found to be statistically independent. This is unlike the PCL-R factors, which are moderately correlated.

Lilienfeld and Andrews (1996) demonstrated the PPI and its subscales to be internally consistent (Cronbach's alphas for the total scale were between .90 and .93, and from .70 to .90 for separate subscales). The total PPI score was found to be higher for males than for females. It was also reported to be positively correlated with Social Potency ($r = .39$) as well as Aggression ($r = .38$), and negatively correlated with Harm Avoidance ($r = -.55$), Control vs. Impulsiveness ($r = -.27$), and Traditionalism ($r = -.20$). In a study with 100 male inmates, Sandoval, Hancock, Poythress, Edens and Lilienfeld (2000) discovered a significant negative association between the PPI and The Questionnaire Measure of Emotional Empathy (Mehrabian & Epstein, 1972) ($r = -.45$), and a significant positive correlation with the Buss-Perry Aggression Questionnaire (BPAQ; Buss & Perry, 1992) ($r = .60$).

Poythress, Edens and Lilienfeld (1998), in a study with 50 male offenders, found a positive correlation between the PPI and PCL-R ($r = .54$). The PPI correlated more strongly with the PCL-R Factor 1 ($r = .54$) than with Factor 2 ($r = .40$). On the contrary, Skeem and Lilienfeld (2004) reported a much weaker correlation between the PPI and Factor 1 ($r = .31$), and a stronger correlation with Factor 2 ($r = .48$). Additionally, with the PCL-R used as a referent, the PPI displayed greater construct validity than the earlier discussed psychopathy measure – the LPSP (Poythress et al., 2010). However, the construct validity as

well as factor structure of the PPI with criminal and non-criminal samples remain to be verified.

The third self-report measure mentioned above, the Self-Report Psychopathy Scale (SRP; Hare, 1985) and its more recent versions (SRP-II; Hare, Harpur & Hemphill, 1989; SRP-III, Paulhus, Neumann & Hare, in press) were reviewed in the following chapter.

1.2.2 Classification systems of psychopathy

Psychopathy was included and described in the first publication of the American Psychiatric Association's (1952) Diagnostic and Statistical Manual of Mental Disorders (DSM), however, it made its way to the manual under the name of Sociopathic Personality Disturbance. The purpose of the new name was to highlight a social nature of the disorder (Arrigo & Shipley, 2001). This decision could have been borne out of the social trespass theory, which holds that in order to label something 'normal' or 'abnormal', a reference group is needed against which such judgements are made (Smith, 1978). As for diagnostic criteria for the disorder, the manual included many of those listed by Cleckley. The main focus was on psychopathic personality traits and a distinction between antisocial and dyssocial sociopaths was introduced. The latter was described as a professional criminal with bonds with their criminal group members (Arrigo & Shipley, 2001). Antisocial sociopath, on the other hand, was distinguished by the lack of respect for social norms, inability to form social bonds, and emotional immaturity (Buzina, 2012).

In the second edition of the manual (APA, 1968), the term Antisocial Personality was used. The category of dyssocial sociopath was dropped because,

as many critics suggested, it did not list any pathological behaviours except for criminal acts (Arrigo & Shipley, 2001). Diagnostic criteria, as in the previous edition of the manual, emphasised the importance of internal processes and personality traits. The diagnosis of antisocial was reserved for individuals who were selfish, impulsive, irresponsible, and constantly made the same mistakes (Buzina, 2012).

The publication of DSM-III (APA, 1980) and DSM-III-R (APA, 1987) brought about some substantial changes in the conceptualisation of Antisocial Personality Disorder (ASPD). Firstly, diagnosis was no longer based on the presence of certain personality characteristics. This is because a more scientific approach to diagnosing was adopted and hence the importance of behaviours, i.e. directly observable manifestations of the disorder, was stressed (Arrigo & Shipley, 2001). Furthermore, in order to diagnose ASPD, evidence of conduct disorder before the age of 15 had to be found:

Among childhood behavioral precursors important for the development of disorder are cited: lying, theft, fights and resistance to authority. The disorder includes signs of personal anxiety, tension, intolerance, boredom, depression and reduced capacity for harmonious relationships in the family and with friends. (Buzina, 2012, p. 136)

DSM-IV (APA, 1994) and DSM-IV-TR (APA, 2000) continued to use the term Antisocial Personality Disorder and described an individual affected by the condition as displaying “a pervasive pattern of disregard for and violation of the rights of others occurring since age 15 years” (APA, 2000, p. 706). Other important characteristics included: deceitfulness, impulsivity, aggressiveness,

irresponsibility, lack of remorse, disregard for safety of self and others. Further, in DSM-IV, personality disorders which share certain common features are grouped into three clusters. ASPD was classed as a 'Cluster B' (the dramatic-eccentric-emotional cluster) disorder. Other personality disorders placed in the group are Borderline Personality Disorder, Narcissistic Personality Disorder and Histrionic Personality Disorder (Ogloff, 2006).

Unfortunately, the presented classification systems fail to grasp the concept of psychopathy in its full complexity. The disorder is nearly synonymous with criminality and as such has been reported to be over-diagnosed. Research demonstrated that the prevalence of ASPD in prison population is thought to be as high as 50% - 80% (Ogloff, 2006). What is more, ASPD is correlated with the behavioural dimension of psychopathy (Factor 2), but not with the emotional aspect of psychopathy (Factor 1) (Hare, 1998; Hare & Neumann, 2008). Ogloff (2006) argued that 37.5% of the interpersonal/affective symptoms from the PCL-R and 60% of the antisocial behaviour symptoms were included in the criteria for ASPD. Indeed, shallow affect or the lack of empathy, essential in present depictions of psychopathic personalities, are not listed as part of ASPD (Hare, 1998).

It appears that the clinical tradition of psychopathy has been largely overlooked when deciding on the diagnostic criteria for ASPD (Ogloff, 2006). This pivotal objection was expected to be addressed by the most recent edition of American Psychiatric Association's publication, DSM-V (APA, 2013). In the first draft of DSM-V, the name of the disorder was changed to Antisocial/Psychopathic Personality Disorder (Esbec & Echeburúa, 2011). Eventually, the name Antisocial Personality Disorder has been retained, however,

important changes to the list of diagnostic criteria have been introduced. The essential features of ASPD have been grouped in two major categories: impairments to personality functioning (consisting of two aspects: self functioning and interpersonal functioning) and pathological personality traits (consisting of two aspects: antagonism and disinhibition). These diagnostic criteria are still not sufficiently reflective of research findings in the field of psychopathy. For example, the second group of features named pathological personality traits resembles psychopathy Factor 2, i.e. behavioural expressions of psychopathy, not personality traits.

1.2.3 Psychopathy variants

Researchers suggest that psychopathy should not be treated as a uniform concept because not all individuals diagnosed as psychopaths receive similar scores on the different facets of the PCL-R. Even though the total score suggests psychopathy, when considering specific dimensions, differences in callous affect, interpersonal style, and antisocial behaviour become prominent. Moreover, results of empirical studies have so far failed to identify a single genesis of the disorder (Skeem, Poythress, Edens, Lilinfeld & Cale, 2003). Although research in the field is still in its infancy, preliminary findings suggest that variants of psychopathy can be distinguished on the basis of an individual's trait anxiety, emotional deficits, narcissistic and borderline traits (Skeem, Johansson, Andershed, Kerr & Loudon, 2007). The ability to distinguish between different types of psychopaths may be of great importance for professionals undertaking risk assessment and deciding on appropriate treatment (Brinkley, Newman, Widiger & Lynam, 2004).

Karpman (1941) was the first to introduce the distinction between primary and secondary psychopathy. He noted that both types of psychopaths behave irrationally, are antisocial and hostile. Nevertheless, similarities are only superficial and, at a deeper level, significant differences can be found. It was argued the two subtypes differ in aetiology and expression. Primary (idiopathic) psychopathy is a congenital condition. Therefore, psycho-social approach cannot be utilised when investigating this variant. Rather, genetic behaviour as well as biological designs should be adopted as they have the power to reveal how primary psychopaths are formed and what motivates their behaviour (Skeem et al., 2003). The emergence of secondary (symptomatic) psychopathy, on the other hand, is guided by environmental factors. The development of psychopathic traits is seen as a response to parental abuse or harsh treatment. Affective blunting and inability to form emotional bonds, however, is not ingrained in their genetic make-up. Hence, although their emotional and social development has been disrupted, they can be taught how to empathise with others or feel guilt for their wrongdoing (Karpman, 1941). Finally, Karpman (1948) suggested that secondary psychopaths act impulsively and their demeanour is driven by such negative emotions as hatred or anger, whereas primary psychopaths' behaviour is more instrumental, cool, and intentional. In light of the above, all individuals diagnosed as psychopaths should not be referred to the same treatment programmes, and prior to any intervention, psychopathy variant should be determined. Secondary psychopathy is deemed to be most easily managed and recovery prospects for this type are most promising (Skeem et al., 2003).

Another typology was proposed by Porter (1996). Similarly to Karpman, Porter's assumption is that primary psychopaths are born, whereas secondary

psychopaths form psychopathic traits in response to environmental factors. He contended that “turning off” one’s emotions is a coping strategy utilised by traumatised individuals. Therefore, secondary psychopathy is presented as a dissociative rather than neurotic disorder. Sher (2004) maintained that events which almost invariably trigger traumatic symptoms are domestic abuse, rape, and repeated rape. Robins (1966) found that factors such as abusive and inconsistent parenting are predictive of developing psychopathic traits in adulthood. Porter (1996) claimed that the capacity to feel empathy can be restored through appropriate treatment and compared secondary psychopathy with post-traumatic stress disorder (PTSD). Bisson (2007) and Herman (1997) reported that PTSD symptoms can be grouped into three categories: hyperarousal (e.g. increased irritability, sleeplessness), intrusion (e.g. recurrent distressing thoughts and dreams, behaving as if traumatic events recurring) and constriction (e.g. avoidance of thinking about events, numbing, detachment, restricted range of affect). Affective blunting is the most prominent similarity between the two disorders. Additionally, anxiety level in both conditions is extremely high. It was suggested that such emotional detachment could play a significant role in the creating of a psychopath (Porter, 1996).

1.2.3.1 Related personality dimensions

As described above, the PCL-R is usually considered to have a two-factorial solution (Blair et al., 2005). The multidimensionality of the PCL-R may be suggestive of the existence of psychopathy variants with different constellations of traits (Skeem et al., 2007). In addition, some research revealed that the PCL-R may consist of as many as three or four facets which further complicates the picture (Cooke & Michie, 2001; Hare, 2003).

Brinkley et al. (2004) suggested that a more thorough understanding of psychopathy could be obtained by administering the PCL-R along with other personality measures. Such an approach was adopted by Hicks, Markon, Patrick, Krueger and Newman (2004) in a study with 96 male prisoners. Participants' psychopathy was measured with the use of PCL-R, whereas comprehensive analysis of personality was performed using the Multidimensional Personality Questionnaire – Brief Form (MPQ-BF; Patrick, Curtin & Tellegen, 2002). Results revealed two subtypes of psychopathy: emotionally stable psychopath as well as aggressive psychopath. Emotionally stable psychopaths were found to be low in Stress Reaction, Social Closeness, and Harm Avoidance. They also received high scores on Social Potency and Agentic Positive Emotionality. This subtype closely resembles the primary psychopath (Karpman, 1941), who is thoughtful, fearless, and socially dominant. Aggressive psychopaths scored high on Aggression, Stress Reaction as well as Negative Emotionality, and low on Constraint.

In a similar vein, Poythress et al.'s (2010) findings suggested that secondary psychopaths, in comparison with primary psychopaths, are more impulsive, aggressive, and more likely to re-offend. Additionally, most empirical studies inquiring into psychopathy variants revealed that primary psychopaths receive high scores on the PCL-R Factor 1 (i.e. Affective/Interpersonal), whereas secondary psychopaths score significantly higher on the behavioural facet (Factor 2) (Skeem et al., 2003).

1.2.3.2 High-anxiety vs. low-anxiety psychopaths

Cleckley's Clinical Profile listed the lack of neuroticism as one of the features distinguishing a psychopath. However, Karpman (1948) implied that secondary

psychopaths, unlike primary psychopaths, experience anxiety. Levenson et al.'s (1995) study within a sample of 487 university students demonstrated that secondary psychopathy is strongly correlated with stress reaction. Hale et al. (2004) found trait anxiety to be positively associated with behavioural facet of psychopathy in a sample of 157 male prisoners. Similar results were obtained by Skeem et al. (2007) in a study with a prison population. More specifically, secondary psychopaths proved to have fewer psychopathic traits and greater trait anxiety. Kimonis, Frick, Cauffman, Goldweber and Skeem (2012) classed 165 male adolescent offenders as primary (low-anxious) or secondary (high-anxious) psychopaths based on their anxiety scores. Kimonis and colleagues demonstrated that, relative to low-anxious psychopaths, individuals in the high-anxiety group revealed more emotional and attentional problems, and were more likely to have a history of abuse. This is in line with the abovementioned theoretical assumptions which posit that the emergence of secondary psychopathy is guided by environmental factors (e.g. Karpman, 1941; Porter, 1996).

1.2.3.3 Borderline personality features

Blackburn (1996) suggested a strong nexus between secondary psychopathy and borderline personality disorder (BPD). Blackburn and Coid (1999), who interviewed violent male inmates, developed a typology of offenders. The researchers assessed participants for DSM-III personality disorders which allowed them to group the conditions into empirical clusters. The third cluster, labelled borderline-antisocial-passive-aggressive, provided support for the hypothetical link between secondary psychopathy and borderline personality traits. Offenders representing this personality pattern tended to suffer from

anxiety, affective and substance abuse disorders as well as engage in re-offending behaviour.

Furthermore, Meloy and Gacono (1993) conducted a case study of a 21 year old violent criminal. In order to best capture his personality pattern, they coined the term borderline psychopath. The authors described the man as aggressive, sadistic, emotionally detached, and with an injured sense of self. He was also found to employ the defence mechanisms of projection and devaluation. The development of such a disturbed personality organisation was attributed to early emotional trauma. Further, in a sample of 361 undergraduate students, Miller et al. (2010) studied the relationship between psychopathy and BPD. They found a significant correlation between BPD and Factor 2 psychopathy ($r = .48$). The two constructs were also significantly associated with anxiety. Skeem et al. (2007) reported an association between secondary psychopathy and borderline personality traits. Finally, Kendler et al. (2008) suggested a genetic link between BPD and ASPD.

1.2.3.4 Narcissistic features

Primary and secondary psychopaths may also be distinguished on the basis of the presence of narcissistic features. Paulhus and Williams (2002) found psychopathy, Machiavellianism, and narcissism, all of which are referred to as the 'Dark Triad' of personality, to be overlapping concepts. However, narcissism, just like psychopathy, does not constitute a homogenous construct. Two variants of narcissism have been identified. "Grandiose narcissism is the variant most strongly associated with the current DSM-IV conceptualization and primarily reflects traits related to grandiosity, entitlement, aggression, and dominance"

(Miller et al., 2010, p. 1532). It was recognised as an extraverted, emotionally resilient form of narcissism (Miller & Campbell, 2008). Vulnerable narcissism, on the other hand, “reflects a more defensive and fragile grandiosity that may serve primarily as a mask for feelings of inadequacy” (Miller et al., 2010, p. 1532). Miller and Campbell (2008) contended that this type of narcissism is also marked by emotional instability, introversion, and neuroticism. Vulnerable narcissism was found to be significantly correlated with BPD ($r = .56$), and secondary psychopathy ($r = .28$), whereas grandiose narcissism was strongly associated with Factor 1 psychopathy ($r = .50$) (Miller et al., 2010). McHoskey, Worzel and Szyarto (1998) reported a strong correlation between grandiose narcissism and primary psychopathy ($r = .51$).

Research findings revealed the existence of two overlapping yet distinct variants of psychopathy. Primary psychopathy is conceptualised as a congenital condition, whereas secondary psychopaths are thought to be created under the influence of environmental factors. Additionally, personality patterns of primary and secondary psychopaths were revealed to differ considerably. Primary psychopaths have more psychopathic and grandiose narcissistic traits. Secondary psychopaths, on the other hand, reveal more borderline and vulnerable narcissistic features, trait anxiety, and are more likely to engage in antisocial behaviours. These results carry profound implications for both research and practice. Risk assessment could prove more effective if the relationship between psychopathy types, violence, and recidivism was taken into consideration. Given that the organisation of various psychopathic personalities differs significantly, treatment programmes which would utilise this knowledge could more efficaciously target symptoms specific for each type.

1.2.4 Neurobiological account of psychopathy and antisocial behaviour

Psychopathic features appear to be genetically influenced, begin to manifest in childhood, and are relatively stable over time (Viding, Frick & Plomin, 2007). Much still remains unknown about the nature of psychopathy as a clinical construct. Specifically, insufficient understanding exists regarding the origins of psychopathy, the role of environmental influences on the expression the disorder, and the underlying biological basis. Establishing the biological roots of psychopathy is a highly important endeavour given that such discoveries would likely have significant implications in better understanding the aetiology of psychopathy as well as potentially leading to the development of new treatments.

Psychopaths are characterised by severely disturbed personality patterns, with a deep lack of empathy (Hare, 1991) and increased levels of aggression, both reactive and instrumental (Blair, 2007). Key to research in the field is that psychopathy has been found to have a basis in brain function and brain structure (Hare & Neumann, 2008). Brain regions associated with the development of psychopathic features include the frontal lobe and the temporo-limbic areas.

The two major theoretical models of psychopathy have biological underpinnings. The somatic marker hypothesis (see Damasio, 1994 for a full review) states that when making a decision, deficits in the ventromedial prefrontal cortex (vmPFC) lead to an individual being insensitive to negative consequences ensuing from their choices. In this way, their decision-making processes are not mediated by emotional responses. Support for the theory can be found from studying patients with lesions of the vmPFC. Patients with bilateral damage to the

vmPFC have been well documented to develop severe impairments in personal and social-decision making and are subsequently unable to learn from previous mistakes as reflected by repeated engagement in decisions that lead to negative consequences (Bechara & Damasio, 2005).

The violence inhibition mechanism (VIM) model (see Blair, 1995 for a full review) explicates how aggression is controlled in some species of social animals. The theoretical basis for the model have been drawn from ethologists, Eibl-Eibesfeldt (1970) and Lorenz (1966), who proposed that an attack stops once one of the conflict participants displays submission cues. In humans, Blair (1995) noted, such cues include sad facial expression or tears. The mechanism is necessary for moral emotions such as sympathy, empathy, remorse, and guilt to develop. The absence of a VIM, therefore, is synonymous with the absence of moral emotions that inhibit aggressive behaviours. This hypothesis has been supported by research which found that empathy reduces aggression and leads to pro-social behaviours and altruism, which in turn, strengthens the social bonds and integrates societies (Decety & Lamm, 2006). The lack of appropriate VIM has been attributed to psychological deficits or adverse socialisation experiences (Blair, 2001). The amygdala is associated in the response to these stimuli (Blair, 2007). Amygdala dysfunction has an impact on only the affective component of empathy, leaving cognitive flexibility intact. Hence, individuals suffering from psychopathy are good at recognising others' emotions but, due to the lack of affective engagement, do not feel for others the way individuals with undisturbed amygdala functions do (Blair, 2001). Hare (1993) reported that psychopaths are capable of successfully completing theory-of-mind tasks. Theory of mind refers

to the ability to “reflect on the contents of one’s own and other’s minds” (Baron-Cohen, 2001, p. 174).

Research into biological correlates of psychopathy is still in its infancy. Studies revealed that brain abnormalities are associated with the expression of psychopathic traits and behaviours. Two major areas of interest by researchers are the frontal cortex (i.e. Greene & Haidt, 2002; Moll, Zahn, de Oliveira-Souza, Krueger & Grafman, 2005; Yang, Raine, Colletti, Toga & Narr, 2010; Hoppenbrouwers, et al., 2013; Meffert, Gazzola, den Boer, Bartles & Keysers, 2013) and the temporo-limbic areas (i.e. Barkataki, Kumari, Das, Taylor & Sharma, 2006; Laakso, et al., 2001; Boccardi et al., 2010; Yang et al., 2010; Hoppenbrouwers, et al., 2013; Meffert et al., 2013).

The frontal cortex is crucial for cognitive processes such as decision-making, problem solving or predicting future consequences (Rosenzweig, Leiman & Breedlove, 1999). It was suggested that damage to the frontal cortex may result in psychopathy, specifically damage to the prefrontal cortex (Kiehl, 2006). The dorsolateral prefrontal cortex plays an important role in the regulation of emotion and behaviour, and it has been suggested that this regulatory system is dysfunctional in psychopaths (Hoppenbrouwers et al., 2013). Among the less often investigated brain areas embedded in the frontal cortex which may also impact the development of psychopathic traits is the premotor cortex, specifically the mirror neuron system (MNS), which is strongly connected with the ability to empathise (Fecteau, Pascual-Leone & Théoret, 2008).

The case of Phineas Gage is the first known and widely cited instance of the effect of the frontal cortex damage on human conduct (Weber, Habel, Amunts

& Schneider, 2008). In 1848, Gage, a railroad foreman, experienced an incident in which an iron bar drove through his brain, damaging the prefrontal cortex. At first it seemed that the only long-term effects Gage would suffer from would be blindness in the left eye and left facial weakness. Nevertheless, further observations of Gage's demeanour brought new interesting insights into his condition. Specifically, the man, described as kind and even-tempered before the accident, became acting erratically, lost all restraints and showed no respect for others (O'Driscoll & Leach, 1998). This turned out to be a turning point which directed researchers' attention at the strong connection between mind and brain. Moreover, Lewis, Pincus, Feldman, Jackson and Bard (1986) conducted clinical evaluations of 15 prisoners sentenced to death (13 men and 2 women). The authors established that all prisoners suffered from a head injury, five had serious neurological problems (e.g. seizures, cortical atrophy), and seven had milder neurological impairments (e.g. history of blackouts, severe headaches). These findings support the supposition that particularly violent offenders suffer from neurological deficits (Cunningham & Vigen, 2002).

The temporo-limbic area has been reported to play an important role in emotional processing and learning (Rosenzweig et al., 1999) and therefore it comes as no surprise that abnormalities in this brain area are associated with psychopathy. Abnormal amygdala activity (Glenn, Raine & Schug, 2009; Harenski, Harenski, Shane & Kiehl, 2010; Marsh et al., 2013) and volume reductions (Yang, Raine, Narr, Colletti & Toga, 2009; Yang et al., 2010) have been identified among psychopathic individuals. Reduced neurochemical activity in the anterior cingulate cortex (ACC) has also been discovered to be associated with increased levels of psychopathic traits (Basoglu et al., 2008; Marsh et al.,

2013). Kiehl (2006) reported that disturbances within the ACC were found to be connected with emotional blunting, hostility or erratic behaviour. With regards to the role of the hippocampus in predicting psychopathy research findings have been inconsistent. Boccardi et al. (2010) discovered no abnormalities in hippocampal volumes in psychopaths, whereas Laakso et al. (2001) found that reductions in the posterior hippocampal volume were associated with greater levels of psychopathy.

While all of these findings are strongly suggestive that deficits in the frontal and temporo-limbic regions are directly implicated in the occurrence of psychopathy, Hoppenbrouwers et al. (2013) demonstrated that these regions alone are insufficient to provide a comprehensive neurological explanation for psychopathic behaviour. Abnormalities have been found in other brain structures such as grey matter volume (Gregory et al., 2012) and white matter connections (Craig et al., 2009). Müller et al. (2008) implied that a free flow of impulses between the frontal cortex as well as temporo-limbic areas in psychopaths is significantly hindered. Additionally, deficits in prefrontal and subcortical regions of the brain may have an adverse effect on the expression of emotional impulses (Coccaro, Stripada, Yanowitch & Phan, 2011).

Moreover, Boccardi et al. (2010), Fectau et al. (2008), Gregory et al. (2012), and Yang et al.'s (2010) findings lend credence to the supposition that psychopaths do not form a homogenous group. Different dimensions of psychopathy have been linked with dysfunction in distinct brain regions. For example, Gregory et al. (2012) found that only the brain function of individuals with both ASPD and psychopathy deviates from the norm, which is in line with Karpman's (1941) assumption that primary psychopaths, characterised by more

psychopathic traits, are born, whereas secondary psychopaths, who display more antisocial behaviours, are created through environmental factors. Nevertheless, most studies into brain abnormalities related to psychopathy fail to control for psychopathy variants. Participants who meet the established total cut-off point are classed as psychopaths and the different dimensions of the disorder are not considered separately. Given that different factors of psychopathy have been found to form distinct associations with external behavioural and psychological variables, it appears of paramount importance for future neurobiological research to focus on psychopathy dimensions separately.

1.2.5 Genetic behaviour account of psychopathy and antisocial behaviour

The traditional assertion of biological criminology is that some people genetically inherit proneness to aggression and crime. This hypothesis also stresses the deterministic nature of human conduct and has been strongly affected by Darwin's theory of evolution (McLaughlin & Muncie, 2003). Lösel and Bender (2006) reported that roughly 40% of the inter-individual differences in antisocial demeanour could be attributed to genetic factors. In fact, numerous twin and adoption studies bear out this claim. Raine (1993), who conducted a meta-analysis of 13 twin studies, established that concordance rate for criminality for monozygotic (MZ) twins amounts to 51.5% and 20.6% for dizygotic (DZ) twins. By the same token, Mednick, Gabrielli and Hutchings' (1984) extensive adoption study discovered that criminality of biological parents substantially increases the risk of a child developing similar behaviour patterns even if the child has been reared by non-criminal adoptive parents. Therefore, predisposition towards violence may be inherited from a biological parent and expressed even if the child

is raised in a loving and supportive atmosphere created by the adoptive family. Also, Baker, Jacobson, Raine, Lozano and Bezdjian's (2007) examination of 9- and 10-year old twins revealed strong hereditary influences on antisocial and aggressive behaviour. Other research indicated that also psychopathic personality traits are influenced by genetic factors (Blonigen, Carlson, Krueger & Patrick, 2003; Blonigen, Hicks, Krueger, Patrick & Iacono, 2005).

However, researchers in behavioural genetics agree that nature cannot be studied in separation of nurture (Pieri & Levitt, 2008). Consequently, the focus in the area of criminal behaviour and genetics has recently shifted to the gene x environment (G x E) interaction. To date, a number of studies have provided an insight into how certain genetic characteristics may interact with environmental variables so that a child grows to be impulsive and aggressive (Bernet, Vnencak-Jones, Farahany & Montgomery, 2007). Bowlby (1969) argued that insecure attachment with maternal object may result in affectionless psychopathy. However, he also noticed that not all insecurely bonded children become aggressive. This implies that an inborn predisposition may be a crucial element in the moulding of child's violent behaviour. Therefore, the development of disorganised attachment may be influenced by parents responding to the child's inborn traits (Bailey, 2006).

Further, Brunner, Nelen, Breakfield, Ropers and van Oost (1993) conducted a study with a Dutch family whose members tended to display antisocial tendencies. The results revealed that five men in the family had a short (low activity) monoamine oxidase A promoter polymorphism (MAOA-LPR) genotype. This finding, however, could not be extended to women in the family. Caspi et al. (2002) carried out a study with male children in order to determine

why some youngsters who are severely maltreated become antisocial, whereas others do not. The researchers, following into Brunner et al.'s (1993) steps, tested individual differences in the functioning of the promoter of the monoamine oxidase A (MAOA) gene as a possible reason for dissimilarities in susceptibility to maltreatment. They found that when male subjects had a low activity of the MAOA enzyme and experienced abuse as children, the likelihood of their development of antisocial behaviour was significantly greater (Bernet et al., 2007, p. 1365). Two follow-up studies conducted by Foley, Eaves and Wormley (2004) as well as Nilsson et al. (2006) replicated those findings.

Furthermore, Sjöberg et al.'s (2007) research attempted to investigate whether the MAOA gene could also predispose adolescent girls to violence. The study demonstrated that the interaction between MAOA-LPR and psychosocial variables may be predictive of criminal conduct in girls. However, unlike in males, the long allele was found to increase the risk for criminality in girls. It was suggested that these differences may be due to the fact that women have two alleles of the MAOA gene (as it is located on X-chromosome). This in turn might influence the way the genes work and become activated.

Even though research in behavioural genetics is not free from limitations and the results are to be taken with caution (Caspi et al., 2002; Sjöberg et al., 2007), it can prove useful in explaining why some youngsters resort to crime or develop distorted thinking patterns which can eventually lead to criminal demeanour. Importantly, the research has the power to shed light on why some individuals exposed to certain adverse family and environmental factors are more prone to see interpersonal violence against women as morally acceptable or engage in sexually coercive behaviours.

1.3 THE ROLE OF CHILDHOOD EXPERIENCES IN THE EMERGENCE OF DYSFUNCTIONAL ATTITUDES AND BEHAVIOURS

It has been suggested that certain childhood experiences can influence the development of criminal thinking and criminal behaviour. Family factors such as attachment or parenting style, and relations with peers affect a child's growth and future behavioural as well as thinking patterns. Criminal behaviour in adults can be traced back to their childhood years. Importantly, sexual offending and the acceptance of interpersonal violence against women have been linked with the exposure to violence in childhood. Attention in this section turns to childhood factors used to explain the emergence of dysfunctional attitudes and antisocial behaviour.

1.3.1 Family factors

In the recent years, researchers have directed much attention at identifying aversive familial influences, such as maltreatment, abuse, verbal aggression and their impact on children. Those research results were utilised for developing intervention and treatment programmes for both abusive adults and victimised children (Bartol & Bartol, 2014).

1.3.1.1 Parenting styles

Parenting styles are the ways in which parents interact with their children. Examples of parenting styles include gestures, emotional expression, or tone of voice. Parenting practices were found to have a significant impact on child's behaviour (e.g. attitude to schooling, academic performance) and characteristics

(e.g. self-esteem). It was also determined that certain parenting practices are strongly related with child and juvenile delinquency (Bartol & Bartol, 2014). Baumrind (1991a) identified and described four different parental styles: authoritarian, permissive, authoritative, and neglecting.

The central intent of parents practicing authoritarian parenting is to shape and control their child's life. Authoritarian parents have a set of strict guidelines and regulations which cannot be questioned or broken. Equality between parents and children is not encouraged and children are not allowed to express their opinions. Authoritarian parents demand absolute obedience and transgressions on the part of children are severely punished, including physical forms of punishment. Adults who adopt permissive parenting style exert no or very little control over their children. This style is non-punitive and few restrictions are given. Consequently, children are expected to set their own time schedule for eating, sleeping, doing homework or playing. Additionally, parental monitoring in this style is virtually nonexistent. The authoritative style is about balance, rationality, and reasonable restrictions. Authoritative parents encourage discussion and try to maintain the spirit of open communication. They are also consistent in the enforcement of family rules. Importantly, authoritative parents promote their children's independence and individuality. Finally, the neglecting style pertains to a family environment in which parent is emotionally detached and unengaged in the child's life. They do not demand or respond to the child's needs. Neglecting parents display no interest in monitoring the child's activities and are openly rejecting (Baumrind, 1991a).

However, Baumrind's (1991a) typology of parenting styles has been criticised for its too sharp boundaries between the different categories. For

example, some parents may oscillate between being too permissive or authoritative. Importantly, parenting style may be influenced by child's age, behaviour, or certain characteristics. However, in spite of those limitations, "Baumrind's conceptualization of parenting style has produced remarkably consistent picture of the type of parenting conducive to the successful socialization of children" (Darling & Steinberg, 1993, p. 487).

1.3.1.2 Parental monitoring

Another aspect of familial environment closely related to the development of antisocial behaviour is parental monitoring or supervision. Parental monitoring pertains to "parents' awareness of their child's peer associates, free-time activities, and physical whereabouts when outside the home" (Snyder & Patterson, 1987, pp. 225-226). Parental supervision is contingent on a myriad of factors. Circumstances such as financial difficulties, substance abuse, divorce, psychological distress, or death may have a significant effect on the way parents monitor their children. Research revealed that monitoring is especially important for children from about age nine to mid-adolescence (Laird, Pettit, Bates & Dodge, 2003). These findings are in line with the coercion developmental theory proposed by Patterson (1982, 1986) which emphasises the role of poor parental monitoring in early-onset delinquency. The theory suggests that the family environment in which the child acquires coercive behaviours is a crucial predictor of offending.

Hoeve et al. (2007) found that adolescents raised in families with the lack of structured activities were significantly more likely to engage in criminal behaviour in young adulthood. Poor parental monitoring was revealed to be a

strong predictor of delinquency in a meta-analysis of 161 studies (Hoeve et al., 2009). Baumrind's (1991b) study results indicated that adolescents from unengaged families were more prone to become antisocial, irresponsible, and displayed greater deficits in cognitive competence.

However, monitoring does not have to be provided by parents only. After-school care or neighbourhood monitoring were demonstrated to be equally important and children with adequate monitoring provided by the community were found to display lower delinquency rates (Sampson, Morenoff & Gannon-Rowley, 2002). Other studies suggested that poor parental supervision increases the risk of violent behaviour (Singer et al., 1999) and drug abuse (Webb, Bray, Getz & Adams, 2002). Moreover, it has been suggested that the amount and quality of monitoring is also influenced by a child's characteristics. Indeed, some children are more willing to cooperate than others which in turn makes it easier for adults to supervise them (Kerns, Aspelmeier, Gentzler & Grabill, 2001). In addition, children securely attached to their parents were evidenced to be more willing to be monitored, suggesting that positive parent-child relationship is crucial for the shaping of a healthy familial environment (Bartol & Bartol, 2014).

1.3.1.3 Attachment

Bowlby (1969) highlighted the importance of the early relationship between parent and child for the child's emotional and social development. Bowlby's attachment theory received a significant amount of attention from researchers studying antisocial and criminal behaviour.

The essence of attachment theory lies in the emotional ties between the infant and caregiver. Bowlby suggested two possible forms of attachment: secure

and insecure. The theory posits that infants who form a secure attachment feel comfortable in their mother's presence and readily explore the environment when she is around. They become distressed when the mother leaves, but regain joy and composure on her return. Other children may form an insecure attachment, which is divided into two distinct categories: anxious and avoidant. Anxiously attached children display signs of anxiety and distress even when their mother is present. After separation, they may react with indifference or hostility. Infants attached in the avoidant way, on the other hand, show little distress regardless of whether the mother is present or absent (Ainsworth, 1979; Bartol & Bartol, 2014).

Bowlby's (1969, 1997) research on the nature of criminal behaviour suggested that delinquent children were more likely to have a history of early maternal deprivation. Adshead's (2002) study found significant evidence that insecure attachment may cause violent offending. She suggested that childhood insecure attachment is transferred onto adulthood relations with significant others, such as romantic partners and children. The fear of loss or separation experienced by insecurely attached individuals may result in rage which can then lead to overtly aggressive behaviours.

The attachment theory, however, has been criticised on many different grounds. Bowlby's (1969, 1997) empirical studies were suggested to have utilised inadequate sampling and poor matching (Feldman, 1977). Wootton (1959) denounced the theory for its assumption of the irreversibility of damage done by maternal separation. Additionally, the focus on the mother as the primary attachment figure while neglecting the role of the father and other significant adults in a child's life has been seen as an oversimplification of complex family dynamics (Hollin, 2013). In fact, absence of the father has been associated with

superego underdevelopment (Cartwright, 2002). The superego, Freud (1960) asserted, emerges through identification with the same-sex parent. Lack of this identification, hence, results in deficits in the workings of the superego. However, the superego is also reflective of parental values and thus criminal families are more likely to raise children whose superego condones deviant behaviour (Cartwright, 2002).

1.3.1.4 Influence of criminal parents and siblings

According to van de Rakt, Nieuwbeerta and Apel (2009), having a family member who committed a crime increases the probability of a person engaging in unlawful behaviour. Moreover, Fagan and Najman's (2003) study revealed that the criminal behaviours of siblings are highly correlated, with the association being stronger for same-sex siblings (Rowe & Farrington, 1997). Additionally, Jones, Offord, and Abrams (1980) asserted that the more males among the siblings, the greater chances for the development of antisocial behaviour in boys. Van de Rakt et al. (2009) noted that these similarities among siblings may be due to learning attitudes and behaviours directly from each other. McCord's (1979) research on child-rearing antecedents of criminal behaviour indicated that parental behaviour has a significant effect on subsequent behaviour of the offspring. This suggests that criminal behaviour may be learned directly from parental values.

1.3.2 Peer influences

In early childhood, children's development is impacted predominantly by the primary caregivers. The pattern of influences, however, changes when a child's social circle begins to widen. During adolescence, youngsters become more

susceptible to peer influence, whereas parental influence was noted to decrease (Mounts, 2002). Juvenile delinquency, therefore, may have its origins in social interactions with peers. Criminal behaviour might be a response to frustration triggered by peer rejection. Alternatively, poor parental supervision may lead to a child forming associations with deviant peer groups.

1.3.2.1 Peer rejection

One of the strongest predictors of the shaping of antisocial behaviour is early rejection by peers (Dodge, 2003; Parker & Asher, 1987; Trentacosta & Shaw, 2009). When a child enters education, one of the main tasks that he needs to accomplish is to form relationships with peers. This is crucial for the child's healthy psychological and social growth (Rubin, Bukowski & Parker, 1998). Social rejection by peers has been identified as a significant predictor of juvenile delinquency and antisocial behaviour (Laird, Jordan, Dodge, Pettit & Bates, 2001). Research suggests that peer rejection in the first grade might lead to the development of antisocial behaviour as early as by the fourth grade (Cowan & Cowan, 2004). Dodge et al.'s (2003) series of longitudinal studies with boys and girls provided evidence that early peer rejection predicts aggression. Parker and Asher's (1987) review and analysis of literature indicated that poor peer adjustment is predictive of criminality. Peer rejection was also found to be correlated with adolescent disorder (Coie, Lochman, Terry & Hyman, 1992).

Furthermore, researchers studied the effect of various psycho-social factors on peer rejection. It was found that the quality of parent-child and marital relationships is a significant predictor of whether a child is rejected by peers (Cowan & Cowan, 2004). Research findings also suggest that children who are

physically and verbally aggressive are more likely to be rejected by their peers than non-aggressive children (Bartol & Bartol, 2014). Violent tendencies combined with peer rejection seem to lead to serious antisocial or criminal behaviour (Hollins, Marsh & Bloxson, 2011; Coie & Miller-Johnson, 2001). Additionally, peer-rejected children tend to form associations with one another and are at greater risk of forming relationships with delinquent youngsters (Laird, Pettit, Dodge & Bates, 2005). However, not all aggressive children are rejected. Some studies indicate that many youngsters who are popular are dominant, arrogant, and aggressive (Cillessen & Mayeux, 2004; Rose, Swenson & Waller, 2004).

1.3.2.2 Associations with criminal friends

Trasler (1978) claimed that criminality can be explained in terms of learning. Unlawful conduct can be learned through associating with those who already behave in a criminal manner. Deviancy, therefore, is learned in the same way as other skills, for example, the skills of driving, and are shaped through imitation. Blackburn (2000) highlighted the selective nature of modelling. People do not simply re-enact the demeanour of others but they scan the wide repertoire of the observed behaviours to utilise the ones which fit their objectives and situational demands. Indeed, Foote Whyte (1943) asserted that delinquency can be used as a means of social advancement by those who were denied the opportunity to attain their goals legally.

There are three major theories explaining the influence of deviant peer groups on antisocial behaviour. Firstly, some youngsters may become delinquent directly through an association with antisocial peers. According to this

perspective, nearly every child is susceptible to such influences (Bartol & Bartol, 2014). Indeed, the differential association theory contends that criminal behaviour is learned in the social context. It is through contact with other people whose outlook on crime is favourable that an individual acquires similar definitions (Sutherland, 1947). This framework, however, has been criticised for its failure to explain why, given similar conditions, not all individuals adopt the same criminal definitions (Hollin, 2013). This limitation has been transcended by the second theory which posits that aggressive, peer-rejected children gravitate towards similar antisocial youths. The third perspective suggests that peer-rejected children who are antisocial seek contact with other antisocial children which in turn amplifies their existing antisocial predispositions (Bartol & Bartol, 2014). Coie (2004) noted that the influence of deviant peer group on the emergence of antisocial behaviour has been well documented in the literature.

Indeed, research demonstrated that aggressively inclined youths are more likely to form criminal associations and participate in deviant acts. However, it has also been suggested that non-delinquent children who develop associations with deviant peers may also engage in minor delinquent actions (Elliot & Menard, 1996). A similar tendency was reported in the research by Thornberry, Krohn, Lizotte and Chard-Wierschem (1993), however, it was also noted that the delinquent behaviour of non-antisocial youths ceases on their departure from the deviant group. These findings indicate that some children become members of deviant peer groups due to social expectations or environmental influences. Nonetheless, if given an opportunity to form relationships with pro-social groups, they are likely to sever their bonds with criminal friends.

Researchers stressed the importance of the interaction between parental attachments and parental monitoring and their impact on the development of criminal associations (Agnew, 2001; Demuth & Brown, 2004; Ingram et al., 2007; Mack, Leiber, Featherstone, & Monserud, 2007). Children who did not form healthy bonds with their parents and who were not sufficiently supervised are more likely to develop relationships with criminal friends which consequently leads to increased antisocial acts. While following the social development of 206 boys, Dishion, Patterson, Stoolmiller and Skinner (1991) discovered that poor parental discipline and supervision practices, peer rejection, and academic failure at the age of 10 were predictive of involvement with antisocial peers at the age of 12. These results indicate that unhealthy home environment and poor parent-child interactions have a significant influence on the development of antisocial behaviour.

1.4 AGGRESSION

Another important construct considered in relation to sexual coercion has been aggressive personality. Aggression was demonstrated to form significant positive correlations with rape-supportive attitudes. Endorsement of rape myths was associated with verbal aggression and increased hostility levels. Given the importance of aggression to the development of sexual coercion and rape-supportive attitudes, the aim of this section is to introduce the concept of aggression and associated psychological phenomena.

1.4.1 Theoretical explanations of the development of aggression

Aggression is a psychological concept defined as an intent and attempt to harm another person or destroy an object (Bartol & Bartol, 2014). Researchers have long debated over the origins of aggressive predispositions. The controversy remains unsolved and different theoretical perspectives offer distinct descriptions and explanations of the phenomenon of aggression.

Psychoanalytic theorists suggest that aggressive impulses are ingrained in the human nature. Freud (1960) assumed that aggressive energy builds up in humans from birth and, if not discharged, may reach dangerous levels and become destructive. This is known as the psychodynamic or hydraulic model because, just as pressure builds up in a container, excessive pressure in the human psyche may lead to an explosion. The accumulated energy can be discharged appropriately through participating in sports, a process referred to as catharsis. Therefore, it is predicted that children who engage in sports will be less aggressive. If the process of catharsis is not achieved, the excessive mental energy may evolve into violence. In line with Freud's theory, Parens (2008)

suggested that observations of human infants clearly reveal the existence of an inborn destructive drive:

Many infants come out of the uterus with what is viewed benevolently as a lusty cry; however, within a few hours of birth, what was viewed earlier as a lusty cry will show itself to belong to the family of affective discharge phenomena we identify in other instances as rage. (p. 18)

Additionally, Winnicott (1958, 1964) hypothesised that aggression is a response to frustration and argued that for children to learn how to deal with those reactions, they need to experience a stable and loving familial environment. Winnicott suggested that a child with antisocial tendencies has not had their needs satisfied at home and is merely looking to society to receive the stability they need in order to complete the emotional growth.

Furthermore, the frustration-aggression hypothesis posits that aggression is a direct consequence of frustration (Dollard, Doob, Miller, Mowrer & Sears, 1939). People who feel frustrated, thwarted or threatened are likely to behave aggressively since aggression is a natural response in such circumstances. However, the theoretical framework has been criticised for oversimplifying the concept of aggression. Researchers intending to test the model empirically found it difficult to define and measure frustration accurately. Moreover, it was noted that frustration does not always result in aggression, but may be expressed in various ways depending on individual differences (Bartol & Bartol, 2014). Berkowitz (1973) proposed a revised model of the frustration-aggression hypothesis, whose core component is the concept of anticipated expectations. According to the model, frustration is more likely to occur when a behaviour

aimed at a specific goal is thwarted. Frustration then leads to anger which readies a person to act aggressively. Whether or not a person chooses to engage in aggressive behaviour depends largely on their learning history and interpretation of an event.

Berkowitz's (1973) revised version of frustration-aggression hypothesis emphasised the role of cognitive factors in aggressive behaviour. The theory is currently referred to as the cognitive-neoassociation model. It assumes that an aversive event generates negative affect, which in turn gives rise to feelings and memories associated with fear or anger. Cognitive appraisal is not yet activated and aggression occurring at this stage is reactive in nature. Those who go past this initial stage activate cognitive processes which mediate and control emotional reactions. Eventually, what began as an unpleasant experience may develop into a more careful consideration of the situation.

An important role in aggressive behaviour is played by past learning experiences. The learning process begins in early childhood and the learned reactions to certain situations are maintained throughout adulthood. Bandura (1965) conducted a classic psychological study in which 66 nursery children were exposed to three films depicting an adult assaulting a Bobo doll. One group of children saw the adult being rewarded for his behaviour, the second group saw the adult being punished, whereas the third group did not see the model being punished nor rewarded. When allowed to play after the experiment, children in the first condition displayed significantly more aggressive behaviours than children in the remaining two conditions. The study demonstrated that behavioural patterns can be imitated or modelled after other people. Moreover, follow-up studies revealed a similar modelling effect after exposure to media

violence (Baron, 1977). Indeed, research suggests that children are most likely to acquire aggressive behaviour if they observe aggression on many occasions, if their own aggressive behaviours are positively reinforced, or when they are subject to aggression themselves (Huesmann, 1988).

Finally, recent cognitive models emphasise the importance of information processing in acquiring aggressive behaviour. Huesmann (1997) proposed a hypothesis called the cognitive scripts model, according to which aggressive behaviour is controlled by cognitive schemata. Scripts are learned and memorised through exposure to certain situations and provide one with knowledge on how to behave in specific circumstances. Once established, the script becomes a cognitive programme which is resistant to change. Therefore, children do not simply mimic the behaviours of their parents, but encode their attitudes into their own repertoire of scripts. Another model proposed by Dodge (1986, 1993), called the hostile attribution bias, refers to the tendency to perceive hostile or wrongful intent on the part of others even when it is lacking. That is, individuals who are prone to violent behaviour are more likely to see ambiguous events as hostile or threatening. Such a distorted information processing can result in violence against a person who is perceived as trying to cause harm.

1.4.2 Anger and hostility

It has been suggested that aggression cannot be considered in separation from two important constructs – anger and hostility. Spielberger, Krasner and Solomon (1988) described anger as an emotion, hostility as a trait, whereas aggression was conceptualised as the expression of both anger and hostility. The three

phenomena were argued to be highly correlated and can be referred to as the AHA! Syndrome.

Anger is an emotional state constituting a crucial component of aggression (Patrick & Zempolich, 1998). Spielberger, Jacobs, Russell and Crane (1983) drew a distinction between two types of anger: state anger and trait anger. The first is a context specific psychobiological reaction which involves the feelings of displeasure and irritation. In milder forms, anger may involve feeling annoyed, however, it can also develop into fury or rage. Anger, similarly to fear, is construed to be a defensive reaction (Patrick & Zempolich, 1998). The experience of state anger is reflected in the activation of autonomic nervous system (increased perspiration, heart rate). The discharge of state anger may be constructive (assertion) or destructive (aggression) (Ramírez & Andreu, 2006). Trait anger, on the other hand, was described as an individual's tendency to perceive certain stimuli as annoying – a propensity which is stable across situations. High scores on trait anger were argued to be positively associated with increased levels of state anger (Spielberger, 1988). Anger was found to correlate significantly with same-sex indirect aggression and sexual jealousy (Archer & Webb, 2006).

Another construction often discussed in relation to aggression is hostility, i.e. negative evaluations of people or things. Hostility may manifest itself in the willingness to hurt or damage the loathed object, the feeling of contempt or resentment and, eventually, may evolve into violence. The above mixture of negative emotions was labelled 'hostile attribution' (Smith, Glazer, Ruiz & Gallo, 2004; Ramírez & Andreu, 2006). The hostile attribution bias, first introduced by Dodge (1986, 1993), refers to the tendency to perceive hostile or wrongful intent

on the part of others even when it is lacking. That is, individuals who are prone to violent behaviour are more likely to see ambiguous events as hostile or threatening. Such a distorted information processing can result in violence against a person who is perceived as trying to cause harm. On the cognitive level, hostility is composed of negative attitudes towards others, such as cynicism and mistrust. Cynicism is a belief that others are only concerned about their own good, whereas mistrust refers to the expectation that other individuals are potentially dangerous (Smith, 1994). Miller, Smith and Turner (1996) distinguished between the experience and expression of hostility. The experience of hostility refers to subjective negative emotions listed above (e.g., cynicism). The expression of hostility, on the other hand, pertains to acting on the affective processes, resulting in overt physical or verbal aggression. Archer and Webb's (2006) study indicated that hostility is significantly associated with same-sex direct aggression, partner direct aggression, impulsiveness, sexual jealousy and dominance.

1.4.3 Types of aggression

Just like psychopathy, aggression does not constitute a uniform concept. Researchers have identified and argued for the existence of different dimensions of aggression. Buss (1961) distinguished between physical-verbal, active-passive and direct-indirect aggression. The first dimension specifies whether words or physical acts are used in order to cause harm to another person. The active-passive dimension refers to the intensity of active behaviour aimed against another person, and passive aggression is conceptualised as hurting others by not doing something. Lastly, the direct-indirect dimension refers to the amount of contact between the aggressor and the victim. Direct aggression suggests an

unmediated contact between the actors. This may take physical (e.g. hitting someone) or verbal (e.g. swearing at someone) forms. Indirect aggression occurs when the intention is to harm another individual by using other people or objects as a means to obtain the goal. Examples of such behaviour include rejection, exclusion, gossiping or damaging the victim's property. Indirect aggression is referred to as 'undirected' when negative emotions are discharged but not intended at a specific individual (Ramírez & Andreu, 2006). Physical aggression as measured by the Buss-Perry Aggression Questionnaire – Short Form (BPAQ; Buss & Perry, 1992; Bryant & Smith, 2001) was found to have four significant predictors: same-sex direct aggression, partner direct aggression, sexual jealousy and dominance. Verbal aggression was predicted by same-sex direct aggression and dominance (Archer & Webb, 2006).

Another important aspect helpful in distinguishing between different kinds of aggression is motivation (Porter & Woodworth, 2007). Feshbach (1964) argued for a bimodal categorisation of aggression: affective and predatory. Affective aggression was defined as “an aggressive response based on the presence of elements of either fear and/or threat, which may be real or perceived”, whereas predatory aggression “consists of purposeful and goal-directed attack with absence of sympathetic arousal” (Weinshenker & Siegel, 2002, p. 237). The above terms are most widely used in animal research. Studies inquiring into aggression in human population tend to refer to affective and predatory aggression as reactive/hostile and proactive/instrumental respectively. In spite of the terminological discrepancy, neural bases and hence types of aggression are similar in both humans and animals. Humans however express their aggression in more diverse and elaborate ways (e.g. postures, verbal and

non-verbal responses). Little, Henrich, Jones and Hawley's (2003) empirical study of the two types of aggression revealed no statistically significant correlation between them, suggesting the involvement of distinct psychological mechanisms in the activation of reactive and instrumental aggression.

Reactive aggression is conceptualised as a response to threat or frustration. Such aggressive acts are not premeditated and occur spontaneously in the face of an oncoming danger. Importantly, the behaviour serves defensive purposes and no gains are expected from it. It was also established that increased risk of reactive aggression can be expected in some psychiatric conditions such as borderline personality disorder (BPD), bipolar disorder, post-traumatic stress disorder (PTSD) as well as acquired psychopathy (due to brain damage) (Blair, 2010). Further, the intensity of reactive aggression is contingent on the gravity and imminence of threat. Exposure to slight danger may induce freezing, whereas a more immediate threat triggers escape. When the threat is direct, danger considerable, and escape impossible, reactive aggression becomes the only reasonable response (Blanchard, Blanchard & Takahashi, 1977). As for the neural basis of such reactions, research indicated that the amygdala-hypothalamus-periaqueductal gray (PG) circuit mediates reactive aggression. Additionally, increased activity in the ventromedial prefrontal cortex (vmPFC) was also detected (Blair, 2010). This is in line with Damasio's (1994) somatic marker hypothesis. The author suggested that somatic markers, i.e. processes located in the vmPFC, generate emotional reactions to external stimuli. In their absence, decision-making process is not mediated by affective reactions which, in turn, renders an individual insensitive to the negative consequences of their choices.

1.4.3.1 Reactive and instrumental aggression in psychopaths

Research revealed that psychopathy is positively correlated with reactive aggression (e.g. Frick et al., 2003). Cornell et al. (1996) conducted two studies which focused on psychopaths' aggressive behaviour. They distinguished two classes of violent psychopaths: those who engage in both reactive and instrumental violence, and reactive offenders. Instrumental offenders scored significantly higher than reactive offenders on overall PCL-R.

Hart and Dempster (1997) referred to acts of violence perpetrated by psychopaths as "impulsively instrumental". Snowden and Gray (2011) established a connection between secondary psychopathy (i.e. those individuals who scored high on Factor 2 of PCL-R), impulsivity, and the lack of future planning. Primary psychopathy (Factor 1 of PCL-R), on the other hand, was correlated with reduced impulsivity. The results provided support for the notion that psychopathy is a heterogeneous construct.

Porter and Woodworth's (2007) review of research studies revealed that psychopaths engage in both types of aggressive behaviour, however, a stronger link between psychopathy and instrumental aggression was found. Support for this comes from a study by Williamson, Hare and Wong (1987) whose results indicated that most non-psychopaths offended under extreme emotional arousal, whereas psychopaths were motivated by external goals such as material gain.

As mentioned earlier, instrumental offenders tend to receive significantly higher scores on overall psychopathy than reactive offenders. Reidy, Zeichner, Miller and Martinez (2007) found interpersonal style/emotional detachment (Factor 1) to be positively related with both reactive and proactive aggression.

Antisocial behaviour (Factor 2), on the other hand, correlated with reactive aggression only. Fanti, Frick and Georgiou (2009) demonstrated that youths with more CU traits engaged in both reactive and instrumental forms of aggression.

The above studies revealed a strong influence of callous/unemotional traits, which constitute the core of psychopathy, on aggression motivated by personal gain. Reactive aggression appears to be a function of both Factor 1 and Factor 2 psychopathy. Raine et al. (2006) inquired into other correlates of reactive-proactive aggression in children and adolescents. They found instrumental aggression to be characterised by delinquency, hyperactivity, poor peer relations, single-parenting, and substance-abusing parents. Reactive aggression was correlated with hostility, impulsivity, unusual perceptual experiences, social anxiety, and lack of close friends. The validity of the aggression typology was also supported by Woodworth and Porter's (2002) study on psychopathy and homicide within a sample of 125 Canadian offenders. The results revealed that 93.3% of homicides committed by psychopaths and only 48.4% of homicides committed by non-psychopaths were instrumental. Non-psychopaths' homicides were of a more impulsive nature, whereas psychopaths were most often motivated by an external goal. Factor 1 psychopathy was found to be significantly associated with instrumental violence.

Nonetheless, the distinction between reactive and instrumental aggression has been criticised as outdated, limited, and misleading. Bushman and Anderson (2001) argued that the dichotomous distinction fails to capture acts of aggression with multiple motives. Additionally, the traditional categories assume the presence of anger to be characteristic for hostile aggression, whereas instrumental aggression is thought to be void of such an emotional tinge. According to the

authors, such views are misguided. They implied that to continue using these two forms of aggression for the purpose of psychological research is to significantly impede advances in understanding human aggression. Instead, Bushman and Anderson proposed a distinction on the basis of immediate and ultimate goals of aggressive acts. It was also acknowledged that certain behaviours may be motivated by more than one goal. Therefore, instead of categorising human behaviour into polar opposites, they argued for considering a wider spectrum of aggressive acts.

1.4.4 The link between aggression and psychopathy

The link between psychopathy and aggression has been the subject of investigation in a number of studies. It has been established that child, adolescent and adult offenders exhibiting psychopathic features tend to be more aggressive than their non-psychopathic counterparts (Porter & Woodworth, 2007). Porter, Birt and Boer (2001), in a study with 317 Canadian offenders, found that psychopaths commit more violent as well as non-violent crimes in comparison with non-psychopathic offenders. The discrepancy was observed when criminal activity in early and middle adulthood was analysed. Similarly, Hart (1998) concluded that PCL-R scores are accurate predictors of violent behaviour.

Dolan and Doyle's (2000) review of research studies found psychopathy scores to be predictive of violent recidivism. Salekin, Rogers and Sewell's (1996) meta-analysis of 18 studies revealed PCL and PCL-R scores to be positively associated with violence and recidivism. Skeem and Mulvey (2001) reported the results from the MacArthur Violence Risk Assessment project in which the association between psychopathy and violence was studied within a sample of

1,136 civil psychiatric patients. The researchers discovered a strong relation between psychopathy and violence. Although the base rate of psychopathy among the patients was only 8%, there was a 73% chance that a violent patient would score higher on psychopathy than a non-violent patient.

Moreover, Porter and Woodworth (2007) suggested that although the nexus between psychopathy and aggression is strongly accentuated in adulthood, it is created as early as in childhood. Callous/unemotional (CU) traits crystallise early in life and can form the basis of adult psychopathy. Children with CU traits were reported to be more adventurous, thrill-seeking, less anxious (Frick, Lilienfeld, Ellis, Loney & Silverthorn, 1999), and less emotionally reactive to threatening stimuli (Blair, 1999). Frick, Cornell, Barry, Bodin and Dane (2003), in a study within a sample of 98 children, found that those youngsters who demonstrated more CU traits and conduct problems were also more likely to display higher levels of aggression, especially instrumental aggression. In comparison, children with conduct problems but without CU traits more often engaged in reactive forms of aggression. Children with CU traits scored higher than children without such traits on measures of self-reported delinquency.

These findings suggest that CU traits may be important, not only for designating a group of conduct problem children who are at high risk for delinquent behaviour, but they may also designate a group of children who may be at risk for later delinquency but who do not yet show significant conduct problems. (p. 467)

Kimonis et al. (2008) suggested that CU traits which develop in childhood remain stable across adolescence. The researchers developed the Inventory for Callous-

Unemotional traits (ICU), which was found to consist of three independent factors – uncaring, callousness and unemotional. The total ICU score was found to be correlated with four types of aggression (reactive overt, proactive overt, reactive relational, proactive relational) and self-report delinquency. The callousness factor showed more correlations with aggression, whereas the uncaring dimension coupled more consistently with delinquency scores. The problem of psychopathy in adolescent offenders was also examined by Campbell, Porter and Santor (2004). The researchers assessed the psychopathic traits of 226 incarcerated adolescent offenders using the Psychopathy Checklist – Youth Version (PCL-YV; Forth, Kosson & Hare, 2003). The results demonstrated that higher PCL-YV scores were positively associated with self-report delinquency, aggression, and the number of violent offences.

The above findings lend credence to the theoretical assumption that psychopathic tendencies emerge early in life. Additionally, emotional detachment and aggressive behaviour evidenced in psychopaths may be suggestive of their increased likelihood to accept interpersonal violence. This assumption will be explored in the following empirical chapters.

1.5 SEXUAL OFFENDING

In England and Wales, the Sexual Offences Act 2003 lists the sexual behaviours which are prohibited by law (Stevenson, Davies & Gunn, 2003). Sexual offending incorporates a wide variety of behaviours, such as exposure, voyeurism, sexual grooming, or rape and assault by penetration. There are also sexual murders but they have not been defined as such in criminal law (Hollin, 2013). Definitions of sexual offences and the amount of coercion allowed, however, vary from country to country. Given this definitional divergence and police recording procedures, it is difficult to compare data on sexual offending obtained from different countries.

The rape prevalence among women amounts to 15% and 2.1% among men. Some of the difference in rates may be explained by men's greater reluctance to report sexual victimisation due to increased social stigma or embarrassment (Tjaden & Thoennes, 1998). However, it seems that both genders tend to underreport sexual abuse (Basile, Chen, Black & Salzman, 2007). Hoare and Jansson (2007) suggested that merely 11% of victims of sexual offences reported the crime to the police. The reasons behind this low rate of reporting are numerous. For example, the victim may fear retaliation from a known offender, they may feel humiliated, they may not want to be questioned by the police, they may believe that the incident was a family matter and hence not report it in order to protect the offender who is a close family member (Hollin, 2013).

According to official statistics available on the prevalence of sex offences in England and Wales, in 2011/12 the police recorded a total of 53,665 sexual offences. There were 16,041 instances of rape and 22,053 cases of sexual assault. These most serious types of sexual offences accounted for 71% of sexual offences

recorded by the police. It was also reported that 90% of victims of the most serious sexual offences were acquainted with the perpetrator (Office for National Statistics, 2013).

Another method of verifying the prevalence of sexual offending is through confidential self-completion questionnaires. It is thought that such an approach has a greater power of revealing real figures on sexual offending as victims are less reluctant to disclose their personal information when guaranteed anonymity. This type of methodology has been used by the British Crime Survey (BCS) from 1998. In the survey, participants are asked questions about their experiences of serious sexual assault and intimate violence (Myhill & Allen, 2002). The report *Statistics on Women and the Criminal Justice System* (Ministry of Justice, 2010) brings together statistical information on various sexual offences. The figures for 2006-09 showed an annual prevalence of 3% of women aged between 16 and 59 years experiencing one or more sexual assaults, whereas the figure for men was 1%. When asked about lifetime experiences, 19.5% of women admitted to having been a victim of a sexual assault since the age of 16 years, the comparable figure for men being merely 2.8%. Moreover, 4.9% of women and less than 1% of men reported having experienced an attempted or accomplished serious sexual attack, and 4% of women reported having been raped.

Sexual violence can significantly influence women's physical as well as psychological well-being. Victims of rape are often said to suffer double victimisation, once by the perpetrator and then by the criminal justice system. Damaging may also be the media attention and the attitudes of the public who may question whether the attack really happened (Bartol & Bartol, 2014). It was reported that rape survivors can suffer from physical injury, chronic pain,

sexually transmitted diseases, anxiety or depression. They also face higher risks for later substance abuse and interpersonal problems (Centers for Disease Control and Prevention, 2007). Moreover, women who were raped can be given the status of a victim – a label that indicates passivity, powerlessness, and therefore vulnerability (Wood & Rennie, 1994).

The alarming research results and the gravity of rape consequences justify further investigations aimed at identifying risk factors for sexual offending. It seems especially important to explore cognitive distortions associated with assigning blame to the victim, and how those misperceptions can be translated into sexually coercive behaviours.

1.5.1 Rape-supportive attitudes and rape myths

One of the major factors contributing to the maintenance of relatively high rates of sexual offending are attitudes about women and interpersonal violence against women. Research suggests that both sexual offenders and males in the general population subscribe to such negative beliefs. Most rapists have been found to hold attitudes that encourage men to be dominant, whereas women are expected to be submissive. Rape-prone men were found to believe that women enjoy being dominated, that they cannot be raped unless they want to, and that when a woman says no she does not really mean it (Blake & Gannon, 2010). Therefore, what can be seen as an ambiguous behaviour of women is interpreted as a permission for sex. Moreover, men who hold such views may also believe that women derive pleasure and gratification from being sexually assaulted (Lipton, McDonel & McFall, 1987).

Rape-supportive attitudes are also prevalent among males in the general population. A survey by Koss and Dinero (1988) among 3,000 male students inquired into the extent of verbal coercion and physical force they had used to become intimate with a woman. Respondents were also asked about their attitudes and habits. The findings demonstrated that sexually aggressive men expressed greater hostility towards women, used more alcohol, viewed more pornography, and had more associations with groups supporting dominating views of women. Additionally, more aggressive students were also more likely to believe in the legitimacy of using verbal coercion and physical violence to obtain sex.

A plethora of research inquiring into rape-supportive attitudes among university population focused on fraternity members and athletes. Qualitative studies revealed fraternity members to be overrepresented as perpetrators of sexual offences (e.g. Martin & Hummer, 1989; Sanday, 1990). Some survey research suggested a modest effect of fraternity membership and athletic participation on sexual coercion (e.g. Boeringer, 1996; Koss & Gaines, 1993). It was suggested that fraternal organisations and sports teams create an environment in which beliefs supporting violence against women are fostered. Consequently, negative attitudes pertaining to sexual coercion are neutralised, which may be conducive to the emergence of sexually aggressive behaviour (Boeringer, 1999).

Furthermore, there are numerous stereotypes pertaining to rape and sexual aggression which perpetuate interpersonal violence against women. The concept of rape myth was first introduced in the 1970s. Rape myths are “attitudes and beliefs that are generally false but widely and persistently held, and that serve to deny and justify male sexual aggression against women” (Lonsway & Fitzgerald,

1994, p. 134). They originate in the traditional view of men as dominating, strong, assertive, and heterosexual (Davies, 2002). Feminists argued that such misconceptions about rape are ubiquitous in patriarchal societies and are rooted in the tradition of denigrating women (Ward, 1995). Examples of rape myths commonly studied by researchers include “only bad girls get raped”, “women ‘cry rape’ only when they’ve been jilted or have something to cover up”, or “any healthy woman can resist a rapist if she really wants to” (Burt, 1980, p. 217). Schwendinger and Schwendinger (1974) explained that some of the most common rape myths include the conviction that women want to be raped, and that men cannot control their sexual urges. Brownmiller (1975) suggested that women are often believed to lie about being raped and hence false charges of rape are prevalent. Indeed, the tendency to absolve the perpetrator and blame the victim lies at the core of stereotypical thinking about rape.

Such erroneous beliefs may act as “psychological neutralisers” that allow men to shed social prohibitions against hurting others, resulting in using force in sexual interactions (Bohner et al., 1998; Burt, 1980). This view is reminiscent of Bandura’s (1990, 1991) concept of moral disengagement which explains the process of disinhibition of aggressive behaviour. Research revealed that moral disengagement can be achieved through moral justification or dehumanisation of victims (Bandura, Barbaranelli, Caprana & Pastorelli, 1996). Similarly, the neutralisation theory (Sykes & Matza, 1957) posits that an offender has to find an excuse in order to rationalise and justify their criminal actions. The neutralisation effect can be achieved by various techniques. For example, denial of responsibility, denial of injury, or denial of victim. Indeed, one of the most common rape myths is that the victim should be held at least partly responsible

for the assault. This may be because she was dressed provocatively or was drinking alcohol. Unfortunately, such views legitimise sexual aggression and belittle its consequences.

Research demonstrated that men who accept rape myths are also more hostile towards women (Forbes, Adams-Curtis & White, 2004; Suarez & Gadalla, 2010). Moreover, rape stereotypes are not exclusive to sexually aggressive men only. There is evidence suggesting that rapists' views about women are reflective of beliefs held by men in the general population. For example, a study by Malamuth (1981) found that 35% of male students would rape a woman if they knew they would avoid being punished for it. Additionally, Briere, Malamuth and Ceniti's (1981) research with 352 male undergraduates indicated that 60% of the sample would be willing to force a woman to an intimate contact if given the opportunity. This, however, does not mean that all men subscribing to such views are potential rapists. A number of factors mediate the relationship between beliefs and overt behaviour, including the degree of motivation, the presence of internal and external inhibitors, and opportunity. Before beliefs are translated into actions, hence, a number of conditions need to be met (Malamuth, 1989).

Additionally, recent research results indicate that the prevalence of rape myths among men in the student population (which, perhaps, can be extended to men in the general population) is beginning to decrease. Ferro, Cermele & Saltzman (2008) reported that college students revealed fairly low levels of rape myth acceptance, but erroneous beliefs pertaining to marital rape were found to linger. The participants were reluctant to accept the concept of rape within marriage and its potential consequences on females. These results, however,

should be interpreted with caution due to a small sample used in the study (85 undergraduate students and 44 college alumni).

1.5.1.1 Measures of rape myth acceptance

Several self-report instruments have been created to measure the endorsement of rape myths (Lonsway & Fitzgerald, 1994). The two most commonly used measures of rape myth acceptance are the Rape Myth Acceptance Scale (RMAS; Burt, 1980) and Illinois Rape Myth Acceptance Scale (IRMA; Payne, Lonsway & Fitzgerald, 1999). Recently, a new scale utilising a broader definition of rape myth acceptance has been developed, the Acceptance of Modern Myths about Sexual Aggression Scale (AMMSA; Gerger, Kley, Bohner & Siebler, 2007).

The Rape Myth Acceptance Scale (RMAS) was designed by Burt (1980) in order to test how prevalent rape myths are and how many people subscribe to such erroneous beliefs. The scale consists of 19 items scored on a 7-point Likert scale, ranging from “strongly agree” to “strongly disagree”. The Cronbach’s alpha for the scale was .88, and the item-to-total correlation of each of the 19 items ranged from .27 to .62. The instrument’s questions inquire into a variety of rape myths. For instance, “when women go around braless or wearing short skirts and tight tops, they are just asking for trouble”, “women who get raped while hitchhiking get what they deserve”, and “many women have an unconscious wish to be raped, and may then unconsciously set up a situation in which they are likely to be attacked” (p. 223). Rape myth acceptance as measured by the RMAS total score was found to be predicted by acceptance of traditional sex role stereotyping, adversarial sexual beliefs as well as acceptance of interpersonal violence in general.

Research into rape myths as measured by RMAS and associated behavioural and psychological variables, however, yielded inconsistent results. For this reason, Lonsway and Fitzgerald (1994) attempted to redefine and reconceptualise the construct of rape myth. They theorised that rape myths are false beliefs which capture certain cultural phenomena and serve to maintain existing social arrangements.

Like stereotypes, the importance of rape myths lies not in their ability to truthfully characterize any particular instance of sexual violence; rather, the significance of cultural rape myths is in their overgeneralized and shared nature as well as their specified psychological and societal function. (Payne et al., 1999, p. 30)

Based on the new operational definition of rape myth, Payne and colleagues developed a new scale of rape myth acceptance, the Illinois Rape Myth Acceptance Scale (IRMA). The original IRMA consisted of 45 items. A series of analyses revealed the existence of seven distinct myth components: *She asked for it; It wasn't really rape; He didn't mean to; She wanted it; She lied; Rape is a trivial event; Rape is a deviant event.* McMahon and Farmer (2011) updated the questionnaire by changing the wording of scale items and focusing more on victim blaming. The instrument was tested with 951 undergraduate students. The revised version of IRMA consists of 19 items measured on a 5-point Likert scale, ranging from "strongly disagree", 4 = "strongly agree". Exploratory structural equation modelling found the scale to be best captured by a five-factor solution. Four of the original subcategories remained unchanged (*She asked for it; It wasn't really rape; He didn't mean to; She lied*) and a new subscale (Alcohol) was added. Cronbach's alpha for the total scale was .87. McMahon and Farmer

concluded that rape myth measures require regular updating in order to reflect the changing attitudes about rape and victim culpability.

Lonsway and Fitzgerald's (1994) definition of rape myth, however, was criticised for being overly restrictive. According to Bohner (1998), rape myths should be defined as ethically wrong rather than false. Additionally, the prevalence and consistency of rape myths should not constitute the core of the general definition. Therefore, Bohner coined a new definition whose central focus is on the content and functions of rape myths: "rape myths are descriptive or prescriptive beliefs about rape (i.e., about its causes, context, consequences, perpetrators, victims, and their interaction) that serve to deny, downplay or justify sexual violence that men commit against women" (p. 14).

Gerger et al. (2007) utilised this definition to create a new measure of rape myth acceptance, the Acceptance of Modern Myths about Sexual Aggression Scale (AMMSA). The scale items were developed on the basis of modern sexism research findings during several brainstorming sessions. At first 60 items were generated and, on the basis of item-to-total correlations and item means, 30 items were selected for the final version of the instrument. The scale was first designed in German and then translated into English. Across four studies, the scale's internal consistency was shown to range from .90 to .95 (Cronbach's α). Sample AMMSA items include: "it is a biological necessity for a man to release sexual pressure from time to time", "alcohol is often the culprit when a man rapes a woman", and "the discussion about sexual harassment on the job has mainly resulted in many a harmless behaviour being misinterpreted as harassment". Exploratory factor analyses revealed the scale to consist of a single factor.

Moreover, the scale means, in comparison with RMA and IRMA, were reported to be higher and their distributions less skewed. Spanish validation of the AMMSA demonstrated high internal consistency and adequate internal validity of the instrument (Megias, Romero-Sánchez, Durán, Moya & Bohner, 2011). Still, however, more studies are needed in order to confirm the scale's internal and predictive validity.

1.5.2 The role of sexual fantasy and pornography in sexual coercion

Research explored the role of fantasy in sexual offending. It has been argued that being immersed in one's own thoughts and dreams provides an opportunity to escape the restraints of reality (Jones & Wilson, 2009). Doskoch (1995) argued that on average men fantasise about sex 7.2 times per day and women 4.5 times a day. Sexual fantasies are unique to each person as they are affected by experiences, memories, and individual preferences. They are not restricted by criticism or taboo and the only limits are set by the self. In addition, sexual fantasies are not temporally constrained, i.e. they can be recalled, rehearsed, and adjusted at any time. Notably, sexual fantasies can have a tangible effect on an individual's reality by increasing their level of physiological arousal. For some people, however, imagining intimate situations does not provide sufficient satisfaction and sexual fantasies are projected into the real world. This is how the barrier between imagination and physical reality is crossed and thoughts are turned into actions. Studying the link between cognition and behaviour is essential for developing an understanding of how and why sexual fantasies are turned into reality (Jones & Wilson, 2009).

It appears that for most people sexual fantasies are relatively conventional and pertain to present partners and bedroom scenes. Doskoch (1995) described three primary sexual fantasies: forbidden imagery, sexual irresistibility, and dominance and submission fantasies. Forbidden imagery are fantasies of an intimate contact with unusual and unobtainable partners (e.g. celebrities, married individuals). Sexual irresistibility pertains to seductiveness and having sex with more than one partner. Dominance and submission refers to experiments with bondage and sadomasochistic practices. In most cases, however, such experiments are harmless and agreed upon by consenting adults. Nonetheless, dominance and submission fantasies can give rise to more violent sexual thoughts and eventually reflections on rape.

Researchers inquired into sexual fantasies experienced most frequently by men and women. Study by Hariton and Singer (1974) with 141 female participants indicated that women most commonly fantasised about an encounter with a romantic lover, or being overpowered and forced to surrender. Other studies confirmed the finding that women frequently experience fantasies about submitting sexually and being overpowered (e.g. Knafo & Jaffe, 1984; Pelletier & Herold, 1988). Hunt (1974) reported that 13% of men and merely 3% of women had the fantasy of forcing someone to have sex. Leitenberg and Henning's (1995) review of research studies demonstrated that most common sexual fantasies for both genders were those involving oral sex, sex in romantic scenarios, indications of sexual power as well as being forced to sex.

Empirical studies revealed an important role of fantasy and imagination in sexual aggression (Knight & Sims-Knight, 2011). For example, Greendlinger and Byrne (1987), in a study with 114 college men, found that over one-third of

participants reported having fantasised about aggressively raping a woman and over half fantasised about forcing a woman to have an intimate contact. Importantly, such imagined scenes might motivate overt sexually aggressive behaviour. Indeed, aggressive fantasies appear to play a critical role in sexual offending. Prentky et al. (1989) found that serial sexual murderers were likely to manifest an increased level of intrusive sexual fantasies. Deviant sexual fantasies were shown to be a significant risk factor in sexual offending (Thornton, 2002) and the strongest predictor of sexual recidivism (Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2005). Moreover, sexual fantasies may be the main motivation in the commission of a sexual offence. Beech, Fisher and Ward (2005), in a study with 14 sadistic sexual offenders, found that 79% reported 'carrying out sexual fantasies' as the main motive for engaging in criminal actions. Deviant fantasies may also serve as disinhibitors desensitising an individual to antisocial behaviour (Bartels & Gannon, 2011).

Wilson and Jones' (2008), based on a case-study with a convicted paedophile, developed the offending space model which explains how sexual fantasies may be translated into action. According to the theoretical framework, offending behaviour is significantly affected by self-regulation and social acceptability. Therefore, even if an individual has an opportunity and motivation to offend, they may be restrained if the self-regulation mechanisms and social acceptability remain functional. Ward and Siegert (2002), on the other hand, suggested five different pathways leading to child sex offending. These are: intimacy and social skills deficits (influenced by insecure attachment with parents), deviant sexual scripts (affected by adverse emotional experiences and cognitive distortions), emotional dysregulation (inability to self-regulate one's

emotions), antisocial cognitions (a general antisocial tendency), and multiple dysfunctional mechanisms (a combination of two or more of the above).

Further, sexual fantasies are formed in the psychological space and can be acted upon in the physical space. However, another space in which the two blur and connect exists – the virtual space. In the virtual space fantasies are brought into life with the use of images and sounds. Pornography is an example of such pseudo-reality where new ideas can be indirectly “tried out”. Individuals who watch pornographic films engage in a form of voyeurism – they are granted an opportunity to balance between thinking and doing, and choose which behaviours they would be willing to accept and engage in (Jones & Wilson, 2009). Quayle and Taylor (2003) argued against a direct link between exposure to pornography and sexual offending. This association is likely to be mediated by an individual’s sexual fantasies. Sexual fantasies, Jones and Wilson (2009) suggested, can be strengthened or amended after viewing violent pornographic scenes. Importantly, such thoughts can be reinforced when followed by sexual arousal and may eventually lead to overt sexually aggressive behaviours. Indeed, research provided supportive evidence for the relationship between offenders viewing inappropriate images of children and the reinforcement of sexual fantasy through masturbation (Wyre, 1992). According to Donnerstein (1983), the link between pornography and sexual aggression is influenced by the level of arousal elicited by pornographic material, the amount of aggressive content, and the reactions of victims presented in pornographic films. It has been suggested that exposure to extremely violent stimuli can facilitate aggression towards women (Bartol & Bartol, 2014). Also, viewing pornography can lead to the acceptance of attitudes

expressed in it. Consequently, distorted perceptions of women's desires are formed and may be acted upon (Marshall, 2000).

Research indicated that convicted rapists tend to display high sexual arousal to films portraying both rape and consenting sexual acts. Interestingly, rapists were also found to become sexually aroused to scenes of non-sexual aggression. Therefore, it appears that aggression against women in general is associated with sexual pleasure (Abel, Barlow, Blanchard & Guild, 1977; Abel, Becker, Blanchard & Djenderedjian, 1978). In addition, some spouse abusers may be motivated by sexual arousal, however, a majority of men in the general population find aggression sexually inhibiting (Malamuth, Check & Briere, 1986).

Additionally, previous research examined the effect of exposure to media violence on rape myth acceptance. Malamuth and Check (1981) found that men exposed to films portraying violent sexuality became more accepting of interpersonal violence against women. Allen, Emmers, Gebhardt and Giery's (1995) meta-analysis of studies examining the association between pornography and rape myth acceptance demonstrated that exposure to pornography significantly increases the level rape myth acceptance. The strongest effect was reported for especially violent pornography. The hypothesis that exposure to pornographic films increases the acceptance of rape myths was also supported by Kahlor and Morrison's (2007) study within a sample of 96 female college students. Interestingly, women who watch more television were found to be more likely to consider rape accusations to be false. Individuals with a preference for violent and sex films were reported to be more accepting of rape stereotypes (Emmers-Sommer, Pauley, Hanzal & Triplett, 2006). This indicates that the effect

of media violence may expand onto beliefs and attitudes pertaining to the real world, suggesting a strong influence of the virtual world on an individual's psychological space.

1.5.3 Antecedents of sexual aggression against women

Even though the understanding of the aetiology of sexual aggression is crucial for policy makers and public health professionals, research attempting to address this issue is sparse and inconclusive (McMahon & Puett, 1999). It has been argued that the ability to detect, prevent, and intervene at an early stage would protect many potential victims of sexual offending (Knight & Sims-Knight, 2003). Moreover, studies examining cognitive distortions pertaining to rape and victim culpability may prove pivotal in explaining how sexually aggressive behaviour is formed.

One of the first models exploring developmental pathways into sexual aggression, the two-path confluence model, has been proposed by Malamuth (1998). According to the researcher, the confluence of two factors increases the probability of participating in sexually aggressive behaviours: sexual promiscuity, which refers to the frequency of impersonal sex, and hostile masculinity, which pertains to behaviours such as risk-taking, defending one's honour, and competitiveness. However, Malamuth's research was not free from limitations. For example, delinquency was assessed by asking about participants' friends who manifested antisocial behaviours. Wheeler, George and Dahl (2002) utilised the confluence model of sexual aggression in order to predict men's conflict with women in a sample of undergraduate males. They found that the interaction between hostile masculinity and impersonal sex was predictive of sexual

aggression. Moreover, they extended the model by adding empathy as a moderator. High-risk males (i.e. those who scored high on both hostile masculinity and impersonal sex) with low empathy demonstrated higher rates of sexual aggression, whereas the rates of sexual aggression among high-risk males with high empathy were comparable with those of lower-risk males. These findings indicate that sexual aggression is affected by both behavioural and emotional correlates.

The confluence model was also tested by Knight (1993). A study with sexual offenders and university students revealed that sexual aggression is significantly impacted by childhood experiences of physical, verbal, and sexual violence. The two-path model proposed by Malamuth (1998) was found to explain only a small proportion of the variance of sexual aggression. These preliminary findings led to a revision of Malamuth's framework. Knight and Sims-Knight (2003) argued for a three-path model predicting the development of sexually coercive behaviour. The model was expanded by incorporating subcomponents of psychopathy (Affective/Interpersonal and Lifestyle/Antisocial), which significantly improved its fit indices. The framework identified three paths which can potentially lead to engaging in sexual aggression: (1) sexual drive/preoccupation, (2) antisocial behaviour, and (3) callousness/unemotionality. These paths are additionally fortified by two forms of childhood abuse: physical/verbal and sexual abuse.

According to the researchers, physical/verbal abuse experienced in early childhood influences the development of arrogance, deceitfulness, and emotional detachment. Indeed, research indicated that sexual offenders display more callous traits than other offenders (Caputo, Frick & Brodsky, 1999). Moreover,

physical/verbal abuse also has a significant impact on the forming of aggressive, antisocial behaviour. Individuals whose sexual aggression developed through this pathway are found to participate in different forms of criminal behaviour, not only sexual violence. Indeed, Simons, Wurtele and Heil (2002) identified childhood physical abuse to be an important factor in sexual aggression against adult women within a sample of sexual offenders, whereas Caputo et al. (1999) demonstrated that witnessing domestic violence is significantly related to sex offending and contact offending in general. Finally, childhood sexual abuse affects the third pathway, i.e. sexual drive/preoccupation. It was noted that sexually abused children may develop sexual compulsivity, hypersexuality, and experience aggressive sexual fantasies (Knight & Sims-Knight, 2004). In line with the theoretical framework, an increased likelihood of a childhood history of sexual abuse was reported for juvenile sexual offenders (Zkireh, Ronis & Knight, 2008).

However, it should be noted that childhood exposure to violence does not automatically lead to sexual coercive behaviour. These are only risk factors which, in combination with other experiences and predispositions, may result in criminal offending. Moreover, Knight and Sims-Knight (2003) admitted that the model needs verification and perhaps modification from further research. For instance, the researchers noted that it must be determined whether the callous traits and interpersonal manipulation psychopathy subscales should be treated as a single factor or two separate dimensions. Given that psychopathy is sometimes reported to consist of four rather than two dimensions, and callous and interpersonal traits are conceptualised as separate factors, this suggestion is well-founded and should be accounted for in future studies. Additionally, other

developmental factors should be assessed and examined. It appears that all previous studies exploring the developmental pathways to sexual coercion ignored an important aspect of distorted cognitions pertaining to rape and victim blaming. It may be that dysfunctional attitudes about interpersonal violence against women are another mediator in sexually aggressive behaviour.

Given the above theoretical assumptions, one might expect that an individual's rape myth acceptance might also be influenced by their victimisation experiences, however, this does not appear to be the case (e.g., Carmody & Washington, 2001; Mason, Riger, & Foley, 2004). Jenkins and Dambrot (1987), for instance, in a study investigating the impact of individual experience with sexual victimisation on rape attributions among male and female college students found no significant differences between victims and non-victims. However, it might be the case that victims of other forms of childhood abuse may be more likely than non-victims to support rape myths, consistent with the cycle-of-violence hypothesis. The influence of childhood exposure to different forms of violence on rape myth acceptance remains to be tested.

CHAPTER 2

Construct Validity and Dimensionality of the Polish Version of the Self-Report Psychopathy Scale (SRP-III)

Abstract

The 64-item Hare Self-Report Psychopathy Scale was translated into Polish with the aim to test construct validity and dimensionality, incremental validity, and composite reliability of the measure in a sample of working adults (N = 319). Confirmatory factor analyses revealed that the best fitting model was the bifactor conceptualisation containing six latent factors; two general factors of psychopathy and four grouping factors represented by interpersonal, affective, antisocial, and lifestyle latent variables (compared to a 2-factor, 4-factor, and 4-factor with 2 hierarchical factors). The Polish version of SRP-III evidenced good composite reliability and incremental validity in terms of predicting scores on aggression scale. Implications for theory and future research are discussed.

2.1 INTRODUCTION

As explained in the introductory chapter, psychopathy is a clinical construct characterised by a constellation of interpersonal (e.g., deceitfulness, superficial charm, grandiosity), affective (e.g., lack of empathy, remorse, or guilt), lifestyle (e.g. impulsivity, irresponsibility), and behavioural (e.g., social deviance, criminality) features (Hare & Neumann, 2008). Psychopathy is often presented as a complex set of dimensions which makes the disorder extremely difficult to capture and define (Ogloff, 2006). As a result, researchers suggest that the different facets of psychopathy should be measured and scored separately. The development of reliable tools for diagnosing psychopathy and its variants is crucial for building an understanding of the nature of psychopathy. This, in turn, will lead to more effective risk assessment and treatment.

The most prominent and widely-used psychopathy measure has been the Hare Psychopathy Checklist (PCL) (Hare, 1980). The original version of the instrument consists of 22 items and requires the use of interviews as well as case-history information. The revised version of the scale, referred to as the PCL-R (Hare, 1991), incorporates 20 items and, similarly to the previous tool, relies on interviews and collateral records. All items are rated on a 3-point scale (0, 1, 2) and hence scores can vary from 0 to 40. A cut-off score of 30 is usually used for diagnosing psychopathy (Hare & Neumann, 2008), however, Cooke and Michie (1999) suggest different PCL-R cut-off scores in North America and Europe. The cut-off point of 30 is recommended for American respondents, whereas the score of 25 is deemed sufficient to diagnose the disorder in Europeans. Further, 18 of the scale items load on two factors consisting of two facets: (1) Interpersonal/Affective and (2) Lifestyle/Antisocial. Factor 1 incorporates items

such as superficial charm, lack of remorse and lack of empathy. Factor 2, on the other hand, clusters items measuring antisocial behaviour, impulsivity, irresponsibility and juvenile delinquency (Blair, Mitchell & Blair, 2005; Hare, Harpur, Hakstian, Forth, Hart & Newman, 1990). Items not loading on any of the factors assess sexual promiscuity and the ability to maintain relationships (Ogloff, 2006).

PCL as well as PCL-R are strongly correlated with Cleckley's Clinical Profile (Cleckley, 1941) ($r = .83$) which suggests that they measure the same theoretical concept. Hare and colleagues, however, omitted items listed in the Clinical Profile for which item-total correlation was small and which indicated positive adjustment (e.g. good intelligence, absence of delusions, suicide rarely committed). The accuracy of the decision to remove those items has been supported by numerous studies with a variety of samples verifying the validity of the PCL-R and the construct it measures (Hare & Neumann, 2008).

Nevertheless, the PCL-R is not free from drawbacks. Quite the opposite, the scale itself as well as its use are bristling with difficulties. Firstly, the administration of the PCL-R is extremely time-consuming and requires extensive training. Access to files with relevant information can also prove problematic (Lilienfeld & Fowler, 2007). The task may be easier when participants recruited in clinical settings are being assessed, however, most of the time detailed clinical history does not exist for subclinical samples. With these limitations in mind, a number of self-report measures of psychopathy have been developed in recent years such as the Levenson Primary and Secondary Psychopathy Scales (LPSP; Levenson, Kiehl & Fitzpatrick, 1995), the Psychopathic Personality Inventory (PPI; Lilienfeld, 1990), and the Self-Report Psychopathy Scale (SRP; Hare,

1985). Self-report instruments are easy to use and the obtained information does not have to be verified by independent raters, which resolves the problem of interrater reliability. Moreover, certain internal states cannot be inferred and objectively measured by observers. Questions about the most hidden emotional processes, however, can be successfully answered by the self. Indeed, Stets and Burke (2000) argued that self is reflexive and hence “it can take itself as an object and can categorize, classify, or name itself in particular ways in relation to other social categories and classifications” (p. 224).

Potential problems arising from administering self-report scales should also be considered. Firstly, as delineated by Cleckley (1941) in his *Clinical Profile*, two of the key features of psychopathy are manipulateness and deceitfulness. Psychopaths beguile others in order to achieve their objectives, yet, they also practice deception for its own sake – a phenomenon referred to by Ekman (1985) as “duping delight”. Although psychopaths are likely to malingering when asked to take psychological tests, there is no evidence to suggest that they are exceptionally good at this (Lilienfeld & Fowler, 2007). Lilienfeld (1994) reported that psychopathic individuals often respond truthfully to questions inquiring into their antisocial behaviour or hostility, which may be due to their peculiar view on the social desirability of certain characteristics.

Secondly, psychopaths, as theory and research suggest, are void of certain emotions. For example, they do not experience moral emotions such as guilt or empathy (Karpman, 1941; Porter, 1996). Most recent neurobiological studies reveal that psychopaths’ capacity for developing such emotions is disturbed at the neurological level (Kiehl, 2006). Such a genuine inability to label and answer questions about unknown emotional states poses a threat of misreporting in self-

report scales. Further, the dominance of negative emotionality (NE) in self-report psychopathy instruments undermines their discriminant validity because “NE courses through many psychiatric disorders, including mood disorders, anxiety disorders, psychotic disorders, eating disorders, and somatoform disorders (Lilienfeld & Fowler, 2007, p. 111).

The final concern regarding the use of self-report psychopathy scales revolves around the issue of insightfulness. Symbolic interactionists have traditionally paid much attention to the so-called self-conceptions, which are defined as “thoughts and feelings about the self that are derived from past experience, especially the reactions of others” (Swann & Read, 1981, p. 352). Swann (1983) suggested that people control their surroundings to create social worlds which would verify their self-conceptions. One of the discerning characteristics of psychopathy listed by Cleckley (1941), however, is the lack of insight. Therefore, even if psychopaths’ perception of themselves differs from the impressions of others, they are unable to become aware of the discrepancy, leave alone report it. Additionally, the concept of personality as composed of many different layers has been presented in the Johari window. According to the theoretical model, four quadrants of personality can be distinguished - one which is known to all (‘open’), one which can only be accessed by the self (‘hidden’), one unknown to self and others (‘unknown’), and one which is unknown to self but accessible by others (‘blind’) (Luft & Ingham, 1982). Unfortunately, the blind quadrant, which can be revealed by a perceptive administrator of the PCL-R, will remain hidden and unexplored when self-report measures are the chosen method of assessment.

Although self-report measures cannot guarantee a perfect assessment of psychopathic traits, neither can the ones administered by “objective” observers. An undeniable asset of self-report inventories is that they can be easily used with large subclinical samples, and the value of insights derived from such studies makes the quest for a reliable self-report psychopathy questionnaire worthwhile.

2.1.1 The Self-Report Psychopathy Scale

The Self-Report Psychopathy Scale (SRP) was created by Hare (1985). The first version of the instrument was derived from the PCL and consisted of 29 items, however, a weak correlation between the two scales was established. The SRP items did not address the core features of a psychopathic personality such as callousness or dishonesty (Lilienfeld & Fowler, 2007). In order to address those issues, a revised version of the measure was created (Hare, Harpur & Hemphill, 1989; as cited in Williams & Paulhus, 2004). The SRP-II consists of 60 items, 31 of which form the core of the scale and align with the two factors of the PCL-R (Williams & Paulhus, 2004). In some studies, an abridged, 31-item version of the scale was used (e.g. Paulhus & Williams, 2002). Hare (2003), in a validation study with a forensic sample, reported a moderate correlation between the SRP-II and PCL-R ($r = .54$). Despite this correlation, however, Williams and Paulhus’ (2004) exploratory factor analysis of the SRP-II within a sample of 289 undergraduates found the two-factor solution of the PCL-R to be inapplicable to the self-report instrument. This may be due to the scale containing too many anxiety-related items and an insufficient number of antisocial behaviour items. The full 60-item scale was best captured by a different two-factor model. The first factor combined antisocial behaviour, impulsivity, and interpersonal manipulation subscales. The second factor included items pertaining to affective deficits. This

solution failed to reflect the theoretical conceptualisation of psychopathy structure.

Convergent and discriminant validity of the SRP-II was investigated by exploring its correlations with external psychological variables. A negative association between the SRP-II scores and self-report measures of empathy and anxiety as well as a positive correlation with narcissism (Zagon & Jackson, 1994) and promiscuous sexual attitudes (Harms, Williams & Paulhus, 2001; as cited in Williams & Paulhus, 2004) were reported. Lilienfeld and Andrews (1996) found moderate to strong correlations between the SRP-II and PPI (r 's = .91, .62) in two independent student samples.

In light of some serious limitations of the SRP-II, Williams and Paulhus (2004) suggested that the measure required some adjustment in order to reflect the two factors of psychopathy. Indeed, such an attempt has been recently made by Paulhus et al. (in press). The newest version of the SRP, SRP-III, consists of 64 items measured on a five-point Likert scale. The instrument was reported to be best captured by a four-factor solution, with 16 items loading on each factor. The four facets of the SRP-III are Interpersonal Manipulation, Callous Affect, Erratic Lifestyle and Antisocial Behaviour. The inventory was reported to be negatively correlated with the measures of agreeableness, conscientiousness (Williams, Nathanson & Paulhus, 2003), dependability, empathy as well as honesty (Neal & Sellbom, 2012), and positively with narcissism, Machiavellianism (Williams et al., 2003), drug use, aggression, irresponsibility, thrill seeking, impulsiveness and callous affect (Neal & Sellbom, 2012).

Neal and Sellbom (2012) investigated the factor structure of the SRP-III among a sample of 602 undergraduate students from the United States of America. The authors compared four alternative models reported in the literature using confirmatory factor analytic (CFA) techniques. Results indicated the four-factor model suggested by Paulhus et al. (in press) to be the most accurate representation of the latent structure of the scale. However, none of the models met acceptable model fit criteria as measured by the Comparative Fit Index (CFI). The researchers suggested that the unsatisfactory results were likely due to the large indicator-to-factor ratio. In order to reduce the ratio, they employed a parcelling technique developed by Cattell and Burdsal (1975). Neal and Sellbom (2012) created 16 radical parcels, each containing indicators from the same hypothesised factor. Next, the same alternative models were estimated for the transformed scale. The technique was successful in improving the fit indices. As hypothesised, the instrument was best captured by the same four-factor solution whose model fit criteria were found to be satisfactory ($\chi^2_{(98)} = 273.60$, CFI = .95, RMSEA = .055 (90% CI = .047/.062), SRMR = .05, AIC = 42116.09, BIC = 42353.70).

2.1.2 Bifactor modelling

The above studies reveal promising findings as to the usefulness of the SRP-III and provide evidence that psychopathy is best conceptualised as comprised of four interrelated latent factors. However, the controversy as to the appropriate factor structure of psychopathy as a clinical construct is far from resolved. Based on work with the PCL-R, a variety of factorial solutions have been identified including correlated two- (Harpur, Hakstian, & Hare, 1988; Hare et al., 1990), three- (Cooke & Michie, 2001), and four- (Hare 2003; Hare & Neumann, 2006)

factor models. More recently, a number of independent authors have utilised an alternative model structure which may yield a theoretically and statistically satisfactory solution to the debate in the literature with regards to the underlying structure of psychopathy. This involved the application of bifactor modelling procedures.

Bifactor modelling provides an empirically and conceptually distinct alternative to traditional confirmatory factor analysis model solutions. Bifactor models, sometimes referred to as general-specific or nested models, are composed of a general factor, which explains the commonality of all manifest variables (i.e. scale items), and specific (grouping) factors, which are thought to represent a unique influence on a subset of manifest variables. In such a model, each scale item loads on both the general factor and two or more grouping factors. Therefore, the bifactor theory views covariation among observable indicators to be explained by both the general factor and grouping factors which exist at the same conceptual level and are uncorrelated. Reise, Moore, and Haviland (2010) argue that the necessity of creating heterogeneous item sets to capture the complexities of a psychological construct can often produce spurious evidence of multidimensionality in instances where scales are actually capturing a smaller number of latent factors. In bifactor models, the grouping factors are conceptualised to arise due to content parcels that interfere with the measurement of the central target trait. As a result, bifactor modelling enables the investigation of the extent to which manifest variables reflect one target construct and two or more sub-constructs. Bifactor modelling has been argued to be superior to higher-order models, especially when the predictive relations between grouping factors and external variables are investigated (Chen, West & Sousa, 2006).

Initially, Patrick, Hicks, Nichol and Krueger (2007) investigated a number of competing latent models of the PCL-R including a bifactorial conceptualisation. These researchers found that a bifactor model including a single general “psychopathy” factor and two grouping factors, in line with Hare’s original two-factor model of psychopathy (interpersonal/affective and social deviance), was the best fit of the data. Flores-Mendoza, Alvarenga, Herrero, & Abad (2008) subsequently investigated the latent structure of psychopathy using the PCL-R, with the inclusion of the bifactor model suggested by Patrick et al. (2007). This study was performed among 124 male Brazilian prisoners, and results were consistent with those of Patrick and colleagues in that the bifactorial solution was found to be a better representation of the data than any other tested model.

Although these studies suggest the utility of applying a bifactorial model solution, the results are difficult to interpret based on existing theoretical models of psychopathy. Psychopathy has never been theorised to reflect a single latent construct as presented in the models of Patrick et al. (2007) and Flores-Mendoza et al. (2008). Consequently, Boduszek, Dhingra, Hyland, and Debowska (in press) sought to examine the underlying structure of psychopathy using the Psychopathy Checklist-Screening Version (PCL-SV; Hart, Cox & Hare, 1995). Boduszek et al. (in press) retained the use of a bifactorial procedure, however, they tested a model in line with theoretical formulations. This bifactorial solution included two general factors of psychopathy (Interpersonal/Affective and Antisocial Behaviour/Erratic Lifestyle), and four grouping or method factors (Interpersonal, Affective, Antisocial Behaviour, and Erratic Lifestyle) that were hypothesised to arise as a consequence of heterogeneous item content. This new

bifactorial model was found to be statistically superior to all other tested models (including correlated two- and four-factor models). The authors also argued that this model was theoretically superior as it is consistent with Hare's (1991) original model of psychopathy (two factors of Interpersonal/Affective and Antisocial Behaviour/Erratic Lifestyle), while also accounting for previous results which have suggested a greater degree of multidimensionality; namely that the presence of these additional factors is simply a method effect.

2.1.3 Current study

The main goal of the current chapter was to evaluate the factor structure and construct validity of the Polish version of the SRP-III using confirmatory factor analysis (CFA). Previous studies revealed a four-factor structure of the English version of the instrument (see Neal & Sellbom, 2012). The present study tested four possible solutions, each supported by theory and earlier empirical research: (1) a traditional two-factor model with emotional and behavioural components represented by separate dimensions (affective/interpersonal and lifestyle/antisocial) (Hare, 1991); (2) a four-factor model (affective, interpersonal, lifestyle and antisocial) suggested for the English version of the SRP-III (Neal & Sellbom, 2012; Paulhus et al., in press); (3) a four-factor model (affective, interpersonal, lifestyle and antisocial) loading on two hierarchical factors (affective/interpersonal and erratic lifestyle/antisocial); (4) a bifactorial solution with four grouping factors (affective, interpersonal, lifestyle and antisocial) and two general factors (affective/interpersonal and erratic lifestyle/antisocial) (Boduszek et al., in press).

The final model tested in this chapter is a new conceptual approach to traditional CFA techniques (see Reise, Moore & Haviland, 2010; Reise, Morizot & Hayes, 2007; Yung, Thissen & McLeod, 1999). In bifactorial modelling approach, covariation among scale items is explained by general factors and uncorrelated grouping/method factors which, unlike in a hierarchical model, function at the same conceptual level. Bifactorial solution contains two latent factors of psychopathy (Interpersonal/Affective and Lifestyle/Antisocial) which are suggested to explain the majority of covariation among indicators, and four method latent factors (Interpersonal, Affective, Lifestyle and Antisocial). The bifactorial approach, hence, has the power to distinguish error variance and method variance among the observed items and, importantly, is consistent with Hare's original conceptualisation of psychopathy (Boduszek et al., in press).

Given that the SRP-III is a new self-report measure of psychopathy, further investigation of its construct validity and dimensionality ought to be undertaken. In the current study, the Polish version of the instrument has been prepared and hence an exploration of its psychometric properties was warranted. Therefore, the main objective of this chapter was to assess the validity and dimensionality of the Polish SRP-III. The four-factor model proposed by Paulhus et al. (in press) for the English version of the scale as well as alternative solutions were explored in order to find best model fit for the current data. It was hypothesised that a bifactorial solution consistent with the findings of Boduszek et al. (in press) would represent the best fit of the data. An additional goal was to investigate the SRP-III's incremental validity. For the purpose, the relationship between the identified latent factors and aggression as measured by the The Buss-Perry Aggression Questionnaire – Short Form (BPAQ) (Bryant & Smith, 2001)

were assessed in a structural equation model. The final aim was to examine the differences in total Hare SRP-III scores and scores for individual subscales between males and females as well as uniformed and non-uniformed participants.

2.2 METHOD

2.2.1 Participants

The sample consisted of 319 Polish adults recruited at the University of Security in Poznan (Poland). The University offers part-time training courses with flexible timetables for working adults, many of whom are soldiers, police officers, firefighters etc. Participants ranged in age from 19 to 51 years ($M = 25.16$, $SD = 6.24$), and 29.5% ($n = 94$) reported working in uniformed services. As for gender composition, the sample consisted of 175 males (54.9%) and 144 females (45.1%). Additionally, 77.4% of participants reported being unmarried ($n = 247$), 20.7% being married ($n = 66$), 1.6% being divorced ($n = 5$), and 0.3% being widowed ($n = 1$). Finally, the uniformed sample was composed of 11 police officers (11.7%), 58 soldiers (61.7%), 11 firefighters (11.7%) and 14 other uniformed individuals (14.9%).

2.2.2 Measures

Self-Report Psychopathy Scale (SRP-III; Paulhus et al., in press). This is a self-report inventory modelled after the Psychopathy Checklist-Revised (PCL-R) (Hare, 2003) yet questions asked in SRP-III are less extreme and hence more appropriate for a subclinical sample. It is composed of 64-items (21 of which are scored reversely) which fall into four subcategories:

- (1) Interpersonal Manipulation (IPM), 16 items, (e.g. "I think I could "beat" a lie detector", "I purposely flatter people to get them on my side")
- (2) Callous Affect (CA), 16 items, (e.g. "I'm more tough-minded than other people", "It tortures me to see an injured animal")

- (3) Erratic Lifestyle (ELS), 16 items, (e.g. “I always plan out my weekly activities”, “I’d be good at a dangerous job because I make fast decisions”)
- (4) Antisocial Behaviour (ASB), 16 items, (e.g. “I never shoplifted from a store”, “I was convicted of a serious crime”).

Responses are measured on a five-point Likert scale with possible answers ranging from “strongly disagree” to “strongly agree”. Overall scores for the scale range from 0 to 256. Previous confirmatory factor analyses corroborated this four-factor model. Additionally, the scale was found to have good internal consistency as well as discriminant validity (Neal & Sellbom, 2012).

The SRP-III used in the current study was translated to Polish by a professional translator. In order to ensure that the meaning has been retained, the Polish version was translated back to English. The two versions were then shown to three experts in translation who suggested minor changes. Additionally, in order to account for cultural differences between Europe and America, where the instrument was created, item number six – “I have never stolen a truck, car or motorcycle” – was changed to: “I have never stolen a car, motorcycle or bicycle”.

Internal consistency estimates of reliability for the current sample were examined for all four factors in the model with the use of Cronbach’s alpha. All values proved to be acceptable (.92 for the full scale; .83 for IPM; .76 for CA; .76 for ELS; .80 for ASB) and consistent with those reported by Neal and Sellbom (2012).

The Buss-Perry Aggression Questionnaire – Short Form (BPAQ; Buss & Perry, 1992; Bryant & Smith, 2001). The inventory was designed to measure the levels of reactive aggression. Reactive aggression is a response to threat or frustration.

Such acts are not premeditated and occur spontaneously in the face of an oncoming danger (Blanchard, Blanchard & Takahaski, 1977). The abridged version of the questionnaire was derived from the Buss-Durkee Hostility Inventory (BDHI). The original BPAQ consists of 29 items rated on a 5-point Likert scale (0 = “extremely uncharacteristic of me”; 4 = “extremely characteristic of me”). Confirmatory factor analysis revealed the existence of four factors. These are:

- (1) Physical Aggression (PA) (e.g.: “I get into fights a little more than the average person”)
- (2) Verbal Aggression (VA) (e.g.: “I often find myself disagreeing with people”)
- (3) Anger (A) (e.g.: “I have trouble controlling my temper”)
- (4) Hostility (H) (e.g.: “I am sometimes eaten up with jealousy”).

A later study by Bryant and Smith’s (2001), however, revealed some items to have low or multiple loadings and hence they were removed from the scale. The results yielded a 12-item, four-factor refined model of the BPAQ, which was found to be psychometrically superior to the original, unabridged scale. Maxwell (2007) translated and administered both the original and the abridged version of the aggression questionnaire to 1,219 Hong Kong Chinese students. Confirmatory factor analyses revealed poor fit of the data to the 29-item scale, but the shorter 12-item instrument’s construct validity was supported.

The Buss-Perry Aggression Questionnaire was translated to Polish by the AMITY Institute and is widely referred to as the Amity version (Instytut AMITY, n.d.). It contains all 29 items from the original version of the questionnaire, however, for the purpose of the present research, only 12 items composing the

abridged version of the instrument have been used. Overall scores for the scale range from 0 to 48. In this sample, Cronbach's alpha for three of the subscales fell below the acceptable range (total score = .83; Physical Aggression = .72; Verbal Aggression = .64; Hostility = .63; Anger = .63).

2.2.3 Procedure

The ethical approval for this project was granted by the University of Huddersfield and the University of Security in Poznan ethical review boards. The measures were administered in groups of up to 40 individuals by lecturers working at the University of Security. All lecturers were instructed by the principal researcher about procedures involved in conducting this study. Participants gave an informed consent to take part in the study. All participants completed an anonymous, paper and pencil questionnaire which was compiled into a booklet along with an instruction sheet and a consent form attached to the front of the booklet. Each participant was provided with a brief description of the study including the general area of interest, how to complete the questionnaire, and the general expected completion time. Participants were assured about the confidentiality of their participation and informed that they could withdraw from the study at any time. The participation was voluntary without any form of reward. On completion, participants were debriefed on the purpose of the study.

2.2.4 Statistical analysis

Descriptive statistics and correlations were conducted with the use of SPSS 20. In addition, independent samples t-tests were used to assess differences between male and female as well as uniformed and non-uniformed participants on psychopathy in general and four subscales of the SRP-III.

Furthermore, confirmatory factor analyses (CFA) along with the utilisation of a confirmatory bifactor modelling approach (see Reise et al., 2010; Reise et al., 2007) using Mplus version 6.12 (Muthen & Muthen, 1998-2010) were performed in order to test construct validity and dimensionality of the Polish version of the SRP-III. Four alternative models of the instrument were specified and estimated using robust Maximum Likelihood estimate. Data was missing completely at random (less than 1%) and full information maximum likelihood (FIML) option was selected. Goodness-of-fit indices were used to compare different theoretical models. The first model specified investigated psychopathy as a two-factor phenomenon (affective/interpersonal and lifestyle/antisocial). The second model reflected four dimensions of the measure (affective, interpersonal, lifestyle and antisocial). A four-factor solution had been reported as best model fit for the English version of the SRP-III (Neal & Sellbom, 2012; Paulhus et al., in press). The third model included four latent factors with two hierarchical factors. The final model investigated a novel bifactorial solution of psychopathy as proposed by Boduszek et al. (in press). This model is a bifactor conceptualisation containing six latent factors; two general factors of psychopathy and four grouping factors represented by interpersonal, affective, lifestyle, and antisocial latent variables.

Similarly to Neal and Sellbom's (2012) study, none of the above models met acceptable model fit criteria per the CFI and TLI. In order to address this issue, Neal and Sellbom packed the scale's 64 items into 16 radial parcels. Each parcel contained four randomly chosen items from the same hypothesised factor. The same approach was adopted for the current study and CFA analyses were repeated with the parcelled data.

Goodness-of-fit indices were used to compare four models of psychopathy: chi-square (χ^2), Root-Mean-Square Error of Approximation (RMSEA; Steiger, 1990) with 90% confidence interval (90% CI), Standardized Root Mean Square Residual (SRMR), Akaike Information Criterion (AIC; Akaike, 1973), Comparative Fit Index (CFI; Bentler, 1990), and Tucker Lewis Index (TLI; Tucker & Lewis, 1973). A non-significant chi-square (Kline, 2005) and values above .95 for the CFI and TLI are considered to reflect a good model fit (Hu & Bentler, 1998; Vandenberg & Lance, 2000). A RMSEA and SRMR values less than .05 suggests acceptable fit and values up to .08 indicate reasonable errors of approximation in the population (Browne & Cudeck, 1993). AIC values were used to compare four specified models, with the smallest value indicating the best fitting model. Importantly, although chi-square values were reported, they were not predicted to demonstrate a good model fit as they are influenced by the size of the sample studied (Kline, 2010).

2.3 RESULTS

2.3.1 Descriptive statistics and group differences

Descriptive statistics including means (M) and standard deviations (SD) for the Buss-Perry Aggression Questionnaire (total score and four subscales) and the SRP-III with its subscales (Interpersonal Manipulation, Callous Affect, Erratic Lifestyle, and Antisocial Behaviour) are presented in Tables 2.1. The descriptive statistics reveal that all groups of participants showed moderate levels of psychopathy traits. Additionally, Tables 2.2 and 2.3 contain independent samples t-test results for psychopathy traits.

Table 2.1

Descriptive Statistics and reliability (α) of the Polish version of the SRP-III (including four sub-scales) and Buss-Perry Aggression Questionnaire for all participants (N = 319)

Scale	M	SD	α
SRP-III	90.86	28.19	.92
IPM	26.23	9.31	.83
CA	25.18	8.29	.77
ELS	28.14	8.37	.76
ASB	11.31	8.83	.80
BPAQ	19.24	8.26	.83
PA	2.92	2.67	.72
VA	5.20	2.67	.64
H	6.12	2.61	.63
A	5.00	2.74	.63

Note. SRP-III = Self-Report Psychopathy Scale-III total score; CA = Callous Affect; ELS = Erratic Lifestyle; ASB = Antisocial Behaviour; BPAQ = Buss-Perry Aggression Questionnaire total score; PA = Physical Aggression; VA = Verbal Aggression; H = Hostility; A = Anger.

Further results suggest that male ($M = 98.23$) and female ($M = 81.85$) participants' scores on psychopathy in general differed significantly ($t_{(316)} = -5.376$, $p < .001$, $\eta^2 = .084$). Significant differences between groups were also found for interpersonal manipulation ($t_{(317)} = -3.609$, $p < .001$, $\eta^2 = .039$), antisocial behaviour ($t_{(317)} = -3.897$, $p < .001$, $\eta^2 = .046$) and callous affect ($t_{(316)} = -8.396$, $p < .05$, $\eta^2 = .18$), with men having scored significantly higher than women on all of the subscales. Moreover, the magnitude of the differences in the means was small for interpersonal manipulation and antisocial behaviour subscales, medium for the total psychopathy score, and large for the callous affect dimension. No group differences were found for the erratic lifestyle dimension of psychopathy ($t_{(317)} = -1.486$, $p > .05$).

Table 2.2

Descriptive Statistics, reliability of the Polish version of the SRP-III (including four sub-scales) and group differences between males (n = 175) and females (n = 144)

Scale	Group	M	SD	t	η^2	α
SRP-III	Males	98.23	27.79	-5.376***	.084	.91
	Females	81.85	26.06			.91
IPM	Males	27.93	9.53	-3.609***	.039	.84
	Females	24.22	8.63			.79
CA	Males	28.38	7.17	-8.396***	.180	.68
	Females	21.27	7.90			.76
ELS	Males	28.83	8.38	-1.486	-	.76
	Females	27.43	8.42			.76
ASB	Males	13.10	9.37	-3.897***	.046	.80
	Females	9.20	7.62			.76

Note. SRP-III = Self-Report Psychopathy Scale-III; CA = Callous Affect; ELS = Erratic Lifestyle; ASB = Antisocial Behaviour.

*p < .05. **p < .01. ***p < .001.

Group differences were also investigated for uniformed and non-uniformed participants (see Table 2.3). Uniformed participants were found to have scored significantly higher on the callous affect subscale ($t_{(316)} = -2.525$, $p < .05$, $\eta^2 = .02$), but the magnitude of the differences in the means was small. Moreover, differences in the means for antisocial behaviour were close to reaching statistical significance ($t_{(317)} = -1.910$, $p > .05$). No group differences were found for overall psychopathy ($t_{(216)} = -1.053$, $p > .05$), nor the two remaining subscales - interpersonal manipulation ($t_{(317)} = .179$, $p > .05$) and erratic lifestyle ($t_{(214)} = 1.064$, $p > .05$).

Table 2.3

Descriptive Statistics, Reliability of the Polish version of the SRP-III (including four sub-scales) and group differences between uniformed (n = 94) and non-uniformed (n = 225) participants

Scale	Group	M	SD	t	η^2	α
SRP-III	uniform	93.21	23.85	-1.053	-	.89
	non-uniform	89.88	29.82			.92
IPM	uniform	26.11	7.77	.179	-	.78
	non-uniform	26.31	9.90			.84
CA	uniform	26.83	7	-2.525*	.020	.69
	non-uniform	24.50	8.70			.78
ELS	uniform	27.49	7.17	1.064	-	.69
	non-uniform	28.50	8.88			.78
ASB	uniform	12.79	9.01	-1.910	-	.78
	non-uniform	10.72	8.70			.80

Note. SRP-III = Self-Report Psychopathy Scale-III; CA = Callous Affect; ELS = Erratic Lifestyle; ASB = Antisocial Behaviour.

*p < .05. **p < .01. ***p < .001.

Tables 2.1, 2.2 and 2.3 present internal reliability analysis in the form of Cronbach's alpha (α) coefficient. Based on the current sample, the reliability analysis for the entire measure and most subscales indicated acceptable internal consistency (Cronbach, 1951).

2.3.2 Confirmatory factor analyses

Four alternative models of psychopathy were specified and assessed in Mplus with robust Maximum Likelihood (ML) estimation using CFA in order to determine factor loadings and find the best factor structure.

Table 2.4 presents the fit indices for the four alternative models of psychopathy. As can be noted, the four-factor model indicated by Paulhus et al. (in press) did not prove to be an adequate solution ($\chi^2_{(1946)} = 5177.85$, $p < .001$, CFI = .611, TLI = .597, RMSEA = .061 (90% CI = .059/.063), SRMR = .074, AIC = 85307.79). As evidenced from the lowest AIC value, the results show that the bifactorial solution is the best model fit when compared with other estimated solutions ($\chi^2_{(1888)} = 4930.42$, $p < .001$, CFI = .634, TLI = .609, RMSEA = .060 (90% CI = .058/.062), SRMR = .139, AIC = 85176.36). Nevertheless, the results reveal that none of the tested models met acceptable model fit criteria as evidenced from all fit indices. Furthermore, many of the factor loadings for the scale items, although mostly significant, did not reach the acceptable level of .45 as suggested by Comrey and Lee (1992) (see Table 2.5 for factor loadings on the original four-factor model).

Table 2.4

Fit Indices for the Alternative Models of the Polish version of the 64-item SRP-III scale

Item	2 Factor Model	4 Factor Model	4 Factor Model with 2 Hierarchical Factors	Bifactorial Model
χ^2	5481.39	5177.85	5180.58	4930.42
df	1951	1946	1947	1888
p	.00	.00	.00	.00
RMSEA	.064	.061	.061	.060
90% CI	.066/.070	.059/.063	.059/.063	.058/.062
AIC	85601.33	85307.79	85308.52	85176.36
CFI	.575	.611	.611	.634
TLI	.561	.597	.597	.609
SRMR	.078	.074	.074	.139

Note. RMSEA = Root-Mean-Square Error of Approximation; CI = Confidence Interval; ECVI = Expected Cross-Validation Index; AIC = Akaike Information Criterion; CFI = Comparative Fit Index; TLI = Tucker Lewis Index; SRMR = Standardized Root Mean Square Residual.

Table 2.5

Factor loadings for the Polish version of the 64-item SRP-III scale (four-factor model)

Factor	B	β	SE	p
IPM				
#3 Myślę, że mógłbym/mogłabym „oszukać” wykrywacz kłamstw. (I think I could “beat” a lie detector.)	1.000	.531	.037	< .001
#8 Celowo pochlebiam ludziom, aby pozyskać ich względy. (I purposely flatter people to get them on my side.)	.871	.502	.039	< .001
#13 Udawałem/am kogoś innego, aby coś uzyskać. (I have pretended to be someone else in order to get something.)	1.099	.539	.037	< .001
#16 Nie jestem cwany ani przebiegły. (I’m not tricky or sly.)	.714	.364	.044	< .001
#20 „Kantowanie” ludzi sprawiłoby mi frajdę. (I would get a kick out of ‘scamming’ people.)	.972	.579	.035	< .001
#24 Wierzę, że inni ludzie są uczciwi. (I trust other people to be honest.)	.384	.204	.049	< .001
#27 Fajnie jest patrzeć, jak bardzo można kogoś prowokować, zanim się wkurzy. (It’s fun to see how far you can push people before they get upset.)	1.183	.631	.032	< .001

Factor	B	β	SE	p
#31 Trudno jest mi manipulować ludźmi. (I find it difficult to manipulate people.)	.806	.440	.041	< .001
#35 Powinno się wykorzystać ludzi, zanim oni wykorzystają ciebie. (You should take advantage of other people before they do it to you.)	1.173	.628	.032	< .001
#38 Inni potrafią zazwyczaj rozpoznać, kiedy kłamię. (People can usually tell if I am lying.)	.521	.296	.046	< .001
#41 Czasem trzeba udawać, że się kogoś lubi, żeby coś od niego uzyskać. (Sometimes you have to pretend you like people to get something out of them.)	1.131	.579	.035	< .001
#45 Potrafię namówić ludzi na wszystko. (I can talk people into anything.)	.785	.471	.040	< .001
#50 Większość ludzi kłamie codziennie. (Most people tell lies everyday.)	.533	.303	.046	< .001
#54 Można uzyskać to, czego się chce poprzez mówienie ludziom tego, co chcą usłyszeć. (You can get what you want by telling people what they want to hear.)	1.010	.520	.038	< .001
#58 Wielu ludzi to “frajerzy” i można ich łatwo oszukać. (A lot of people are “suckers” and can easily be fooled.)	1.260	.649	.031	< .001

Factor	B	β	SE	p
#61 Nigdy bym nie poszedł/poszła po trupach do celu. (I would never step on others to get what I want.)	.445	.199	.049	< .001
CA				
#2 Jestem bardziej bezkompromisowy/a niż inne osoby. (I'm more tough-minded than other people.)	1.000	.292	.047	< .001
#7 Większość ludzi to mięczaki. (Most people are wimps.)	2.065	.576	.035	< .001
#11 Przeżywam katusze, kiedy widzę zranione zwierzę. (It tortures me to see an injured animal.)	.788	.202	.049	< .001
#15 Lubię oglądać walki na pięści. (I like to see fist-fights.)	2.340	.543	.039	< .001
#19 Moi znajomi powiedzieliby, że jestem ciepłą osobą. (My friends would say that I am a warm person.)	.917	.275	.047	< .001
#23 Unikam oglądania horrorów. (I avoid horror movies.)	.955	.227	.048	< .001
#26 Jest mi przykro, kiedy widzę bezdomną osobę. (I feel so sorry when I see a homeless person.)	.758	.228	.049	< .001
#30 Nie zawracam już sobie głowy utrzymywaniem kontaktu z rodziną. (I don't bother to keep in touch with my family anymore.)	.771	.233	.048	< .001

Factor	B	β	SE	p
#33 Nigdy nie płaczę podczas oglądania filmów. (I never cry at movies.)	1.283	.300	.048	< .001
#37 Ludzie mówią czasami, że jestem nieczuły/a. (People sometimes say that I'm cold-hearted.)	1.772	.501	.039	< .001
#40 Uwielbiam brutalne sporty i filmy. (I love violent sports and movies.)	2.919	.656	.032	< .001
#44 Jestem osobą o miękkim sercu. (I'm a soft-hearted person.)	.867	.251	.049	< .001
#48 Ludzie są zbyt wrażliwi, kiedy mówię im prawdę o nich. (People are too sensitive when I tell them the truth about themselves.)	.787	.243	.048	< .001
#53 Ludzie płaczą o wiele za dużo na pogrzebach. (People cry way too much at funerals.)	1.336	.397	.044	< .001
#56 Nigdy nie mam poczucia winy za krzywdzenie innych. (I never feel guilty over hurting others.)	1.700	.526	.038	< .001
#60 Czasami opuszczam znajomych, których już nie potrzebuję. (I sometimes dump friends that I don't need any more.)	1.307	.435	.042	< .001
ELS				
#1 Jestem zbuntowaną osobą. (I'm a rebellious person.)	1.000	.522	.039	< .001

Factor	B	β	SE	p
#4 Brałem/am narkotyki (np. marihuanę, ecstasy). (I have taken illegal drugs (e.g. marijuana, ecstasy).)	1.506	.364	.046	< .001
#9 Często robię coś niebezpiecznego dla dreszczyku emocji. (I've often done something dangerous just for the thrill of it.)	1.445	.688	.031	< .001
#14 Zawsze planuję moje cotygodniowe czynności. (I always plan out my weekly activities.)	.082	.041	.051	.423
#17 Dobrze bym sobie poradził/a w niebezpiecznej pracy, bo szybko podejmuję decyzje. (I'd be good at a dangerous job because I make fast decisions.)	.405	.248	.050	< .001
#22 Nigdy nie przegapiam umówionych spotkań. (I never miss appointments.)	.393	.232	.050	< .001
#25 Nie cierpię szybkiej jazdy. (I hate high speed driving.)	.700	.372	.046	< .001
#28 Lubię robić szalone rzeczy. (I enjoy doing wild things.)	.816	.481	.043	< .001
#32 Rzadko postępuję zgodnie z zasadami. (I rarely follow the rules.)	.931	.508	.040	< .001
#36 Gra na prawdziwe pieniądze nie sprawia mi przyjemności. (I don't enjoy gambling for real money.)	.611	.282	.048	< .001

Factor	B	β	SE	p
#39 Lubię uprawiać seks z ludźmi, których ledwo znam. (I like to have sex with people I barely know.)	1.045	.495	.041	< .001
#42 Jestem impulsywną osobą. (I am an impulsive person.)	.883	.452	.043	< .001
#47 Nie lubię podejmować ryzyka. (I don't enjoy taking risks.)	.822	.431	.044	< .001
#51 Cały czas popadam w kłopoty za te same rzeczy. (I keep getting into trouble for the same things over and over.)	.771	.428	.044	< .001
#55 Łatwo się nudzę. (I easily get bored.)	.527	.298	.047	< .001
#59 Przyznaję, że często „pyskuję” bez zastanowienia. (I admit that I often “mouth off” without thinking.)	.971	.483	.041	< .001
ASB				
#5 Nigdy nie brałem/am udziału w działalności grupy przestępczej. (I have never been involved in delinquent gang activity.)	1.000	.426	.042	< .001
#6 Nigdy nie ukradłem/am samochodu, motocykla ani roweru. (I have never stolen a car, motorcycle or a bicycle.)	.993	.412	.043	< .001

Factor	B	β	SE	p
#10 Zdarzyło mi się, że podstępem skłoniłem/am kogoś, żeby dał mi pieniądze. (I have tricked someone into giving me money.)	1.124	.608	.033	< .001
#12 Zaatakowałem/am przedstawiciela służb mundurowych lub pracownika socjalnego. (I have assaulted a law enforcement official or social worker.)	.978	.626	.032	< .001
#18 Nigdy nie próbowałem/am zmusić nikogo do seksu. (I have never tried to force someone to have sex.)	.483	.247	.047	< .001
#21 Nigdy nikogo nie zaatakowałem w celu zranienia tej osoby. (I have never attacked someone with the idea of injuring them.)	.652	.293	.046	< .001
#29 Włamałem/am się do budynku lub pojazdu w celu kradzieży lub zniszczenia. (I have broken into a building or vehicle in order to steal something or vandalize.)	1.489	.748	.025	< .001
#34 Nigdy nie byłem/am aresztowany/a. (I have never been arrested.)	1.658	.653	.030	< .001
#43 Brałem/am twarde narkotyki (np. heroinę, kokainę). (I have taken hard drugs (e.g. heroin, cocaine).)	.920	.544	.036	< .001

Factor	B	β	SE	p
#46 Nigdy nie ukradłem/am nic ze sklepu. (I never shoplifted from a store.)	1.247	.529	.037	< .001
#49 Zostałem/am skazany/a za poważne przestępstwo. (I was convicted of a serious crime.)	1.122	.625	.032	< .001
#52 Od czasu do czasu noszę ze sobą broń (nóż lub broń palną) dla ochrony. (Every now and then I carry a weapon (knife or gun) for protection.)	.582	.347	.045	< .001
#57 Groziłem/am ludziom, aby dali mi pieniądze, ubrania lub kosmetyki. (I have threatened people into giving me money, clothes, or makeup.)	1.147	.703	.027	< .001
#62 Mam bliskich przyjaciół, którzy byli w więzieniu. (I have close friends who served time in prison.)	1.384	.707	.027	< .001
#63 Celowo próbowałem/am potrącić kogoś pojazdem, którym kierowałem/am. (I purposely tried to hit someone with the vehicle I was driving.)	.530	.482	.040	< .001
#64 Złamałem/am warunki zwolnienia warunkowego. (I have violated my parole from prison.)	.594	.488	.039	< .001

Note. IPM = Interpersonal Manipulation; CA = Callous Affect; ELS = Erratic Lifestyle; ASB = Antisocial Behaviour; #1-#64 = items included in the measure.

Due to the fact that none of the above estimated models proved to provide a satisfactory solution, an alternative method to model the SRP-III factors was adopted. Neal and Sellbom (2012) encountered a similar problem when assessing models for the original version of the SRP-III. They suggested that in order to evaluate model fit for the scale, its complexity should be reduced by using the parcelling technique developed by Cattell and Burdsal (1975). The technique consists in placing scale items into parcels which allows reducing the indicator-to-factor ratio and hence is appropriate for instruments composed of numerous items.

In line with the above suggestions, Neal and Sellbom (2012) randomly assigned SRP-III items into parcels. Each parcel contained four items from the same hypothesised factor. As a result, 16 parcels were created (four for each factor). Given that similar problems to those described by Neal and Sellbom (2012) have arisen, it was decided that the adoption of the parcelling technique would be appropriate. Moreover, for comparison purposes, it was decided that original parcels created by Neal and Sellbom should be utilised. The list of items in each parcel is presented in Table 2.6.

Table 2.6

Items assigned to parcels (Neal & Sellbom, 2012)

	Parcel 1	Parcel 2	Parcel 3	Parcel 4
IPM	3, 13, 16R, 61R	27, 41, 45, 50	8, 24R, 35, 54	20, 31R, 38R, 58
CA	15, 33, 53, 60	30, 40, 44R, 56	7, 23R, 37, 48	2, 11R, 19R, 26R
ELS	17, 22R, 28, 55	4, 25R, 47R, 59	14R, 36R, 39, 42	1, 9, 32, 51
ASB	6R, 12, 49, 62	34R, 43, 57, 64	5R, 10, 29, 63	18R, 21R, 46R, 52

Note. IPM = Interpersonal Manipulation; CA = Callous Affect; ELS = Erratic Lifestyle; ASB = Antisocial Behaviour; R = reverse-coded item.

The same models as described before were estimated for the SRP-III after the items had been assigned into parcels (see Table 2.7 for fit indices for all alternative models). Visual representations of all alternative models can be seen in Figures 2.1-2.4. As predicted, results show that reducing the complexity of the models influenced an increase in CFI and TLI values as well as a decrease in RMSEA and SRMR values for all assessed solutions. Models 1 and 2 were rejected as a poor approximation of the current data. The four-factor model was found to be a good representation, but not the optimal solution for the Polish version of the SRP-III ($\chi^2_{(98)} = 260.08$, $p < .001$, CFI = .928, TLI = .912, RMSEA = .072 (90% CI = .061/.083), SRMR = .057, AIC = 22784.36). None of the previous studies inquiring into the dimensionality of Hare SRP estimated the bifactorial model, which, as mentioned above, is a new approach to modelling facets in CFA. In the present research, the bifactorial solution showed statistically significant improvement in the chi-square value ($\chi^2_{(82)} = 170.93$, $p < .001$) over the two-factor model ($\chi^2_{(103)} = 587.01$, $p < .001$), the four-factor model with two hierarchical factors ($\chi^2_{(99)} = 265.48$, $p < .001$) as well as the four-factor model ($\chi^2_{(98)} = 260.08$, $p < .001$). Further, the lowest AIC value also points to the bifactorial solution as the most parsimonious of all estimated models. Additionally, the bifactorial model showed the lowest RMSEA (.058 with 90% CI = .046/.071) and SRMR (.045) values and highest TLI (.943) and CFI (.961) values. The CFI index in the bifactor model, as opposed to other tested solutions, exceeded the .95 cut-off point.

Table 2.7

Fit Indices for the Alternative Models of the Polish version of the SRP-III with observed items placed in parcels

Item	2 Factor Model	4 Factor Model	4 Factors Hierarchical 2 Factor Model	Bifactorial Model
χ^2	587.01	260.08	265.48	170.93
df	103	98	99	82
p	.00	.00	.00	.00
RMSEA	.121	.072	.073	.058
90% CI	.112/.131	.061/.083	.062/.083	.046/.071
AIC	23101.29	22784.36	22787.75	22727.20
CFI	.786	.928	.927	.961
TLI	.751	.912	.911	.943
SRMR	.078	.057	.058	.045

Note. RMSEA = Root-Mean-Square Error of Approximation; CI = Confidence Interval; ECVI = Expected Cross-Validation Index; AIC = Akaike Information Criterion; CFI = Comparative Fit Index; TLI = Tucker Lewis Index; SRMR = Standardized Root Mean Square Residual.

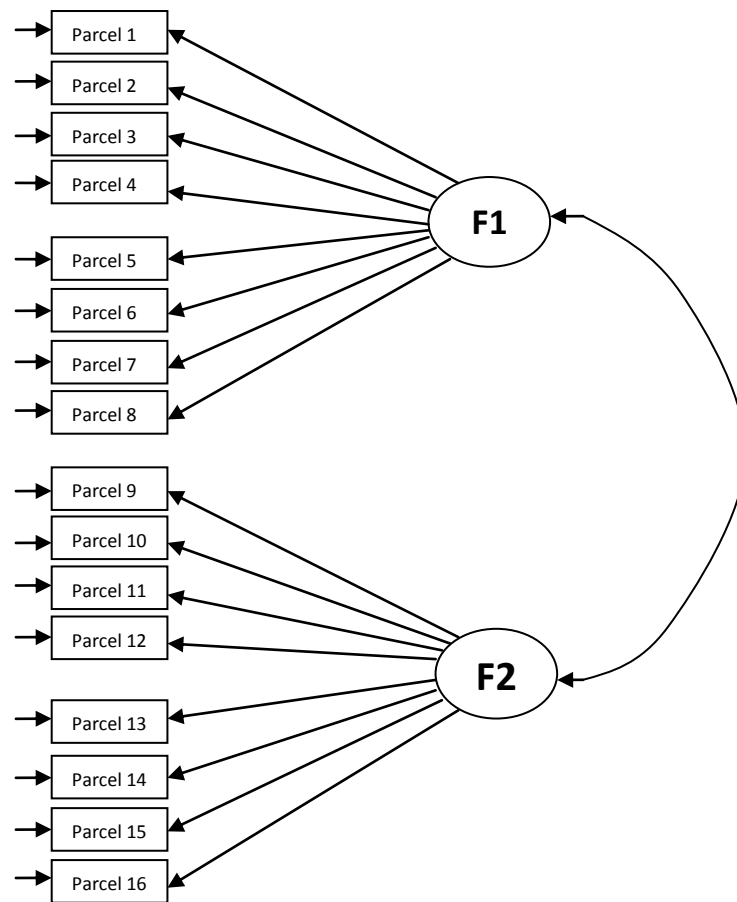


Figure 2.1. Two-factor model for the Polish SRP-III. F1 = Factor 1; F2 = Factor 2; Parcels 1-4 = items from Interpersonal Manipulation subscale; Parcels 5-8 = items from Callous Affect subscale; Parcels 9-12 = items from Erratic Lifestyle subscale; Parcels 13-16 = items from Antisocial Behaviour subscale.

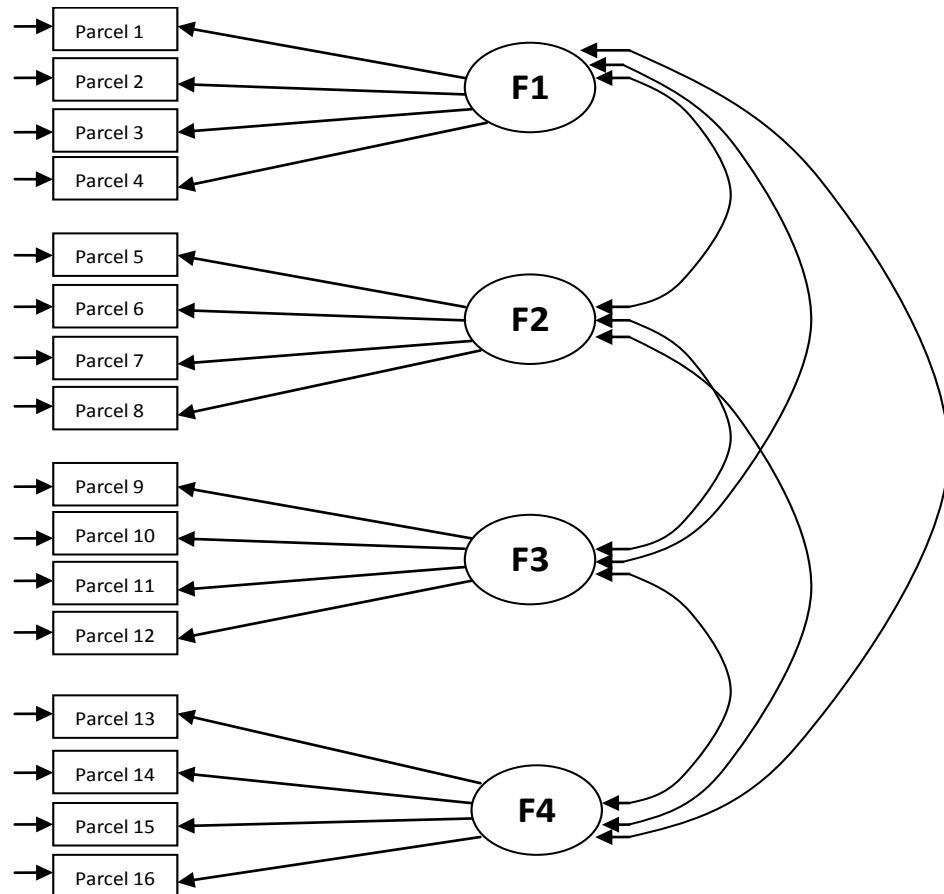


Figure 2.2. Four-factor model for the Polish SRP-III. F1 = Factor 1; F2 = Factor 2; Parcels 1-4 = items from Interpersonal Manipulation subscale; Parcels 5-8 = items from Callous Affect subscale; Parcels 9-12 = items from Erratic Lifestyle subscale; Parcels 13-16 = items from Antisocial Behaviour subscale.

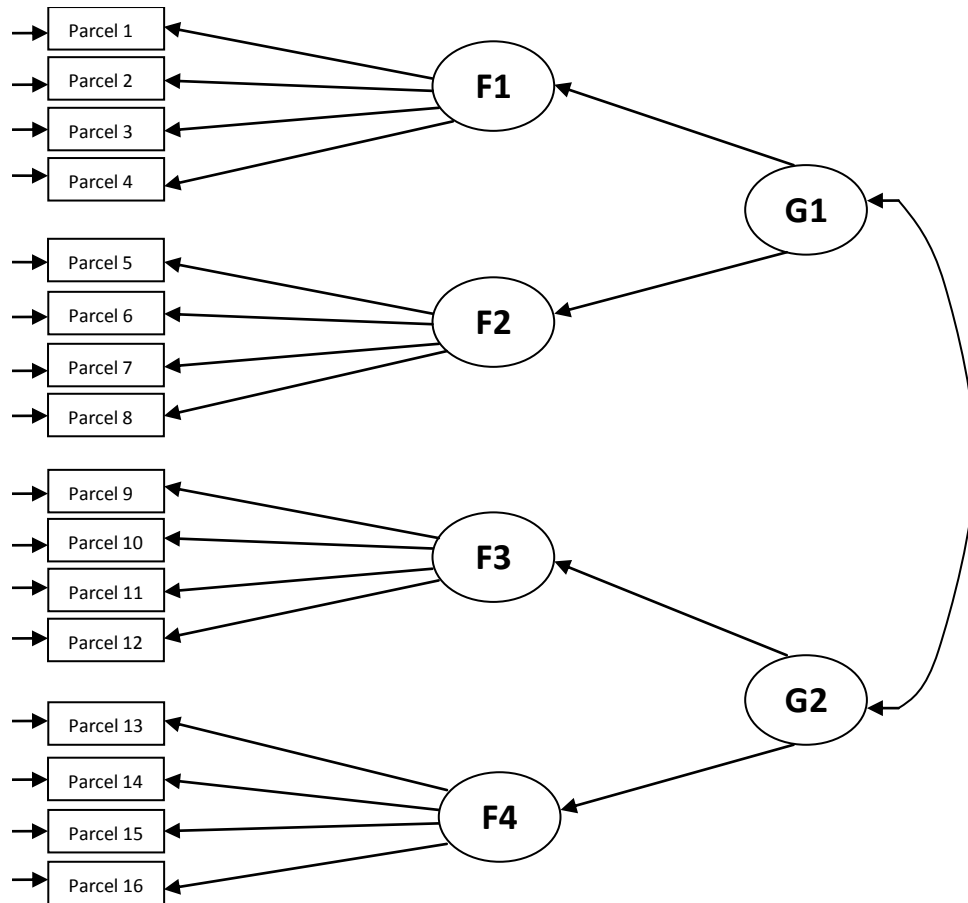


Figure 2.3. Four factors model hierarchical two factor model for the Polish SRP-III. F1 = Factor 1; F2 = Factor 2; G1 = General factor 1; G2 = General factor 2; Parcels 1-4 = items from Interpersonal Manipulation subscale; Parcels 5-8 = items from Callous Affect subscale; Parcels 9-12 = items from Erratic Lifestyle subscale; Parcels 13-16 = items from Antisocial Behaviour subscale.

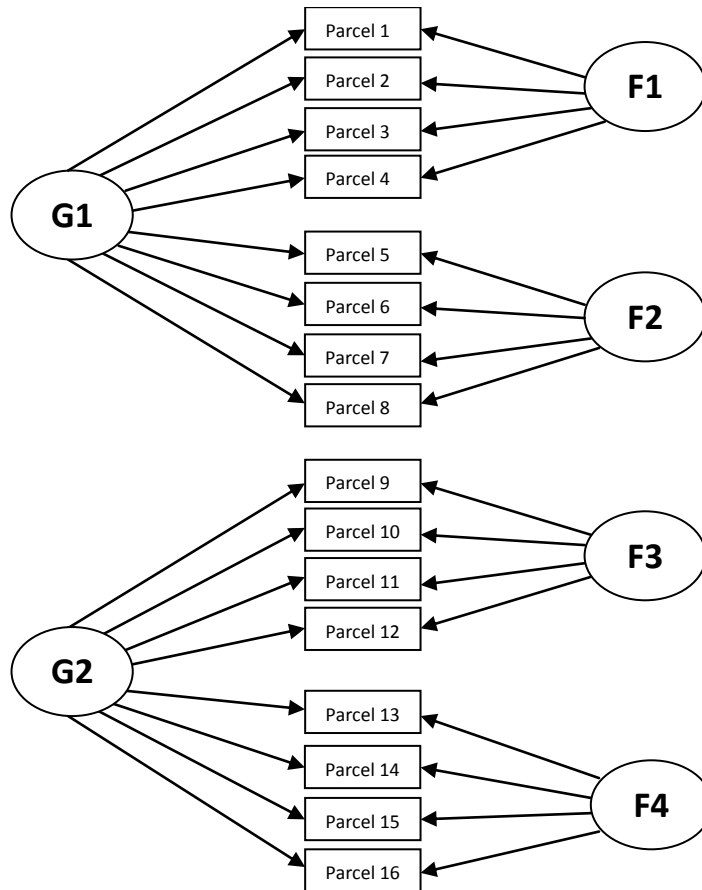


Figure 2.4. Four factors model hierarchical two factor model for the Polish SRP-III. F1 = Factor 1; F2 = Factor 2; G1 = General factor 1; G2 = General factor 2; Parcels 1-4 = items from Interpersonal Manipulation subscale; Parcels 5-8 = items from Callous Affect subscale; Parcels 9-12 = items from Erratic Lifestyle subscale; Parcels 13-16 = items from Antisocial Behaviour subscale.

The results indicate that the Polish SRP-III is best captured by bifactorial solution with two general factors and four grouping factors. In addition, the grouping factors were found to be associated with one another, yet most of the correlations were not as high as to indicate that they measure the same phenomenon (see Table 2.8). The highest correlation was between Interpersonal Manipulation and Callous Affect subscales (.875) which can indicate a conceptual overlap between the factors. This possibility will be further investigated in one of the subsequent sections.

Table 2.8

Latent factor correlations using parcels as indicators

	IPM	CA	ELS	ASB
IPM	-	.875	.795	.640
CA	-	-	.712	.618
ELS	-	-	-	.572
ASB	-	-	-	-

Note. IPM = Interpersonal Manipulation; CA = Callous Affect; ELS = Erratic Lifestyle; ASB = Antisocial Behaviour.

The adequacy of the bifactorial model can also be demonstrated by analysing its parameter estimates. Table 2.9 lists factor loadings on four grouping factors of psychopathy. As can be seen, all factor loadings are significant ($p < .001$) in the positive direction and all parcels displayed factor loadings equal or above the acceptable level of .45 (Comery & Lee, 1992). Comparatively, loadings on the general factors were much weaker (Table 2.10). According to Reise et al. (2010), when items load more strongly on grouping factors than on general factors, the superiority of the grouping factors should be assumed. Therefore, given the parameter estimate results, the Polish version of the SRP-III should be considered to consist of four method factors which provide the basis for creating instrument subscales, and two hidden general factors.

Table 2.9

Factor loadings for the four grouping factors of the Polish version of the SRP-III parcels

	B	β	SE	p
IPM				
Parcel 1	2.055	.692	.041	< .001
Parcel 2	2.279	.779	.041	< .001
Parcel 3	2.027	.741	.038	< .001
Parcel 4	2.127	.764	.029	< .001
CA				
Parcel 5	2.071	.717	.035	< .001
Parcel 6	2.154	.786	.039	< .001
Parcel 7	1.914	.701	.049	< .001
Parcel 8	1.203	.478	.062	< .001
ELS				
Parcel 9	1.318	.614	.041	< .001
Parcel 10	2.454	.777	.030	< .001
Parcel 11	1.432	.534	.045	< .001
Parcel 12	2.290	.820	.027	< .001
ASB				
Parcel 13	1.323	.535	.084	< .001
Parcel 14	1.749	.685	.059	< .001
Parcel 15	1.987	.742	.066	< .001
Parcel 16	1.515	.450	.068	< .001

Note. IPM = Interpersonal Manipulation; CA = Callous Affect; ELS = Erratic Lifestyle; ASB = Antisocial Behaviour.

Table 2.10

Factor loadings for the two general factors of the Polish version of the SRP-III parcels

	B	β	SE	p
General Factor 1				
Parcel 1	.482	.162	.080	.043
Parcel 2	-1.038	-.355	.125	.004
Parcel 3	-.629	-.230	.087	.008
Parcel 4	.183	.066	.094	.481
Parcel 5	.171	.059	.129	.646
Parcel 6	.551	.201	.133	.130
Parcel 7	-.562	-.206	.080	.010
Parcel 8	.848	.337	.092	< .001
General Factor 2				
Parcel 9	.205	.095	.053	.073
Parcel 10	-.278	-.088	.070	.208
Parcel 11	.165	.061	.057	.281
Parcel 12	.163	.058	.051	.252
Parcel 13	2.100	.849	.145	< .001
Parcel 14	.389	.152	.099	.124
Parcel 15	1.076	.402	.126	< .001
Parcel 16	.924	.275	.091	.003

Note. General Factor 1 = Interpersonal Manipulation and Callous Affect; General Factor 2 = Erratic Lifestyle and Antisocial Behaviour.

2.3.3 Composite reliability

Cronbach's alpha as an indicator of internal consistency has been criticised within a latent variable modelling context due to its reliance on both the number of items tested as well as correlations between them (see Cortina, 1993; Raykov, 1998). A more reliable and rigorous estimation of the internal reliability of an instrument can be provided by examining the composite reliability of its measurement properties. Therefore, for the purpose of the present research, the composite reliability of the Polish SRP-III was calculated using the following formula:

$$\rho_c = \frac{\left(\sum_{i=1}^m \lambda_i \right)^2}{\left(\sum_{i=1}^m \lambda_i \right)^2 + \left(\sum_{i=1}^m (\theta_i) \right)}$$

where ρ_c = reliability of the factor score, λ_i = standardized factor loading, and θ_i = standardised error variance. Values greater than .60 are considered acceptable (Bagozzi & Yi, 1988; Diamantopoulos & Siguaw, 2000). Current results indicated that the Interpersonal Manipulation factor score ($\rho_c = .85$), the Callous Affect factor score ($\rho_c = .79$), the Erratic Lifestyle factor score ($\rho_c = .79$) and the Antisocial Behaviour factor score ($\rho_c = .79$) of the SRP-III possessed satisfactory internal consistency.

2.3.4 Incremental validity of psychopathy factors

Structural equation modelling was carried out to examine the relationship between four psychopathy facets and aggression as measured by the BPAQ – Short Form (Bryant & Smith, 2001; Instytut AMITY, n.d.). Aggression was regressed on all four psychopathy factors simultaneously and the SEM model had a good fit ($\chi^2(94) = 207.73$, $p < .001$, CFI = .953, TLI = .932, RMSEA = .062, 90% CI = .050/.073, SRMR = .047).

Two psychopathy factors, Erratic Lifestyle ($\beta = .43$, $p < .001$) and Interpersonal Manipulation ($\beta = .34$, $p < .05$) were statistically associated with aggression. Importantly, Callous Affect facet was found to be negatively yet not significantly associated with overall aggression ($\beta = -.25$, $p > .05$). Carmines and Zeller (1979) suggested that factors relating differently with external variables should be considered to measure substantially different constructs. This approach has already been adopted in other studies examining dimensionality of a self-report measure (e.g. Boduszek, Hyland, Dhingra & Mallett, 2013). Therefore, the results of the present study indicate that the earlier hypothesised conceptual overlap between Interpersonal Manipulation and Callous Affect facets due to a high correlation between them can be dismissed. These findings suggest that two of the four psychopathy factors have predictive validity over the remaining ones in accounting for aggression in general.

Additionally, five regression models were carried out to further inspect incremental validity using four BPAQ subscales (and total score) as dependent variables. Results are presented in Table 2.11.

Table 2.11

Standardised regression weights for four grouping factors of the Polish version of the SRP-III with four aggression subscales (incremental validity)

Models	R ²	F-ratio (df)	β	Tolerance	VIF
Model 1 (PA)	.36	43.40(4, 312)***			
IPM			.20**	.42	2.41
CA			.21**	.48	2.10
ELS			.05	.53	1.88
ASB			.28***	.74	1.35
Model 2 (VA)	.26	26.90(4, 312)***			
IPM			.21**	.42	2.41
CA			-.04	.48	2.10
ELS			.36***	.53	1.88
ASB			.02	.74	1.35
Model 3 (H)	.09	7.68(4, 312)***			
IPM			.24**	.42	2.41
CA			-.18*	.48	2.10
ELS			.21**	.53	1.88
ASB			-.02	.74	1.35
Model 4 (A)	.20	18.98(4, 312)***			
IPM			.19*	.42	2.41
CA			-.17*	.48	2.10
ELS			.37***	.53	1.88
ASB			.06	.74	1.35
Model 5 (BPAQ)	.31	34.87(4,312)***			
IPM			.27***	.42	2.41
CA			-.06	.48	2.10
ELS			.32***	.53	1.88
ASB			.11*	.74	1.35

Note. IPM = Interpersonal Manipulation; CA = Callous Affect; ELS = Erratic Lifestyle; ASB = Antisocial Behaviour; BPAQ = Buss-Perry Aggression Questionnaire total score; PA = Physical Aggression; VA = Verbal Aggression; H = Hostility; A = Anger; VIF = Variance Inflation Factor.

*p < .05. **p < .01. ***p < .001.

2.4 DISCUSSION

The current study was carried out with the primary purpose of evaluating the dimensionality and construct validity of the scores of the Polish version of the SRP-III. This study represents the first instance where the construct validity and dimensionality of the SRP-III (Paulhus et al., in press) were investigated in a language other than English. The latent structure of psychopathy has been a source of considerable academic debate and a variety of different factorial models have emerged depending upon the method of measuring psychopathy. This study utilised an innovative bifactorial modelling approach to estimate the dimensionality of the scale. The technique has already been found to best capture the different dimensions of psychopathy as measured by the Psychopathy Checklist: Screening Version (PCL:SV; Hart, Cox & Hare, 1995; see Boduszek et al., in press). This study, therefore, was performed to add important new information to the literature regarding the underlying latent structure of psychopathy as a clinical construct. Moreover, the study sample consisted of both uniformed and non-uniformed participants, which significantly increases the power and value of the research. To date, most studies relied on student samples and hence the reliability of self-report psychopathy measures is highly questionable. This study has the strength to verify the earlier reported results regarding the dimensionality of psychopathy by providing a novel cultural and social context to those explorations. Additionally, this chapter assessed the incremental validity of the Polish version of the SRP-III by examining the relationship between the different factors of the SRP-III and reactive aggression. Finally, this chapter also sought to determine the composite reliability of the self-report measure.

Previous research with the English version of the SRP-III suggested that the latent structure of the scale was best represented by four factors: Interpersonal Manipulation, Callous Affect, Erratic Lifestyle, and Antisocial Behaviour (Neal & Sellbom, 2012; Paulhus et al., in press). However, a limitation of these previous studies was the failure to include a bifactorial conceptualisation as a comparison model. A number of recent studies utilizing the PCL-R (Flores-Mendoza et al., 2008; Patrick et al., 2007) and the PCL-SV (Boduszek et al., in press) have indicated that bifactorial models represent statistically superior representations of the data than do traditional multifactorial solutions. Boduszek and colleagues discovered that a model which included two primary psychopathy factors (Interpersonal/Affective and Antisocial Behaviour) and four method factors (Interpersonal Manipulation, Callous Affect, Erratic Lifestyle, and Antisocial Behaviour) was the best solution to the latent structure of the PCL-SV. It is important to note that both the SRP-III and PCL:SV were derived from the PCL and therefore it was hypothesised that a similar bifactorial solution as suggested by Boduszek et al. would be the best fit of the data in the current study. Results of the current study were partially supportive of this hypothesis.

No estimated solution proved to be adequate when all 64 SRP-III items were included separately in the CFA. Model fit criteria revealed that satisfactory results were obtained only after having applied the parcelling technique introduced by Cattell and Burdsal (1975). The technique was argued to be appropriate for assessing the factor structure of instruments consisting of many indicators. The approach was also adopted by Neal and Sellbom (2012) when examining the dimensionality of the English version of the Hare SRP. In the current study, fit indices indicated that the bifactorial model with four grouping

factors (Interpersonal Manipulation, Callous Affect, Erratic Lifestyle and Antisocial Behaviour) and two general factors (Interpersonal/Affective and Lifestyle/Antisocial) was the best solution for the data. This was demonstrated by the fact that the standardised factor loadings for each parcel were significantly greater for the four factors of Interpersonal Manipulation, Callous Affect, Erratic Lifestyle, and Antisocial Behaviour than they were on the two factors of Interpersonal/Affective and Lifestyle/Antisocial. As per the recommendations of Reise et al. (2010), these results provide evidence that the Polish version of the SRP-III is best conceptualised as measuring four primary factors of psychopathy, which should be used to determine appropriate subscales, and two hidden general factors, which are included in the scale to increase its content validity. This solution is consistent with both earlier reports of the inventory's four-factor structure (Neal & Sellbom, 2012; Paulhus et al., in press) and Hare's (1991) original characterisation of psychopathy.

Moreover, further investigation of the accuracy of treating Interpersonal Manipulation and Callous Affect facets as measures of distinct dimensions was warranted due to a high correlation between them (.875). The incremental validity of psychopathy facets was assessed by testing their correlations with reactive aggression. According to Carmines and Zeller (1979), scale facets relating differently with external variables measure disparate concepts. Results of the structural equation modelling analysis revealed Erratic Lifestyle and Interpersonal Manipulation factors to be significantly related with overall aggression in the positive direction. The correlation between Antisocial Behaviour and aggression proved to be non-significant. Callous Affect subscale was found to be negatively but not significantly correlated with the external variable. This result suggests that

the commonly suggested two-factor models of the SRP-III which combine the Interpersonal and Affective factors are misguided. Overall, the results are compatible with previous research in the area which consistently indicates a strong link between behavioural aspects of psychopathy and reactive aggression (Reidy, Zeichner, Miller & Martinez, 2007). Callous/unemotional traits, on the other hand, were more often associated with instrumental, pre-planned forms of aggression (e.g. Frick, Cornell, Barry, Bodin & Dane, 2003; Williamson, Hare & Wong, 1987; Woodworth & Porter, 2002) and reduced impulsivity (e.g. Snowden & Gray, 2011).

A further aim of this study was to provide a robust assessment of the reliability of the Polish Version of SRP-III. Traditional approaches to establishing internal reliability such as Cronbach's alpha have been criticised within a latent variable context due to their tendency to over- or under-estimate scale reliabilities (Raykov, 1998). As such, composite reliability was performed as this provides a more accurate assessment of internal consistency of a latent factor. All four subscales were found to possess good internal reliabilities (ρ 's having ranged between .79 and .85).

An additional goal of the current study was to investigate differences between male and female, uniformed and non-uniformed participants' psychopathy scores. The results show that men scored significantly higher than women on Interpersonal Manipulation, Callous Affect, Antisocial Behaviour and overall psychopathy. These findings are in line with previous research which described distinct behavioural and emotional manifestations of psychopathy in males and females. This general tendency has been attributed to underlying

cognitive, biological, and evolutionary differences between the genders (see Rogstad & Rogers, 2008; Verona & Vitale, 2007 for a review).

Furthermore, no known previous study investigated the differences in psychopathy scores between uniformed and non-uniformed populations. The results indicate that uniformed participants scored significantly higher on Callous Affect dimension, whereas differences on Antisocial Behaviour were near to reaching statistical significance (with uniformed participants having scored higher). These preliminary findings provide an important and original insight which should be further explored. It is recommended that future studies investigate whether the increased level of callous affect in uniformed individuals is acquired during the job training highlighting the importance of hardiness and stamina, i.e. traits considered necessary to cope with stressful and dangerous situations. Another possible explanation that should be considered is that individuals with affective deficits who join the uniformed services are more likely to successfully complete the training and persevere within the challenging environment. Further, the use of larger sample sizes will lead to increased reliability of the obtained results. Additionally, studying participants representing different uniformed services separately could reveal any group differences between them.

Future research should also consider a bifactor conceptualisation of psychopathy, as assessed using the Hare SRP and other instruments modelled after the PCL. Boduszek et al. (in press) reported a bifactorial solution to be the best model fit for the PCL:SV in a sample of civic psychiatric patients. Present results confirm this structure for yet another scale generated on the basis of the PCL, the SRP-III. Importantly, given that the inventory has been recently updated

(see Paulhus et al., in press) and earlier studies failed to estimate a bifactorial solution, studies utilising data obtained from different populations are needed to verify the generalizability and cross-cultural applicability of the findings. Moreover, the existence of meaningful four method factors of the Hare SRP can be further investigated by assessing their unique contribution to the prediction of external variables. It is important to note that no previous research used a translated version of the Hare SRP. Accordingly, future studies should focus on validating the bifactorial model with populations of different cultural and linguistic backgrounds.

While the results of the current study provide supportive evidence for the construct validity of the Polish Version of the SRP-III, this finding should be tempered by the fact that a parcelling procedure was necessary in order to find an acceptable model fit. A significant limitation associated with the SRP-III is the failure to be able to identify an adequate factorial solution when using the individual items of the scale. This has been observed in both the Polish and English version of the scale (see Neal & Sellbom, 2012). This occurrence is likely due to the very high indicator-to-factor ratio of the scale. Future research should therefore seek to develop a psychometrically valid abbreviated version. This effort could be greatly enhanced on the basis of current results. Items for the abbreviated version could be selected based on the strength of factor loadings within four grouping psychopathy factors. This would allow researchers to identify the most appropriate indicators of the relevant latent variables of interest. Similar procedures have been utilised in previous efforts to develop psychometrically sound abbreviated versions of self-report psychological measures (Hyland, Shevlin, Adamson & Boduszek, 2013). Another

recommendation for future research is to assess whether the factorial solution identified in the current sample remains invariant across different populations, particularly incarcerated populations.

In conclusion, the present research was the first to study the SRP-III within a sample of participants whose first language is not English, and to assess a bifactorial solution of psychopathy using the SRP-III. The results indicated that the Polish Version of the SRP-III was best conceptualised as measuring four meaningful grouping factors and two hidden general factors. Additionally, it was shown that the four grouping factors of psychopathy had a good composite reliability and were differentially associated with overall aggression. Finally, differences between the genders as well as uniformed and non-uniformed participants in psychopathy scores were revealed. This study was the first to demonstrate that individuals working in uniformed services display higher levels of callous affect in comparison with the general population.

CHAPTER 3

The Role of Psychopathy and Exposure to Violence in Rape Myth Acceptance

Abstract

Previous research demonstrated a significant role of psychopathy factors in the study of rape myth acceptance. Additionally, Affective/Interpersonal and Impulsive/Antisocial traits as well as childhood exposure to violence were linked with sexual coercion. Based on a sample of Polish non-offending adults (n = 319) recruited at the University of Security in Poznan (Poland) and a sample of prisoners (n = 129) incarcerated in Stargard Szczecinski prison in Poland, this chapter investigated the direct effects of four psychopathy dimensions (Interpersonal Manipulation, Callous Affect, Erratic Lifestyle and Antisocial Behaviour), exposure to violence, relationship status, age, gender, and type of data (prisoners vs. non-prisoners) on rape myth acceptance. A model of rape myth acceptance was estimated and assessed in AMOS, using structural equation modelling. Results indicated that Callous Affect and childhood exposure to violence had a significant positive effect on attitudes towards rape and rape victims. Theoretical and practical implications of the findings were discussed.

3.1 INTRODUCTION

3.1.1 The pervasiveness of rape

Sexual violence towards women has long been a problem of societies with predominantly patriarchal values. Victims of rape experience both sexual and emotional violation which may vary in degree and intensity (Canter et al., 2003). Rape, as Koss et al. (1994) maintain, is still largely a crime directed against a woman and perpetrated by a man. The rape prevalence among women amounts to 15% and 2.1% among men. Some of the difference in rates may be explained by men's greater reluctance to report sexual victimisation due to increased stigma and embarrassment (Tjaden & Thoennes, 1998). However, it seems that both genders tend to underreport sexual abuse (Basile et al., 2007).

The disparity between the sexes is still an urgent issue in the most developed European countries. Nadeau's (2011) research on gender gap revealed that Italian women earn less, have more domestic responsibilities and experience violence from their intimate partners. Additionally, 95% of Italian men have never used a washing machine and rarely help with housework, suggesting that "men are still at the forefront, participants and winners, while women are relegated to the background" (p. 48). Furthermore, women are often depicted as protective, familial, and delicate, whereas men are seen as strong, assertive, and aggressive (Roze & Koss, 2001).

Zoucha-Jensen and Coyne (1993) reported that in the United States a woman is raped every six minutes. In the Home Office (2011) bulletin on crime in England and Wales, researchers noted a 3% increase in sexual offences in 2010 as compared with the previous year. The number of recorded sexual assaults in

the year to December 2010 equals 54,602, from which 44,693 are most serious sexual crimes (an increase of 6% compared with 2009). Thirteen percent of adults living in England and Wales communicated a high level of worry about violent crime. According to the most recent Home Office report (Taylor & Bond, 2012), there were 54,919 sexual offences in 2010/11, and the number dropped to 53,665 in 2011/12. The difference, however, is not statistically significant. Notably, the detection rate for sexual offences is alarmingly low (around 30%).

Previous research demonstrated that sexual aggression is also quite common among University samples. Between 25% and 60% of male students admit to having engaged in sexually aggressive behaviours, whereas 8% to 14% admit to having raped someone (Mouilso & Calhoun, 2013). The results provide supportive evidence for the feminist view that rapists do not differ from “normal” men in kind, but in the degree of coercion (Check & Malamuth, 1985). In addition, sexual offences belong to the category of crimes which face the risk of being underreported. This may be due to the victim fearing retaliation from a known offender or social stigma attached to crimes of sexual nature. The problem of underreporting is best captured by the Polish police statistics. Limited data are available on the prevalence of rape and sexual assaults in Poland, however, the 2013 Crime and Safety Report on crime in Poland recorded the investigation of 1,786 of rape cases in 2012 (“Raport Statystyczny”, 2013). One explanation for the low reporting rates may be the prevalence of attitudes, sometimes called myths, which minimise the seriousness of rape and may contribute toward the pervasiveness of rape (Burt, 1980; Lonsway & Fitzgerald, 1994).

Rozee and Koss (2001) argued that many women have the fear of being raped. Sexual violence can significantly influence women’s physical as well as

psychological well-being. To list a few, rape survivors can suffer from chronic pain, sexually transmitted diseases, anxiety or depression (Centers for Disease Control and Prevention, 2007). Moreover, women who were raped can be given the status of a victim – a label that indicates passivity, powerlessness, and therefore vulnerability (Wood & Rennie, 1994). The alarming research results and the gravity of rape consequences justify further investigations aimed at identifying risk factors for sexual offending. It seems especially important to explore cognitive distortions associated with blaming the victim, and how those misperceptions can be translated into sexually coercive behaviours.

3.1.2 Rape myths

Cognitive distortions which influence the perception of other people or objects are called stereotypes. Stereotypical thinking refers to the way people interact with other in-group and out-group members. Acceptance of stereotyping can be defined as:

The belief that social and cultural group differences exist, comfort with thinking about groups in abstract terms, willingness to use information about group memberships in conducting interpersonal relations, and the belief that stereotypes are useful, essential, and relatively harmless in everyday life. (Carter, Hall, Carney & Rosip, 2006, pp. 1104-1105)

Previous research revealed that the willingness to use stereotypes is positively correlated with traditional gender-role values, greater readiness to dismiss emotional information, and less complexity in describing the emotions of other people. White men were found to be most susceptible to stereotypical thinking,

whereas women expressed less biased perception of other females and the members of social and sexual minority groups (Carter et al., 2006).

There are numerous stereotypes pertaining to rape and sexual aggression. The concept of rape myth was first introduced in the 1970s. Rape myths are stereotypical or false beliefs about the culpability of victims, the innocence of rapists, and the illegitimacy of rape as a serious crime. Feminists argued that such misconceptions about rape are ubiquitous in patriarchal societies and are rooted in the tradition of denigrating women (Ward, 1995). Schwendinger and Schwendinger (1974) explained that some of the most common rape myths include the conviction that women want to be raped, and that men cannot control their sexual urges. Brownmiller (1975) suggested that women are often believed to lie about being raped and hence false charges of rape are prevalent. Indeed, the tendency to absolve the perpetrator and blame the victim lies at the core of stereotypical thinking about rape.

Such erroneous beliefs may act as “psychological neutralisers” that allow men to shed social prohibitions against hurting others, resulting in using force in sexual interactions (Bohner et al., 1998; Burt, 1980). This view is reminiscent of Bandura’s (1990, 1991) concept of moral disengagement which explains the process of disinhibition of aggressive behaviour. According to the theory, people learn to internalise moral principles held by the society at large. Internalisation of the values serves an important self-regulatory function. More specifically, remaining faithful to and acting in accordance with those principles enhances the sense of self-worth, whereas violating them leads to self-condemnation. Bandura also explained that in order to engage in behaviours violating the internalised moral principles and avoid self-condemnation, an individual needs to disengage

their moral sanctions. Research revealed that moral disengagement can be achieved through moral justification or dehumanisation of victims (Bandura et al., 1996). Similarly, the neutralisation theory proposed by Sykes and Matza (1957) holds that an offender has to find an excuse in order to rationalise and justify their criminal behaviour. The neutralisation effect can be achieved by denying the responsibility or denying the injury to the victim. Indeed, one of the most common rape myths is that the victim should be held at least partly responsible for the assault. Such views legitimise sexual aggression and belittle its consequences.

Research has consistently found a relationship between rape myth acceptance and both self-reported sexual misconduct and self-reported rape proclivity, among college and community males (e.g., Bohner, Pina, Viki, & Siebler, 2010; Byers & Eno, 1991; Hersh & Gray-Little, 1998; Lonsway & Fitzgerald, 1994; Malamuth, 1981; Muehlenhard & Falcon, 1990). Despite the fact that Ward, Polaschek, and Beech (2006) considered this belief system to be the most prominent, best researched, and theoretically most developed individual factor in the aetiology of sexual offending, the extent of the impact of rape myth acceptance is unclear and little is known about the demographic, sociocultural, and behavioural determinants of stereotypical thinking about rape.

Attitudes toward rape have consistently been found to vary by gender, with men more likely to support rape myths, using a variety of research methodologies and populations (Burt, 1980; Ewoldt, Monson, & Langhinrichsen-Rohling, 2000; Koss, 1988; Lundberg-Love & Geffner, 1989; Muehlenhard & Linton, 1987; Rapaport & Burkhart, 1984; Simonson & Subich, 1999). Research evidence of the relationship between age and rape myth acceptance is inconsistent

(e.g., Kassing, Beesley, & Frey, 2005; Lonsway & Fitzgerald, 1994). The results of a recent meta-analytic study did, however, indicate that age was not significantly related to rape myth acceptance (Suarez & Gadalla, 2010).

One of the first systematic studies of common rape myths was conducted by Barnett and Field (1977) within a sample of 400 college students. Overall, men were found to be more accepting of the myths regarding rape. Results demonstrated that seven percent of women and 17 percent of men agreed that if a woman is going to be raped, she might as well relax and enjoy it. Additionally, eight percent of women and 32 percent of men were found to believe that it would do some women good to be raped. Male students were also more concerned about protecting men from false rape accusations, and were less sensitive to the psychological and physiological consequences of rape for the victim.

Further, Aosved and Long's (2006) research with 492 male and 506 female college students aimed to investigate the correlations between rape myth acceptance and other oppressive belief systems. The findings indicated that rape myth acceptance was highly associated with racism, homophobia, ageism, classism as well as religious intolerance. As for gender differences, men were found to endorse more rape myths than females. Similar results in regards to gender differences and rape myth acceptance were revealed by McMahon (2010). Mouislo and Calhoun (2013) reported an association between rape myth acceptance and other positive attitudes about aggression in general. Finally, rape myth acceptance was found to be higher among perpetrators of sexual violence (Dean & Malamuth, 1997; Locke & Mahalik, 2005).

Some of the research inquiring into rape-supportive attitudes among university population focused on fraternity members and athletes. Qualitative studies revealed fraternity members to be overrepresented as perpetrators of sexual offences (e.g. Martin & Hummer, 1989; Sanday, 1990). Survey research demonstrated a modest effect of fraternity membership and athletic participation on sexual coercion (e.g. Boeringer, 1996; Koss & Gaines, 1993). It was suggested that fraternal organisations and sports teams create an environment in which beliefs supporting violence against women are fostered. Consequently, negative attitudes pertaining to sexual coercion are neutralised, which may lead to sexually aggressive behaviour (Boeringer, 1999).

Although one might expect that an individual's rape myth acceptance might be influenced by their own victimisation experiences, this does not appear to be the case (e.g., Carmody & Washington, 2001; Mason et al., 2004). Jenkins and Dambrot (1987), for instance, in a study investigating the impact of individual experience with sexual victimisation on rape attributions among male and female college students found no significant differences between victims and non-victims. However, it might be the case that victims of other forms of childhood abuse may be more likely than non-victims to support rape myths, consistent with the cycle-of-violence hypothesis. Offering tentative support for this, some studies have found a relationship between child maltreatment experiences and adult rape convictions and aggression towards women (Dhawan & Marshall, 1996; Fagan & Wexler, 1988), suggesting that childhood maltreatment may increase an individual's risk for future sexual misconduct. Furthermore, a large-scale study by Malamuth, Sockloskie, Koss, and Tanaka (1991) identified childhood maltreatment as a critical distal factor in the

development of sexually violent behaviour towards women. Some researchers also suggested that violent offenders, compared with non-violent offenders, more often have a history of physical and psychological abuse and punitive parenting (Hämäläinen & Haapasalo, 1996).

Additionally, previous research examined the effect of exposure to media violence on rape myth acceptance. Malamuth and Check (1981), in a study with 271 male and female students, found that male participants exposed to films portraying violent sexuality became more accepting of interpersonal violence against women. Female participants in the same condition, on the other hand, were less accepting of violence against women. Allen et al. (1995) carried out a meta-analysis of studies examining the association between pornography and rape myth acceptance. Results indicated that exposure to pornography increased rape myth acceptance in studies incorporating experimental methodology. Overall, the effect of violent pornography was found to be greater than the effect of non-violent pornography. The correlation was not revealed in non-experimental research. The hypothesis that exposure to pornographic films increases the acceptance of rape myths was also supported by Kahlor and Morrison's (2007) study within a sample of 96 female college students. Interestingly, women who watch more television were found to be more likely to consider rape accusations to be false. Additionally, individuals with a preference for violent and sex films were reported to be more accepting of rape stereotypes (Emmers-Sommer et al., 2006). This indicates that the effect of media violence may expand onto beliefs and attitudes pertaining to the real world. This tendency to model or copy aggressive behaviours portrayed by the media is often referred to as the contagion or copycat effect (Bartol & Bartol, 2014).

3.1.3 Psychopathy and sexual coercion

Given the pervasiveness of sexual aggression, being able to understand what personality characteristics and belief systems may lead to such coercive behaviours looms large on the future research agenda. The link between psychopathy and sexual aggression has been explored by numerous studies and with various populations (e.g. see Knight & Guay, 2007). Psychopaths are noted for their criminal versatility (Dhingra & Boduszek, 2013; Hare, 1991), and sexual coercion has consistently been listed or implied among the variety of crimes they are hypothesised to commit (e.g., Gretton, McBride, Hare, O'Shaughnessy, & Kumka, 2001; Kosson, Kelly & White, 1997; Porter, Fairweather, Drugge, Hervé, Birst, & Boer, 2000).

In his Clinical Profile, Cleckley (1941) addressed psychopaths' abnormal sexuality. Psychopathic individuals were described as emotionally detached and hence unable to engage fully with a sexual partner. Even though Cleckley hypothesised that psychopaths, due to their affective deficits, are more likely to be more adventurous in seeking sexual gratification than non-psychopathic individuals, he did not consider them to be sexually coercive. Nevertheless, in spite of Cleckley's suggestions, empirical research revealed psychopathy to be a strong predictor of sexual aggression and hence questions referring to sexuality have been included in psychopathy inventories. For instance, the Hare Self-Report Psychopathy Scale (SRP-III; Paulhus et al., in press) contains an item assessing respondents' proclivity towards impersonal sexual behaviour, and an item inquiring into their history of forced sexual advances. Psychopaths are often conceptualised as sexually promiscuous and promiscuity was found to be associated with an increased risk of sexual coercion (Malamuth, 1998; Robins,

1966). Moreover, Harris, Rice, Hilton, Lalumière & Quinsey's (2007) exploratory and confirmatory factor analyses of the Hare Psychopathy Checklist (PCL-R; Hare, 1991) revealed coercive and precocious sexuality to form a separate dimension of psychopathy, indicating the importance of sexual behaviours in diagnosing the disorder.

The possible etiological factors associated with sexual coercion among psychopaths have been discussed with the use of evolutionary and game theoretical frameworks. The Darwinian interpretation of the disorder suggests that psychopathy is a functional rather than pathological constellation of traits because it guarantees reproductive success. The use of coercion and deception in order to acquire a sexual partner can be seen as a viable, time- and energy-saving life strategy (Harris et al., 2007). The lack of autonomic reaction to the distress of others and reduced emotional responses may be beneficial in the face of changing circumstances (Wiebe, 2004). Robins (1966) reported that male psychopaths often marry younger, are sexually promiscuous, and likely to be unfaithful to their partners. By the same token, Seto, Khattar, Lalumière and Quinsey's (1997) study within a sample of 47 heterosexual men demonstrated that, compared with non-psychopathic individuals, psychopaths reported having more fleeting romances and using more sexual deception.

Furthermore, previous research investigated the predictive value of psychopathy dimensions for the risk of sexually coercive behaviour. It was noted that the Impulsive/Antisocial factor may contribute to the lack of inhibitions when the victim is non-compliant. Sexual recidivism was found to be significantly correlated with antisocial tendencies (Hanson & Bussière, 1998) and impulsivity (Prentky, Knight, Lee & Cerce, 1995) within samples of sexual

offenders. Langton's (2003, as cited in Knight & Guay, 2007) research with 468 male sexual offenders revealed the PCL-R total score to be associated with general recidivism, but only PCL-R Factor 2 was related to sexual recidivism. In a seven-year follow-up post-release study of 68 sexual offenders, Serin, Mailloux and Malcolm (2001) found that sexual recidivists were characterised by higher Factor 2 scores than non-recidivists. These findings are consistent with Hanson and Morton-Bourgon's (2005) meta-analysis of 82 recidivism studies. Specifically, the researchers reported antisocial tendencies to be a significant predictor of sexual recidivism among adult and adolescent sexual offenders. The results were replicated in studies with non-criminal samples. For example, Lalumière and Quinsey (1996) discovered antisociality to be associated with self-reported sexual coercion among male college students. These findings suggest that sex offender treatment programmes focusing on increasing victim empathy cannot be successful in resolving the problem of sexual recidivism.

Although the above cited research findings found no significant associations between the Affective/Interpersonal factor of psychopathy and sexual aggression, there are studies suggesting otherwise. The relation between Factor 1 psychopathy and sexual aggression has been explained using Blair's (Blair, 1995; James, Blair, Jones, Clark & Smith, 1997) violence inhibition mechanism (VIM). Blair hypothesised that psychopaths suffer from the lack of responsiveness to non-verbal communications of distress (e.g., sad facial expressions, the sight and sound of crying) because of a deficit in the violence inhibition mechanism (VIM), a cognitive mechanism that is deemed necessary for the experience of moral emotions (e.g., sympathy, guilt, remorse, and empathy). He argued further that it is the fostering of empathy (Blackburn, 1988; Blair &

Morton, 1995; Hoffman, 1994), rather than the development of conditioned emotional responses (i.e., punishment), as Eysenck (1964) and Patterson and Newman (1993) had maintained, that leads to the inhibition of aggressive behaviour. Therefore, the failure to conceptualise the distress of others as an aversive stimulus could result in sexually coercive behaviours. Support for Blair's theory was provided by Bernat, Calhoun and Adams (1999). In their study, descriptions of foreplay were presented to self-identified sexually aggressive and non-aggressive college men. Results indicated that the introduction of force leading to victim pain and distress resulted in the inhibition of non-coercive participants' sexual arousal. Males with more callous characteristics were less affected by the coercive scripts. Affective/Interpersonal factor of psychopathy was also found to be related with sexual aggression in a sample of 378 college men (Kosson & Kelly, 1997).

Malamuth (1998) proposed a developmental model of aggression referred to as the confluence model. According to the framework, the confluence of two factors increases the probability of participating in sexually aggressive behaviours: sexual promiscuity and hostile masculinity. Wheeler et al. (2002), who applied the confluence model of sexual aggression in a study with undergraduate males, found that the interaction between hostile masculinity and impersonal sex was predictive of sexual aggression, however, it was also moderated by empathy levels. High-risk males (i.e. those who scored high on both hostile masculinity and impersonal sex) with low empathy demonstrated higher rates of sexual aggression, whereas the rates of sexual aggression among high-risk males with high empathy were comparable with those of lower-risk

males. These findings indicate that sexual aggression is affected by both behavioural and emotional correlates.

Knight and Sims-Knight (2003) argued for a three-path model predicting the development of sexually coercive behaviour. Malamuth's confluence model was expanded by incorporating subcomponents of psychopathy (Affective/Interpersonal and Lifestyle/Antisocial). Knight and Sims-Knight reported an association between childhood abuse, callous affect, and sexual aggression. The researchers tested a model of the origins of sexual aggression against women using structural equation modelling. Three significant paths were identified. In the first path, physical and verbal abuse was a major effect on the development of callous affect. Callous affect, in turn, had a direct effect on aggressive sexual fantasies. In the third path, sexual coercion was conceptualised as being an indirect result of physical/verbal abuse and unemotional traits, whereas antisocial behaviour was identified as a direct influence on sexual coercion. Consistent with the suggestion that abuse may lead to sexual coercion, Simons et al. (2002) identified childhood physical abuse to be an important factor in sexual aggression against adult women within a sample of sexual offenders, whereas Caputo et al. (1999) demonstrated that witnessing domestic violence is significantly related to sex offending and contact offending in general.

The Knight and Sims-Knight (2003) model of sexual coercion was found to be a good fit for the data (CFI = .951, RMSEA = .047). However, Knight and Sims-Knight admitted that the framework needs verification and perhaps modification from further research. For instance, given that psychopathy is sometimes reported to consist of four rather than two dimensions, callous and

interpersonal traits should be included in the model as two separate latent variables.

Previous research has typically grouped rape together with other violent crimes or crimes against person (Skeem & Mulvey, 2001). Consequently, the comparative frequency of rape in psychopathic and non-psychopathic individuals and the strength of the specific association between psychopathy and sexually coercive behaviour are unclear. Coid (1992) in a study directly comparing the frequency of sexual assault convictions in male psychopathic and non-psychopathic offenders found that 30% of psychopathic offenders had an index offence of rape, buggery, or indecent offence, compared to 13% of non-psychopathic offenders, supporting the hypothesis that psychopaths are at an increased risk for sexual coercion (see also Hare, Clark, Grann, & Thornton, 2000; Knight & Guay, 2007; Porter, Campbell, Woodworth, & Birt, 2002).

3.1.4 Psychopathy and rape myth acceptance

As noted above, psychopathy has been identified to be a risk factor for sexual violence. An important mediating factor between psychopathy and sexual coercion may be the readiness to accept stereotypes about women and rape. Indeed, Mouslo and Calhoun (2013) argued that rape myth acceptance is a cognitive distortion which constitutes a crucial link between psychopathy and rape perpetration, and listed a number of similarities between psychopathic traits and certain widely held beliefs about rape. For example, psychopaths' deceptiveness and manipulateness were linked with the myth that women lie about being raped. The lack of empathy and arrogance suggests that psychopaths may believe that women secretly want to be raped. The conviction that some

women deserve to be raped was attributed to psychopaths' inability to feel guilt or remorse. The insensitivity to the suffering of others, on the other hand, can result in construing rape as a trivial act, rather than a serious crime with adverse physical and psychological consequences for the victim. Additionally, the belief that men cannot control their behaviour during arousal was associated with psychopaths' irresponsibility and proclivity towards acting impulsively.

Few empirical studies examining the above suppositions have been conducted. Using a sample of 369 incarcerated males to investigate the shared and unique risk factors for non-physical sexual coercion and sexual coercion, DeGue, DiLillo, and Scalora (2010) reported that some components of psychopathy (e.g., Machiavellian egocentricity, empathetic concern, perspective taking, cold-heartedness, carefree nonplanfulness, blame externalisation, and impulsive nonconformity) correlated negatively with rape myth acceptance, whereas others (e.g., stress immunity) correlated positively. Furthermore, findings revealed that sexual aggressors and coercers form two distinct groups characterised by different risk factors. Unfortunately, however, rather than using a well-established measure of rape myth acceptance, the authors employed a less accepted instrument to "assess concepts similar to Burt's (1980) scale" (DeGue et al., 2010, p. 408). Similarly, using a sample of male college students, DeGue and DiLillo (2004) found that sexually aggressive college men endorsed a stronger belief in rape myths than coercive men. However, these two groups did not differ from one another on any other risk factors assessed, including psychopathic traits.

Mouilso and Calhoun's (2013) research within a sample of 308 male students inquired into the role of rape myth acceptance and psychopathy in sexual assault perpetration. The Self-Report Psychopathy Scale-III (SRP-III) (Paulhus, et

al., in press) was used to measure psychopathy, whereas attitudes toward rape were examined using the Illinois Rape Myth Acceptance Scale (IRMA) (Payne et al., 1999). The total psychopathy score was found to be significantly correlated with overall rape myth acceptance ($r = .21$) as well as with six IRMA subscales: She asked for it ($r = .15$), She wanted it ($r = .14$), Rape is a trivial event ($r = .26$), She lied ($r = .30$), Rape is a deviant event ($r = .18$) and *It wasn't really rape* ($r = .20$). The correlation with the remaining subscale, *He didn't mean to*, was negative yet statistically non-significant ($r = -.06$). Furthermore, the Interpersonal Manipulation and Callous Affect SRP-III subscales were significantly positively correlated with IRMA total scores and six of the seven IRMA subscale scores. The Antisocial Behaviour subscale was significantly positively correlated with IRMA total score, and further significantly positively associated with five of the seven IRMA subscales. Victim blaming and denial of harm appear related to the callous and manipulative core of psychopathy as well as serving to excuse aggressive and antisocial behaviour.

Another goal of Mouilso and Calhoun's (2013) study was to distinguish between participants who admitted to having committed a sexual offence and those who did not. Sexual assault and rape perpetrators received significantly higher scores on Interpersonal Manipulation ($t_{(293)} = 2.25, p < .05$), Erratic Lifestyle ($t_{(290)} = 2.35, p < .05$) and Antisocial Behaviour ($t_{(289)} = 2.35, p < .05$). The lack of any significant difference on Callous Affect subscale between perpetrators and non-perpetrators seems somewhat surprising, however, "it is possible that rather than displaying a generalized callousness, college perpetrators display the trait primarily in interaction with women or in sexual encounters" (p. 170). Finally, sexual assault perpetrators scored significantly higher than non-

perpetrators on IRMA She lied ($t_{(300)} = 2.26, p < .05$). In comparison with sexual assault perpetrators, rape perpetrators scored significantly higher on the following IRMA subscales: She wanted it ($t_{(301)} = 2.21, p < .05$), Rape is trivial ($t_{(298)} = 3.85, p < .001$), Rape is deviant ($t_{(299)} = 2.40, p < .05$), and *It wasn't really rape* ($t_{(297)} = 2.41, p < .05$). These findings indicate that sexual aggression is significantly associated with cognitive distortions pertaining to rape and victim blaming.

3.1.5 Current study

Previous studies indicated correlations between psychopathy, exposure to violence and sexual coercion as well as psychopathy factors and rape myth acceptance. However, what is missing in the literature is a structural model incorporating the relationships between psychopathy dimensions, childhood experiences of violence and rape myth acceptance. Therefore, the main objective of the current study was to verify whether exposure to violence and different aspects of psychopathy have a significant direct correlation with stereotypical thinking about sexual aggression. It was hypothesised that Callous Affect and Interpersonal Manipulation, i.e. subscales pertaining to personality features rather than behavioural expressions of psychopathy, would have a direct effect on rape attitudes. Moreover, it was suggested that childhood exposure to violence would form a significant correlation with rape myth acceptance. Additionally, it was predicted that males and prisoners would score significantly higher on rape myth acceptance than females and non-prisoners respectively. These hypotheses were tested within a sample of Polish prisoners and non-prisoners using data incorporated in a single structural model.

3.2 METHOD

3.2.1 Participants

Two samples of participants were used for the study. Sample one consisted of 319 Polish adults recruited at the University of Security in Poznan (Poland). The School offers part-time training courses with flexible timetables for working adults, many of whom are soldiers, police officers, firefighters etc. Participants ranged in age from 19 to 51 years ($M = 25.16$, $SD = 6.24$), and 29.5% ($n = 94$) reported working in uniformed services. As for gender composition, the sample consisted of 175 males (54.9%) and 144 females (45.1%). Additionally, 77.4% of participants reported being unmarried ($n = 247$), 20.7% being married ($n = 66$), 1.6% being divorced ($n = 5$), and 0.3% being widowed ($n = 1$). Finally, the uniformed sample was composed of 11 police officers (11.7%), 58 soldiers (61.7%), 11 firefighters (11.7%) and 14 other uniformed individuals (14.9%).

Sample two consisted of 129 male inmates incarcerated in Stargard Szczecinski Prison in Poland. The prisoners ranged in age from 17 to 59 years. The average age of participants was 27.08 ($M = 27.08$, $SD = 9.08$). There were 59 (45.7%) offenders who reported having committed a robbery, 37 (28.7%) who were sentenced for assault/battery, 12 (9.3%) who committed a murder, 8 (6.2%) who were sentenced for financial crimes, 2 (1.6%) who reported having committed offences of sexual nature, and 54 (41.9%) who committed other offences. Most participants (34.1%; $n = 44$) reported having primary education, 26.4% ($n = 34$) middle school education, 20.9% ($n = 27$) vocational school education, 10.9% ($n = 14$) secondary education, 2.3% ($n = 3$) technical school education, and 2.3% ($n = 3$) higher education. There were 82.2 ($n = 106$) of respondents who indicated their marital status as single, 8.5% ($n = 11$) as married,

3.1 (n = 4) as having a partner, and 5.4% (n = 7) as divorced/separated. The participants ranged in time spent in prison from 1 to 17 years (M = 2.46, SD = 2.33).

3.2.2 Measures

Self-Report Psychopathy Scale (SRP-III; Paulhus et al., in press). This is a self-report inventory modelled after the Psychopathy Checklist-Revised (PCL-R) (Hare, 2003) yet questions asked in SRP-III are less extreme and hence more appropriate for a subclinical sample. It is composed of 64-items (21 of which are scored reversely) which fall into four subcategories:

- (5) Interpersonal Manipulation (IPM), 16 items, (e.g. “I think I could "beat" a lie detector”; “I purposely flatter people to get them on my side”)
- (6) Callous Affect (CA), 16 items, (e.g. “I’m more tough-minded than other people”; “It tortures me to see an injured animal”)
- (7) Erratic Lifestyle (ELS), 16 items, (e.g. “I always plan out my weekly activities”; “I’d be good at a dangerous job because I make fast decisions”)
- (8) Antisocial Behaviour (ASB), 16 items, (e.g. “I never shoplifted from a store”; “I was convicted of a serious crime”).

Responses are measured on a five-point Likert scale with possible answers ranging from “strongly disagree” to “strongly agree”. Overall scores for the scale range from 0 to 256. Additionally, in order to account for cultural differences between Europe and America, where the instrument was created, item number six – “I have never stolen a truck, car or motorcycle” – was changed to: “I have never stolen a car, motorcycle or bicycle”.

Confirmatory factor analyses carried out in the previous chapter revealed the measure to be best captured by a bifactorial solution. It was found that the scale consists of four grouping factors (Interpersonal Manipulation, Callous Affect, Erratic Lifestyle and Antisocial Behaviour) and two hidden general factors (Interpersonal/Affective and Antisocial/Lifestyle). It was demonstrated that the four method factors should form the basis of the instrument's subscales.

Internal consistency estimates of reliability for the current sample were examined for all four factors in the model with the use of Cronbach's alphas. All values proved to be acceptable (.92 for the full scale; .81 for IPM; .73 for CA; .73 for ELS; .86 for ASB).

Updated Illinois Rape Myth Acceptance Scale (IRMA; Payne et al., 1999; McMahon & Farmer, 2011). The original IRMA developed by Payne et al. (1999) consists of 45 items divided into seven subcomponents: *She asked for it; It wasn't really rape; He didn't mean to; She wanted it; She lied; Rape is a trivial event; Rape is a deviant event.* McMahon and Farmer (2011) updated the questionnaire by changing the wording of scale items and focusing on victim blaming. The revised version of IRMA consists of 19 items measured on a 5-point Likert scale (0 = "strongly disagree", 4 = "strongly agree"). Overall scores for the scale range from 0 to 76. Four of the original subcategories were used (*She asked for it; It wasn't really rape; He didn't mean to; She lied*) and a new subscale (Alcohol) was added. Cronbach's alpha for the total scale was .87.

Internal consistency estimates of reliability for this sample were examined with the use of Cronbach's alphas. All values proved to be acceptable (.89 for the

full scale; .76 for She asked for it; .80 for *It wasn't really rape*; .70 for *He didn't mean to*; .87 for She lied; .68 for Alcohol).

The Recent Exposure to Violence Scale (REVS; Flannery, Singer, van Dulmen, Kretschmar, & Belliston, 2007). The REVS is a 22-item scale measuring children's experiences of violent and threatening events using a 4-point Likert scale (0 = "never", 3 = "almost every day"). Originally, the scale was divided into five subcategories: threats, slapping/punching/hitting, beatings, knife attacks and shootings. For the purpose of the present study, the shooting subcategory of the inventory has been omitted. Gun ownership in Poland is strictly regulated by the Weapons and Munitions Act and civilian possession of guns is uncommon. Overall scores for the scale used in this study, therefore, range from 0 to 60. Moreover, given that the scale was administered to adult participants and the focus was on their exposure to violence in childhood, all items were re-written in the past tense and the prompting phrase was changed from "How often in the past year...?" to "How often in your childhood...?".

Cronbach's alphas for the current sample were calculated for the total scale (.89) and all four subscales (.77 for Threats; .73 for Slapping, hitting, punching; .72 for Beatings; .72 for Knife attacks).

All questionnaires used in the current study were translated to Polish by a professional translator. In order to ensure that the meaning of the original inventories has been retained, the Polish versions were translated back to English. Both original translations and back-translations were then shown to three experts in translation who suggested minor changes.

3.2.3 Procedure

The ethical approval for this project was granted by the University of Huddersfield, University of Security in Poznan, and the Polish Prison Service ethical review boards. As for the general population sample, the measures were administered in groups of up to 40 individuals by lecturers working at the University of Security in Poznan. Prisoners were asked to complete the questionnaires in their living units by the prison psychologist. Appropriate staff were instructed by the principal researcher about procedures involved in conducting this study. Participants gave informed consent to take part in the study. All participants completed an anonymous, paper and pencil questionnaire which was compiled into a booklet along with an instruction sheet and a consent form attached to the front of the booklet. Each participant was provided with a brief description of the study including the general area of interest, how to complete the questionnaire, and the general expected completion time. Participants were assured about the confidentiality of their participation and informed that they could withdraw from the study at any time. The participation was voluntary without any form of reward. On completion, participants were debriefed on the purpose of the study.

3.2.4 Statistical analysis

Preliminary analysis was carried out in SPSS 20 to ensure that the data were suitable for structural equation modelling. Descriptive statistics and Pearson product-moment correlation coefficients were analysed for scores of rape myth acceptance, interpersonal manipulation, callous affect, erratic lifestyle, antisocial behaviour, exposure to violence in childhood and age.

The model (see Figure 3.1) of rape myth acceptance was specified and assessed in AMOS using structural equation modelling (SEM). SEM is a method for testing theoretical constructs through analysing multivariate data. It allows for a simultaneous analysis of structural relationships between multiple dependent and multiple independent variables. In the structural equation environment, independent variables are referred to as exogenous variables, whereas outcome variables are called endogenous variables. Endogenous variables which serve the function of both independent and dependent variables are called intervening or mediator variables, because their purpose is to mediate the relationship between other variables. SEMs consist of two parts: a measurement model and a structural model. In the former, the researcher indicates how the latent variables are measured using observed variables as indicators. In the latter, relationships between latent factors are defined and assessed (Geiser, 2013).

SEM is a combination of path analysis and factor analysis (FA) (Boduszek, Adamson, Shevlin, Hyland & Dhingra, 2013). Path analysis tests associations among observed variables which are displayed in a path diagram (Cohen & Cohen, 1983). The aim of FA, on the other hand, is to simplify a complex data set by combining related observed variables into latent factors. Latent factors are theoretical constructs which can only be observed indirectly with the use of test or questionnaire items (Raykov & Marcoulides, 2000). The benefit of SEM, therefore, is that it allows theory testing by verifying correlations between both observed and latent variables. Moreover, the use of latent variables allows controlling for the measurement error in the analysis. “As a consequence, the relationships between variables in the structural model can be more accurately

estimated compared to conventional correlation, regression, or path analyses at the level of manifest variables” (Geiser, 2013, p. 26).

In order to facilitate the interpretation of results, SEMs can be graphically illustrated with the use of path diagrams. In a SEM path diagram, observed variables are represented by square boxes, whereas latent factors by circles or ellipses. Single headed arrows indicate directional relationships between variables. Variables which emit the arrow are independent (predictor) variables. The variables in whose direction the arrow is pointing are considered endogenous (dependent) variables. Exogenous variables are the ones which emit but do not receive any arrows (Geiser, 2013).

For the purpose of the current research, six latent factors were identified: rape myth acceptance (measured by participants’ scores on five separate subscales), callous affect, interpersonal manipulation, erratic lifestyle, antisocial behaviour (all of which are measured with the use of parcels identified in the confirmatory factor analysis described in detail in chapter two), and childhood exposure to violence (measured by respondents’ scores on four different subscales). Observed covariates included in the model are: type of data (prisoners vs. non-prisoners), gender, age, and relationship status (single vs. in a relationship).

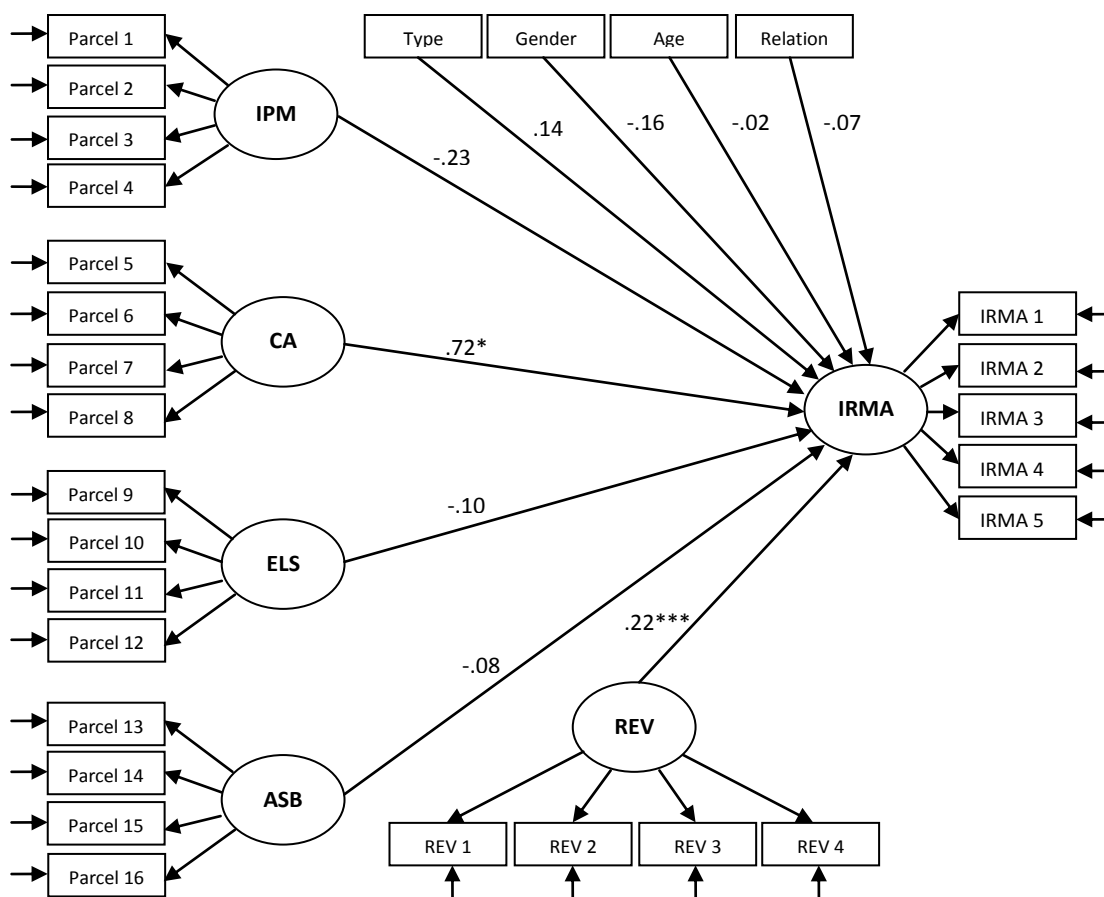


Figure 3.1. Structural equation model of rape myth acceptance. IPM = Interpersonal Manipulation; CA = Callous Affect; ELS = Erratic Lifestyle; ASB = Antisocial Behaviour; Parcels 1-4 = items from Interpersonal Manipulation subscale; Parcels 5-8 = items from Callous Affect subscale; Parcels 9-12 = items from Erratic Lifestyle subscale; Parcels 13-16 = items from Antisocial Behaviour subscale; IRMA = Illinois Rape Myth Acceptance; IRMA 1 = items from She asked for it subscale; IRMA 2 = items from *It wasn't really rape* subscale; IRMA 3 = items from *He didn't mean to* subscale; IRMA 4 = items from She lied subscale; IRMA 5 = items from Alcohol subscale; REV = Recent Exposure to Violence; REV 1 = items from Threats subscale; REV 2 = items from Slapping, hitting, punching subscale; REV 3 = items from Beatings subscale; REV 4 = items from Knife attacks subscale; Type = type of data (prisoners vs. non-prisoners); Relation = relationship status (single vs. in a relationship).
 * $p < .05$. ** $p < .01$. *** $p < .001$.

3.3 RESULTS

3.3.1 Descriptive statistics, correlations, and groups differences

Descriptive statistics, including means (M) and standard deviations (SD) for all measures used in the study are presented in Table 3.1 along with correlations between scores of rape myth acceptance, interpersonal manipulation, callous affect, erratic lifestyle, antisocial behaviour, exposure to violence in childhood and age. Rape myth acceptance was found to be positively correlated with Interpersonal Manipulation ($r = .285$), Callous Affect ($r = .285$), Erratic Lifestyle ($r = .253$), Antisocial Behaviour ($r = .162$) and exposure to violence ($r = .195$). The association between rape myth acceptance and age revealed to be significant in the negative direction ($r = -.103$).

Table 3.1

Descriptive Statistics and correlations between Rape Myth Acceptance, Interpersonal Manipulation, Callous Affect, Erratic Lifestyle, Antisocial Behaviour, Recent Exposure to Violence and age

Variables	IRMA	IPM	CA	ELS	ASB	REV	Age
IRMA	-						
IPM	.285***	-					
CA	.285***	.687***	-				
ELS	.253***	.638***	.573***	-			
ASB	.162**	.454***	.465***	.550***	-		
REV	.195***	.224***	.178***	.227***	.265***	-	
Age	-.103*	-.081	-.100*	-.199***	-.003	.034	-
Mean (M)	31.6	26.61	25.57	29.85	15.58	7.71	25.69
Standard deviation (SD)	14.03	10.12	8.99	9.76	11.97	7.52	7.19

Note. IRMA = Illinois Rape Myth Acceptance Scale; IPM = Interpersonal Manipulation; CA = Callous Affect; ELS = Erratic Lifestyle; ASB = Antisocial Behaviour; REV = Recent Exposure to Violence Scale.

* $p < .05$. ** $p < .01$. *** $p < .001$.

The statistical significance of the differences between males and females as well as prisoners and non-prisoners on rape myth acceptance were examined using t-tests. Results suggest that male ($M = 34.02$, $SD = 12.71$) and female participants' ($M = 29.45$, $SD = 12.34$) scores differed significantly ($t_{(436)} = -3.564$, $p < .001$, $\eta^2 = .03$). Additionally, a statistically significant difference ($t_{(436)} = -2.276$, $p < .05$, $\eta^2 = .01$) was found between prisoners ($M = 34.62$, $SD = 11.74$) and non-prisoners ($M = 31.69$, $SD = 13.07$). In both cases, the magnitude of the differences in the means was small.

3.3.2 Model testing - structural equation modelling

In order to test the model of rape myth acceptance proposed in the current research, a two-step procedure was adopted. The first step was to analyse the overall model fit which includes all direct paths from predictors and covariates to rape myth acceptance (see Figure 3.1). The chi-squared statistic is used to test the difference between the theoretical and actual model. The Incremental Fit Index (IFI; Bollen, 1989) and the Comparative Fit Index (CFI; Bentler, 1990) indicate how well the target model fits the data compared with the null model in which no relationships exist. A non-significant chi-square (Kline, 2005) and values above .95 for the IFI and CFI are considered to reflect a good model fit (Hu & Bentler, 1998; Vandenberg & Lance, 2000). However, although chi-square values were reported, they were not predicted to demonstrate a good model fit as they are heavily influenced by the size of the sample studied (Kline, 2010). Additionally, the root-mean-square error of approximation (RMSEA) was presented as a measure of the average difference between the null and target model per element of the variance-covariance matrix. The index is widely used as a supplement to the chi-squared statistic to accommodate for larger size samples. A RMSEA value

less than .05 suggests acceptable fit and values up to .08 indicate reasonable errors of approximation in the population (Browne & Cudeck, 1993).

The fit of the proposed model with all possible direct paths indicated an acceptable model fit ($\chi^2_{(336)} = 930.06$, $p < .05$, IFI = .914, CFI = .913, RMSEA = .063 [90% CI = .058/.068]) and explained 22% of variance in rape myth acceptance.

Table 3.2 presents the measurement level of the structural model. As can be seen, all observed variables are significantly correlated with the latent factors they form a part of. In Table 3.3 relationships between rape myth acceptance and four factors of psychopathy while controlling for covariates are displayed. The table lists standardised and unstandardised regression weights for the estimated structural equation model of rape myth acceptance. It can be noted that a strong positive significant relationship exists between rape myth acceptance and Callous Affect ($\beta = .719$, $p < .05$). Associations with the remaining three psychopathy dimensions, Interpersonal Manipulation ($\beta = -.228$, $p > .05$), Erratic Lifestyle ($\beta = -.097$, $p > .05$), and Antisocial Behaviour ($\beta = -.081$, $p > .05$) proved negative yet statistically non-significant. Furthermore, a positive effect of exposure to violence in childhood on rape myth acceptance ($\beta = .220$, $p < .001$) was observed. None of the observed variables included in the model yielded significant results - type of data ($\beta = .139$, $p > .05$), gender ($\beta = -.156$, $p > .05$), age ($\beta = -.016$, $p > .05$), and relationship status ($\beta = -.073$, $p > .05$).

An alternative structural model of rape myth acceptance was specified and tested. The model consisted of two general psychopathy factors (Interpersonal/Affective and Lifestyle/Antisocial – see Chapter 2) as predictors of rape myth acceptance while controlling for childhood exposure to violence, type

of data (prisoner vs. non-prisoner), gender, age, and relationship status (in a relationship vs. single). Based on all statistics provided ($\chi^2_{(353)} = 1355.44$, $p < .05$, IFI = .855, CFI = .854, RMSEA = .080 [90% CI = .075/.084]), the model fit was not acceptable.

Table 3.2

Measurement level of the structural model of rape myth acceptance

Variables	β	B	SE
IRMA by			
She lied	.716***	1.00	-
It wasn't really rape	.625***	.679	.054
He didn't mean to	.831***	.896	.054
She asked for it	.717***	.785	.054
Alcohol	.908***	.778	.043
IPM by			
Parcel 1	.713***	1.00	-
Parcel 2	.802***	1.143	.071
Parcel 3	.774***	1.051	.068
Parcel 4	.765***	1.085	.071
CA by			
Parcel 1	.759***	1.00	-
Parcel 2	.780***	.965	.057
Parcel 3	.723***	.884	.057
Parcel 4	.549***	.663	.058

ELS by			
Parcel 1	.688***	1.00	-
Parcel 2	.688***	1.549	.117
Parcel 3	.670***	1.124	.087
Parcel 4	.811***	1.497	.098
ASB by			
Parcel 1	.868***	1.00	-
Parcel 2	.842***	.927	.041
Parcel 3	.851***	.939	.041
Parcel 4	.576***	.657	.050
REV by			
Threats	.757***	1.00	-
Slapping, hitting, punching	.774***	1.049	.064
Beatings	.919***	1.032	.056
Knife attacks	.586***	.313	.026

Note. IRMA = Illinois Rape Myth Acceptance Scale; IPM = Interpersonal Manipulation; CA = Callous Affect; ELS = Erratic Lifestyle; ASB = Antisocial Behaviour; REV = Recent Exposure to Violence Scale.

*p < .05. **p < .01. ***p < .001.

Table 3.3

Structural level of the proposed model of the relationship between IRMA, four factors of psychopathy, childhood exposure to violence, type of data (prisoners vs. non-prisoners), gender, age, and relationship status (single vs. in a relationship)

Variables	β	B	SE
IPM	-.228	-.354	.452
CA	.719*	1.063	.500
ELS	-.097	-.191	.414
ASB	-.081	-.090	.140
REV	.220***	.387	.104
Type	.139	1.110	.760
Gender	-.156	-1.210	.779
Age	-.016	-.008	.034
Relation	-.073	-.682	.541

Note. IRMA = Illinois Rape Myth Acceptance Scale; IPM = Interpersonal Manipulation; CA = Callous Affect; ELS = Erratic Lifestyle; ASB = Antisocial Behaviour; REV = Recent Exposure to Violence Scale; Type = Type of data (prisoners vs. non-prisoners) Relation = Relationship status (single vs. in a relationship).

* $p < .05$. ** $p < .01$. *** $p < .001$.

3.4 DISCUSSION

Only few studies have been carried out on rape myth acceptance, which is theorised to play an important role in sexual aggression, and its relation with psychopathy. No known study to date has examined the relationship between rape myth acceptance and exposure to violence. The current study was conducted in order to fill in the gap in the existing psychological and criminological literature. The main purpose of the present investigation was to specify and test a structural model of rape myth acceptance. Previous research revealed that Affective/Interpersonal and Lifestyle/Antisocial factors of psychopathy as well as childhood exposure to violence have a significant impact on sexual coercion. Prior studies suggested that exposure to sexually violent media content may increase the acceptance of interpersonal violence against women. However, previous research in the area failed to analyse all variables simultaneously which could result in not detecting important associations between them. The current model of rape myth acceptance was analysed with the use of SEM and hence all observed and latent variables could be made available concurrently. Additionally, as opposed to most previous examinations, the current research incorporated a sample of prisoners and a sample of non-prisoners. This allowed for an examination of differences in stereotypical thinking about rape between those two populations. Another goal was to verify whether any gender differences in rape myth acceptance exist.

Of the four psychopathy dimensions examined, only Callous Affect was significantly related with rape myth acceptance. Specifically, participants scoring higher on the Callous Affect subscale endorsed significantly greater rape myth acceptance. This finding is in line with previous research which found that

individuals with more callous characteristics are more sexually aggressive (Bernat et al., 1999; Caputo, Frick, & Brodsky, 1999; DeGue & DiLillo, 2004; Knight & Sims-Knight, 2003; Kosson & Kelly, 1997), and Blair's (1995) violence inhibition mechanism which suggests social emotions inhibit aggressive behaviour. The direct effect of Callous Affect on the readiness to accept rape myths also supports research by Mouilso and Calhoun (2013). Individuals displaying increased callous/unemotional traits are not constrained by guilt or remorse in interpersonal relations (Helfgott, 2008). Their processing of negative emotional stimuli was found to be significantly hindered (Blair, 1999). Moral socialisation and incorporation of societal norms is contingent on emotional responsiveness to negative material (Fowles & Kochanska, 2000). Therefore, the lack of emotional responsiveness may result in the inability to relate with and attach to others. Consequently, stereotypical perceptions of victim culpability in the context of rape are likely to be formed.

A significant correlation between childhood exposure to violence and rape myth acceptance was also found in the present chapter. As mentioned earlier, although a significant effect of exposure to violence on sexual coercion has been previously reported (Caputo et al., 1999; Knight & Sims-Knight, 2003; Simons et al., 2002), prior research has not explored the relationship between exposure to violence and acceptance of rape myths. Moreover, previous research demonstrated that exposure to films portraying violent sexuality increases the acceptance of interpersonal violence against women (Malamuth & Check, 1981) and rape myths (Allen et al., 1995; Kahlor & Morrison, 2007). It was also reported that individuals with a predilection for violent and sex films are likely to be more accepting of rape stereotypes (Emmers-Sommer et al., 2006). One

possible explanation of the significant association between experiences of violence and rape myth acceptance is that individuals who have been victimised might evidence a tendency towards self-blame (Graham & Juvonen, 1998), suggesting that victims of violence may begin to think that violence is morally right. Consequently, they are likely to display greater acceptance of rape myths. Individuals who witness violence might also learn that using aggression in order to obtain one's goals is not against moral standards (Bandura, 1999; Farrington, 1991; Ng-Mak, Stueve, Salzinger, & Feldman, 2002). Additionally, being a victim of or witnessing violent behaviours can muffle empathic responses.

The hypothesis that Interpersonal Manipulation would be significantly associated with rape myth acceptance was not confirmed by the present findings. As opposed to Mouilso and Calhoun's (2013) study in which the two variables were reported to form a direct positive significant correlation, in the present structural model the association was found to be negative yet non-significant. A possible reason for this discrepancy may be that Mouilso and Calhoun failed to control for any covariates in their study.

Further, the lack of direct effect of Antisocial Behaviour on rape myth acceptance is also inconsistent with research by Mouilso and Calhoun (2013), and the frequently documented association between Antisocial Behaviour and sexual coercion (Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2005; Lalumière & Quinsey, 1996; Mailloux & Malcolm, 2001). This latter disparity, however, can be accounted for by looking at what the variables represent. Specifically, both Antisocial Behaviour and sexual coercion are behavioural concepts, whereas rape myth acceptance refers to attitudes and beliefs. The

current results, therefore, suggest that it is the emotional rather than behavioural aspect of psychopathy that has the power to affect a person's cognition.

One of the aims of the current chapter was to inquire into the differences in the acceptance of rape myths between males and females as well as prisoners and non-prisoners. The present study results support prior research findings reporting significant differences in rape myth acceptance between the genders (e.g. Aosved & Long, 2006; Barnett & Field, 1977; Carter et al., 2006; McMahon, 2010). In the current chapter, males were found to be more accepting of myths regarding rape, however, the magnitude of the differences in the means was small. Furthermore, the results show that prisoners were significantly more accepting of rape myths than non-prisoners. Previous studies indicated that both sexual offenders and non-offenders with callous characteristics tend to be sexually aggressive (e.g. Bernat et al., 1999; Caputo et al., 1999; Kosson & Kelly, 1997) and accepting of common rape myths (Mouilso & Calhoun, 2013). Moreover, research revealed that being exposed to male-dominated environments may lead to the neutralisation of negative attitudes pertaining to sexual coercion, which can result in greater rape myth acceptance (Boeringer, 1996; Koss & Gaines, 1993). However, previous examinations did not include data obtained from prisoners and non-prisoners in one analysis and the effect of imprisonment on rape myth acceptance has not been studied. One limitation of the current chapter is that the sample consisted of male offenders and both male and female non-offenders. Consequently, although prisoners were found to score significantly higher on rape myth acceptance, this could be influenced by the inclusion of female participants in the general population sample. Control for

selection bias in future research is therefore needed. This issue will be further explored in chapter four using a more robust statistical analysis.

The results of the present study should be interpreted in light of several limitations. First, the sample consisted of Polish adults and hence it cannot be certain that the findings can be generalised to other populations. Research with more diverse samples (i.e., participants from other cultural and linguistic backgrounds, and more diverse and extensive prison samples such as female offenders and recidivists) is needed in order to exclude the possibility that the effects reported in the model were due solely to cross-cultural differences. Another limitation is related to the use of self-report instruments and rating scales within a sample of prisoners whose command of language is poor, as suggested by the reported low educational level, and who have a short attention span. Therefore, the concern is that the participants could not fully understand the questions posed to them. However, this aspect of the study could not be controlled by the researcher. Finally, a question inquiring into participants' history of sexual aggression was not included in the present questionnaire. Consequently, it is not possible to determine whether greater rape myth acceptance precedes sexual offending, or is a consequence of sexual misconduct (i.e., greater acceptance is developed to reduce guilt and shame following perpetration). The specified model could be extended by introducing sexual aggression as an additional outcome variable. This would add an important behavioural dimension to the solution.

The strength of this study was the use of a sample of prisoners and a sample of general population in order to identify characteristics predicting rape myth acceptance. Previous research focused on college students or sexual

offenders, hence, despite the aforementioned limitations, the results of the present study provide a substantial contribution to the existing literature on rape myth acceptance. Moreover, the present research utilised a sophisticated analytic technique (SEM) which allowed for the inclusion of latent variables in one analysis and hence a model of rape myth acceptance could be specified and tested. This has not been done in the previous empirical investigations of the acceptance of myths regarding rape.

The results reported in the present chapter suggest that policy makers seeking to reduce violence against women should focus resources on specially designed educational programmes directed towards reducing stereotypes pertaining to rape as well as develop empathic engagement with others. Given the findings of past and present research, it is recommended that programmes addressing the specific needs of males and females are created. Furthermore, children who were exposed to violence either as witnesses or victims should be the main target of such educational programmes. Strayer and Roberts' (1989) study demonstrated a significant association between empathy, role-taking, and imaginative thinking. Therefore, teaching children how to feel for others and understand others' emotions, whilst incorporating all the correlated elements into one comprehensive intervention programme could prevent the development of dysfunctional beliefs and attitudes about interpersonal violence against women.

Overall, the findings of the present chapter suggested that Callous Affect and childhood exposure to violence may serve to increase individual's rape myth acceptance. Consequently, this study adds to the growing body of literature documenting the importance of personality variables in explaining sexual

aggression (e.g., Kosson et al., 1997; Moulso & Calhoun, 2012; Voller & Long, 2010).

CHAPTER 4

Rape Myth Acceptance and Correlated Psychological Factors within a Sample of Prisoners and Non-prisoners – Application of propensity score analysis

Abstract

The current study sought to assess the utility of imprisonment, age, gender, level of education, upbringing, relationship status, childhood exposure to violence, associations with criminal friends, loneliness and social dissatisfaction in childhood, attachment style with mother, father, and intimate partner, aggression, and four factors of psychopathy (Interpersonal Manipulation, Callous Affect, Erratic Lifestyle, and Antisocial Behaviour) as predictors of rape myth acceptance among a sample of Polish prisoners ($n = 98$) and non-prisoners ($n = 98$). This research used a quasi-experimental design with propensity score matching in order to control for selection bias. Post-matching multiple regression analysis was carried out in order to examine which variables should be included in regression model to predict rape myth acceptance. Post-matching regression results indicated that maternal anxious and avoidant attachment, Callous Affect, and trait aggression were significant predictors of rape myth acceptance. These findings provide a strong support for the role of early childhood experiences and personality characteristics in the prediction of cognitive distortions pertaining to rape and victim culpability.

4.1 INTRODUCTION

Structural equation model described in detail in the previous chapter revealed a significant role of Callous Affect and childhood exposure to violence in rape myth acceptance. This is in line with earlier research results which suggested that individuals with more callous traits tend to be sexually aggressive (Bernat et al., 1999; Caputo et al., 1999; DeGue & DiLillo, 2004; Knight & Sims-Knight, 2003; Kosson & Kelly, 1997). Blair's (1995) theoretical construction of Violence Inhibition Mechanism (VIM), whose absence was suggested to lead to sexually coercive behaviours, was found to explain the process of rape myth acceptance very well (Knight & Guay, 2007). A direct effect of Callous Affect on the readiness to accept rape myths was reported by Mouilso and Calhoun (2013).

Furthermore, no previous research examined the direct relationship between exposure to violence and acceptance of rape myths, however, a significant effect of exposure to violence was reported on sexual coercion (Caputo et al., 1999; Knight & Sims-Knight, 2003; Simons et al., 2002). Moreover, prior studies revealed that exposure to films portraying violent sexuality increases the acceptance of interpersonal violence against women (Malamuth & Check, 1981) and rape myths (Allen et al., 1995; Kahlor & Morrison, 2007). It was also reported that individuals with a predilection for violent and sex films are likely to be more accepting of rape stereotypes (Emmers-Sommer et al., 2006). This is consistent with the contagion (or copycat) effect theory, suggesting that aggressive behaviours can be modelled or copied from the media (Bartol & Bartol, 2014).

Analysis in the previous chapter demonstrated that developmental antecedents play an important role in accounting for stereotypical thinking about rape. In addition, t-test results revealed prisoners to be significantly more accepting of rape myths than non-prisoners. T-tests assess whether the means of two groups (prisoners vs. non-prisoners) are statistically different, however, they lack the power to control for additional covariates which can have a significant effect on the outcome of the analysis. In this chapter, in order to extend the findings of the earlier study, further psychological characteristics and their role in rape myth acceptance were examined. This was achieved with the use of propensity score matching (PSM), which allows to match treatment (prisoners) and control (non-prisoners) participants on a large number of covariates.

Given the originality of the topic under investigation and the statistical technique applied to make predictions, it was anticipated that this study would make a significant contribution to the research on rape myth acceptance. In this chapter, the PSM technique is briefly explained and discussed. Thereafter, the focus is on theoretical concepts such as attachment, loneliness and social dissatisfaction as well as aggression which were considered in relation to stereotypical thinking about rape.

4.1.1 Propensity score matching

Observational studies are often utilised in psychological, criminological and medical research. However, in such studies, researchers have no control over the assignment to treatment condition. Accordingly, differences in background variables between participants may have a significant influence on treatment effects, which in turn may result in misleading findings (D'Agostino, 1998).

Matching procedures can be used to identify for each participant in the treatment group one person in the control group who would be similar on a chosen number of covariates (Apel & Sweeten, 2010). The PSM technique, first introduced by Rosenbaum and Rubin (1983), attempts to assess the effect of treatment by accounting for covariates and hence correcting selection bias in making estimates (Rubin, 2006).

The statistical procedure has already found application in a number of psychological research studies. For example, Boduszek, Hyland and Bourke (2012) utilised a quasi-experimental design with propensity score matching in order to assess the predictive utility of personality, family violence, associations with criminal friends, peer rejection, parental attachment, and parental supervision in explaining homicidal behaviour within a sample of 144 recidivistic offenders. Boduszek, Shevlin, Hyland and Adamson (2013) employed the statistical technique to investigate the impact of personality traits (Eysenck's model) on criminal thinking style.

Indeed, unlike traditional adjustment methods (i.e. stratification, matching and covariance adjustment), the PSM procedure allows to compare participants on a large number of characteristics (D'Agostino, 1998). By reducing the selection bias, PSM produces samples of individuals which are ready for comparison. "The PSM model basically asks: What would have happened to those who, in fact, did receive treatment, if they had not received treatment?" (Ozer & Engel, 2012, p. 107). In the current study, the PSM model asks: How accepting of rape myths would a person be if they were subject to imprisonment? In order to estimate this probability, the PSM technique is used to combine a number of covariates to calculate a single propensity score for each participant.

PSM procedure is composed of three steps: assessment of propensity scores, demonstration of covariate balance, and assessment of the effects of treatment. Estimation of propensity scores is achieved by including covariates of interest into logistic regression analysis as predictors. Accordingly, propensity scores combine a large number of predictors into a single predictor for the treatment and control group, which allows to make meaningful comparisons between the groups (Ozer & Engel, 2012).

4.1.1.1 Matching

Studies in which treatment and control groups are compared usually face the problem of having more control than treated participants. Matching is a technique which allows to select control participants who are most closely matched on background variables with treated participants based on their propensity score. Rosenbaum and Rubin (1985) described three different matching procedures: nearest available matching on the estimated propensity score, Mahalanobis metric matching including the propensity score, nearest available Mahalanobis metric matching within calipers defined by the propensity score.

In the nearest available matching on the estimated propensity score method treated and control participants are randomly ordered and then the first treated subject is matched with the most similar control subject. Once matching between two participants is complete, they are removed from the pool. The process is repeated for each treated participant.

An alternative method, Mahalanobis metric matching including the propensity score, consists of ordering treated and control participants randomly and calculating the Mahalanobis distance between them. The Mahalanobis

distance is calculated using all background variables, and an additional covariate - the logit of the estimated propensity score. Subsequently, participants are matched based on the smallest distance.

The final procedure, nearest available Mahalanobis metric matching within calipers defined by the propensity score, is a combination of the two above methods.

All control subjects within a present amount (or calliper) of the treated subject's estimated propensity score ($\hat{e}(X)$) or estimated logit of the propensity score ($q(X)$) are then selected, and Mahalanobis distances, based on a smaller number of covariates, are calculated between these subjects and the treated subject. (D'Agostino, 1998, p. 2269)

This procedure requires that a pre-determined range of values is chosen. Rosenbaum and Rubin (1985) suggested that this should be one-quarter of the standard error of the logit of the propensity score.

All three procedures are useful for reducing bias. The first technique is the easiest to use and requires least computation. Mahalanobis metric matching including the propensity score is an equal per cent bias reducing (EPBR) method. The final procedure is considered to be the most powerful because it produces the best balance for the covariates in treatment and control groups (D'Agostino, 1998).

4.1.1.2 Strengths and limitations of PSM

Propensity scores are utilised in observational studies in order to eliminate bias and increase precision. Adjustments made with the use of the propensity score

tend to remove bias in the background variables (D'Agostino, 1998). The PSM method is especially useful when treated and control subjects are compared on a large number of covariates because it increases the understanding of differences between compared groups (Berzin, 2010; Brown, 2012). In such cases, PSM increases the reliability and validity of results. Employing the procedure is also beneficial when randomised designs are not possible (e.g. in criminal justice settings), and when scientific rigour of evaluations needs to be improved (Brown, 2012).

PSM simulates experimental design by isolating the treatment effect and hence predictions can be made with a greater amount of certainty. When multiple regression without PSM is employed, only the influence of potential confounding factors is assessed. Additionally, multivariate analysis performed after matching allows to include a larger number of covariates than would be possible if multiple regression without PSM was utilised (Guo & Fraser, 2010).

Nevertheless, researchers list certain limitations associated with the application of the PSM procedure. As mentioned above, using multiple predictors renders comparisons between treatment and control groups more reliable. However, Ozer and Engel (2012) explained, the more covariates are utilised, the smaller the chance of finding a suitable match. As a result, large initial sample sizes need to be obtained, and once the PSM technique is applied, a substantial amount of data is dropped from further analyses. Consequently, if not enough cases are gathered, an appropriate match may be difficult to achieve (Bryson, Dorsett & Purdon, 2002; Zhao, 2004). According to D'Agostino (1998), however, investigators using PSM are not confronted by the problem of not being able to find suitable matches for treated participants. This is because covariates are

included in the analysis simultaneously and a single scalar variable is created, which makes matching relatively easy. A more serious problem related to the selection of participants seems to be the difficulty to find appropriate number of comparison participants within certain contexts, such as criminal justice settings (Brown, 2012).

Furthermore, Ozer and Engel (2012) noted that the PSM requires that enough participants in the treatment group are recruited. Baser (2006) argued that treatment participants should constitute at least 10% of the total number of cases. If this condition is not fulfilled, there may not be enough cases for a meaningful PSM model to be created. Moreover, it is crucial that the outcome variable is not included as one of the predictors when propensity scores are estimated. Otherwise, variation in the outcome variable would be accounted for twice and hence no significant differences between the groups would be found (Rubin, 1997). Finally, Shadish (2013) warned that not all covariates chosen by investigators may be useful in reducing bias. In order to retain the bias-reducing power of the PSM procedure, it is important to identify effective variables with the use of theory (Astbury, 2012).

4.1.2 Childhood experiences

It was suggested that family factors such as attachment and relations with peers affect a child's growth and future behavioural as well as thinking patterns. Criminal behaviour in adults can be traced back to their childhood years. Attention in this section turns to childhood factors useful in explaining the emergence of dysfunctional attitudes towards rape.

It was noted that the creation of affective bonds (attachment) between infant and parents is pivotal for child's personality development (Bacon & Richardson, 2001; Bowlby, 1997; Fonagy, 2001). Early deprivation and the failure to create a secure attachment with the carer can result in dangerously violent behaviour (De Zulueta, 1993). Insecure attachment may lead to emotional as well as social problems as the child's patterns of relating to others develop in a distorted manner (Lieberman, 2004). George and Main's (1979) study conducted with toddlers demonstrated that children who experience violence develop abusive behavioural patterns. Indeed, research revealed that violent teenagers and child killers were subject to neglect, maltreatment, and exposure to parental brutality (Heide, 1997). Raine, Brennan and Mednick (1997) asserted that disruption to the normal attachment development can culminate in unempathic, indifferent or psychopathic behaviour.

Bowlby's (1969) original attachment theory provides an important framework for explaining sexual offending. Bowlby suggested two possible forms of attachment between the infant and caregiver – secure and insecure. According to the theoretical model, infants who form a secure attachment feel comfortable in their mother's presence and readily explore the environment when she is around. They become distressed when the mother leaves, but regain their happiness when she returns. Other children may develop an insecure attachment, which is divided into two attachment styles: anxious and avoidant. Anxiously attached children display signs of anxiety and distress even with their mother being around. After separation, they may react with indifference or hostility. Infants with an avoidant attachment style, on the other hand, show little distress

regardless of whether the mother is present or not (Ainsworth, 1979; Bartol & Bartol, 2014).

Bowlby (1969) proposed that attachment is the primary behavioural system which ensures individual and species survival. The quality of attachment between a child and his caregiver is reflected in the child's self-worth as well as his view of the reliability of other individuals. In addition, the primary attachment has an impact on future interpersonal behaviours. It was suggested that healthy attachment is necessary for the development of empathy and the ability to cooperate, whereas insecure attachment may result in difficulty forming intimate relationships in adulthood. Adults with anxious attachment tend to worry about their partners returning the affection (Ainsworth, Blehar, Waters & Wall, 1979). Additionally, disorganised attachment may lead to coercion and violence (Bowlby, 1969).

The first mental impressions are left on the human psyche during the formation of mother-infant interactions. The object against which violence is indirectly aimed, thus, is often the mother herself (Ayers, 2003). This is reminiscent of the displaced aggression theory (Anderson & Bushman, 2002), which posits that if aggression cannot be expressed directly against the source of provocation, it might be transferred onto an innocent person or object. Therefore, consideration of the primary object is central for understanding processes which may lead to violent behaviour (Ayers, 2003; Stern, 1985). For the infant's development to be successfully completed, the close attachment with the mother needs to be interrupted by the father. If this course of action is not accomplished, anomalous attachment with the mother is likely to be formed, which can then lead to violent behaviour (Perelberg, 1999). According to Fonagy and Target (1995),

the father provides a child with the possibility to reflect. Perelberg (1999) established that violent individuals cannot maintain a healthy balance between male and female identifications, making it laborious to create a coherent identity. It was suggested that chronic domestic offenders are characterised by a fragile male identity and the use of violence serves to deflect having to identify with a female (Cartwright, 2002).

Furthermore, building on Bowlby's (1969) elucidation of the role of attachment in future behavioural patterns, Smallbone and Dadds (1998) suggested that mental models erected on the basis of disorganised attachment are prone to disorganisation themselves. This is likely to affect adult attachment, parenting style, and sexuality. Affective deficits arising from disrupted relational patterns can activate coercive sexuality as an attempt to restore emotional balance. Indeed, Blumenthal (2000) suggested that primary attachments are replicated in future relationships. Shaver's (1994; as cited in Smallbone & Dadds, 2000) data linked secure attachment with openness to broad sexual behaviours experienced within a stable relationship. Adults with avoidant patterns of attachment were reported to be more likely to engage in sex without love.

It was hypothesised that sexual offenders are characterised by avoidant (dismissing) attachment patterns (Ward, Hudson, Marshall & Siegert, 1995). Adshead (2002) reported that violent offenders tend to display dismissing attachment style, suggesting a diminished capacity to feel empathy for their victims. Smallbone and Dadds' (2000) study with 162 male undergraduate students revealed a significant contribution of childhood attachment to antisocial and coercive sexual behaviour. More specifically, maternal anxious attachment was significantly related to antisociality, whereas paternal avoidant attachment

was found to be associated with antisociality and sexual coercion. Nevertheless, Smallbone and Dadds (2001) failed to replicate these results in a study with 119 male undergraduates. In the latter examination, only maternal avoidant attachment was found to be significant in predicting coercive sexual behaviour. Due to these contradictory results, more studies examining attachment in relation to rape are warranted. Both, studies investigating behavioural and cognitive aspects of sexual aggression would be a valid contribution to the current understanding in the area of rape.

Furthermore, Marshall (1989, 2010) reported that sexual offenders are not able to build fulfilling intimate relationships, and are characterised by emotional isolation. This may be due to the insecure childhood attachment which persists into adulthood. Poor quality attachment bonds have an adverse effect on social skills and the ability to empathise with others. It was therefore hypothesised that loneliness and the lack of intimacy may be significant contributors to sexual offending. Garlick's (1989; as cited in Bumby & Hansen, 1997) study revealed child molesters and rapists to display lower levels of intimacy and higher levels of loneliness than non-sexual offenders. Similar results were obtained by Seidman, Marshall, Hudson and Robertson (1994), with intimacy being a better predictor of violence than loneliness. Bumby and Hansen (1997) investigated the issues of intimacy and loneliness within a sample of intrafamilial child molesters, rapists, violent but non-sexually offending inmates, and community controls. Findings demonstrated that child molesters and rapists expressed greater amount of loneliness, and suffered from more intimacy deficits than non-sexually offending prisoners and control participants.

Future behavioural patterns may also be affected by children's peer relations. During adolescence, the influence of parents starts to diminish, and children become more susceptible to peer influence (Mounts, 2002). Past studies demonstrated peer influence to be a significant predictor of adolescent substance abuse and delinquent behaviour (Coie & Miller-Johnson, 2001; Mounts, 2002). Moreover, peer rejection was identified as a risk factor leading to delinquency in adolescence and antisocial behaviour in adulthood (Cowan & Cowan, 2004; Dodge & Pettit, 2003; Laird, Jordan, Dodge, Pettit & Bates, 2001). Research suggests that peer rejection in the first grade might lead to the development of antisocial behaviour as early as by the fourth grade (Cowan & Cowan, 2004). Dodge et al.'s (2003) series of longitudinal studies with boys and girls provided evidence that early peer rejection predicts aggression. Parker and Asher's (1987) review and analysis of literature indicated that poor peer adjustment is predictive of criminality. In addition, peer-rejected children may be drawn to antisocial peers (Laird, Pettit, Dodge & Bates, 2005).

There are three major theories explaining the influence of deviant peer groups on antisocial behaviour. Firstly, some youngsters may become delinquent directly through an association with antisocial peers. According to this perspective, nearly every child is susceptible to such influences (Bartol & Bartol, 2014). Indeed, the differential association theory contends that criminal behaviour is learned in the social context. It is through contact with other people whose outlook on crime is favourable that an individual acquires similar definitions (Sutherland, 1947). This framework, however, has been criticised for its failure to explain why, given similar conditions, not all individuals adopt the same criminal definitions (Hollin, 2013). This limitation has been transcended by the second

theory which posits that aggressive, peer-rejected children gravitate towards similar antisocial youths. The third perspective suggests that peer-rejected children who are antisocial seek contact with other antisocial children which in turn amplifies their existing antisocial predispositions (Bartol & Bartol, 2014). Coie (2004) noted that the influence of deviant peer groups on the emergence of antisocial behaviour has been well documented in the literature. Researchers stressed the importance of the interaction between parental attachments and parental monitoring and their impact on the development of criminal associations (Agnew, 2001; Demuth & Brown, 2004; Ingram et al., 2007; Mack et al., 2007). Children who did not form healthy bonds with their parents and who were not sufficiently supervised are more likely to develop relationships with criminal friends which consequently leads to increased antisocial acts.

Although peer influence and peer rejection were found to be significant in predicting future behaviour, the effect of these factors on cognitive functioning, and especially cognitive distortions pertaining to rape, are still unknown and hence a closer examination is required.

The above theoretical frameworks and empirical studies address the problem of abnormal relationship with maternal and paternal object as an important factor in the formation of violent individuals. Although past research has linked disorganised childhood attachment with inappropriate sexual behaviours, studies in which different types of attachment would be considered and with more diverse groups of participants are still needed before final conclusions can be reached. Empirical research conducted up to date lends support to the speculation that violent and sexual offenders display insecure attachment patterns (Adshead, 2002; Smallbone & Dadds, 1998; Ward, Hudson

& Marshall, 1996), loneliness, and intimacy deficits (Bumby & Hansen, 1997; Garlick, 1989; Seidman et al., 1994). However, even though disrupt sexual behaviours have been examined, no previous studies inquired into the role of attachment, loneliness, peer rejection, and peer influence in cognitive distortions pertaining to rape and victim culpability, which may be especially important in accounting for interpersonal violence against women.

4.1.3 Aggression

Aggression is a psychological concept defined as an intent and attempt to harm another person or destroy an object (Bartol & Bartol, 2014). Aggression was demonstrated to form significant positive correlations with rape-supportive attitudes. For example, Lottes (1991) reported a significant association between sexual aggression and rape myths. Smith and Stewart's (2003) study within a sample 282 college students revealed hostility towards women and rape-supportive attitudes to be significant predictors of sexual aggressiveness in sport athletes but not in control participants. Decrease in negative attitudes pertaining to rape, on the other hand, was found to reduce sexual aggression (Lanier 2001; Lonsway & Fitzgerald, 1994). Morry and Winkler (2001) reported that negative rape beliefs lead to increased acceptance of coercive behaviours towards women. Therefore, distorted cognitions support and maintain aggression against women (Sierra, Santos-Iglesias, Gutiérrez-Quintanilla, Bermúdez, Buela-Casal, 2010).

Although significant associations between sexual aggressiveness and rape-supportive beliefs were reported, only few studies inquired into the role of aggressive personality in explaining rape myth acceptance. Malamuth, Sockloskie, Koss, and Tanaka's (1991) proposed a theoretical framework,

referred to as the Confluence model, explaining sexual assault perpetration. The model posits that hostile masculinity and impersonal sex increase the likelihood of sexual aggressiveness. Men who score high on hostile masculinity were found to distrust and dominate women (Malamuth, Linz, Heavey, Barnes & Acker, 1995). Jacques-Tiura, Abbey, Parkhill and Zawacki (2007) applied the Confluence model in a study on men's misperceptions of women's sexual intentions. Using structural equation modelling, the frequency of misperception was found to be predicted by hostile masculinity, impersonal sex, drinking during dates, and sexual situations. The model was a good fit for the data ($\chi^2(53, N = 356) = 139.03, p < .01, NFI = .92, NNFI = .92, CFI = .95, RMSEA = .068$). Similar results were obtained by Sherrod (2003), who demonstrated individuals more accepting of rape myths to have increased hostility levels. Endorsement of rape myths was also associated with verbal aggression (Forbes, Adam-Curtis & White, 2004). Sierra et al.'s (2010) study within a sample of 700 men and 800 women showed significant correlations between rape-supportive attitudes and physical aggression ($r = .23$), verbal aggression ($r = .10$), anger ($r = .13$), as well as hostility ($r = .24$).

Previous research evidenced that rape myth acceptance affects proclivity towards sexual violence (Bohner, Siebler & Schmelcher, 2006; Malamuth, 1981). Rape-supportive attitudes were found to play a role in the acceptance of coercive behaviours towards women (Morry & Winkler, 2001). Additionally, rape myth acceptance was revealed to be higher among perpetrators of sexual violence (Dean & Malamuth, 1997; Locke & Mahalik, 2005; Lottes, 1991; Smith & Stewart, 2003). Studies examining the role of aggressive personality in rape-supportive attitudes are still rare, however, preliminary results suggest that the

propensity for endorsing rape stereotypes is positively associated with increased levels of hostility, verbal aggression, physical aggression, and anger (Forbes et al., 2004; Jacques-Tiura et al., 2007; Sierra et al., 2010). Moreover, trait aggression was reported to be predicted by aggression directed against a partner, and sexual jealousy (Archer & Webb, 2006). Nevertheless, studies utilising more robust statistical analyses and with more diverse samples are still needed in order to support these findings. Given the above reported research results, it is predicted that aggression will be a significant predictor in accounting for rape myth acceptance. The present examination has the strength to shed light on the association between aggressive personality and the likelihood to endorse rape stereotypes.

4.1.4 Current study

Analysis in the previous chapter indicated that developmental antecedents play an important role in explaining stereotypical thinking about rape. Factors found to have a significant positive effect on rape myth acceptance included Callous Affect and childhood exposure to violence. Moreover, empirical research conducted up to date suggests that sexual offenders display insecure attachment patterns (Smallbone & Dadds, 1998; Ward et al., 1996), loneliness, and intimacy deficits (Bumby & Hansen, 1997; Garlick, 1989; Seidman et al., 1994). However, previous studies failed to examine the role of attachment and loneliness in cognitive distortions pertaining to rape. Furthermore, preliminary research findings revealed a significant role of hostility, anger, verbal aggression, and physical aggression in rape myth acceptance (Forbes et al., 2004; Jacques-Tiura et al., 2007; Sierra et al., 2010).

Very few studies with sound methodological designs examining the role of psychological variables in rape myth acceptance exist. Therefore, the main purpose of this chapter was to expand the current understanding of how certain psychological factors influence rape-supportive attitudes. It was hypothesised that insecure attachment, loneliness and social dissatisfaction, associations with criminal friends, childhood exposure to violence, Callous Affect, and aggression would have an effect on rape attitudes. Based on results reported in the previous chapter, a significant effect of imprisonment on rape myth acceptance was predicted. These hypotheses were tested within a sample of prisoners and non-prisoners. In order to control for selection bias, participants were matched on the basis of whether they were subject to incarceration. This was achieved with the use of PSM procedure. Unlike traditional adjustment methods, the PSM technique allows for comparing participants on a large number of characteristics. By reducing the selection bias, PSM produces samples of individuals which are ready for more reliable comparisons (D'Agostino, 1998).

4.2 METHOD

4.2.1 Participants

The sample of participants used for the study consisted of 292 non-prisoners and 98 prisoners. Prisoners were recruited at the Stargard Szczecinski Prison in Poland and all were male. Mean age was 27.38 years ($SD = 9.21$, range: 17-59). Most participants (65.3%; $n = 64$) reported having primary or middle school education, 32.7% ($n = 32$) secondary education, and 2% ($n = 2$) higher education. There were 85.7% ($n = 84$) of respondents who reported being single, and 14.3% ($n = 14$) who reported having a partner. Additionally, 75.5% ($n = 74$) participants reported having been brought up by both parents, 24.5% ($n = 24$) were brought up by single parents, relatives, foster parents or spent their childhood in a children's home.

The 292 non-prisoners were recruited at the University of Security in Poznan (Poland). The University offers part-time training courses with flexible timetables for working adults, many of whom are soldiers, police officers, firefighters etc. Participants ranged in age from 19 to 51 years ($M = 25.10$, $SD = 6.15$). As for gender composition, the sample consisted of 160 males (54.8%) and 132 females (45.2%). Most participants (79.5%; $n = 232$) reported being single, and 20.5% ($n = 60$) being in a relationship. Two hundred respondents (68.5%) indicated secondary school education as their highest level of education achieved, and 31.5% ($n = 92$) reported having a university degree. Finally, 90.4% ($n = 264$) of participants were brought up by both parents, whereas 9.6% ($n = 28$) were brought up by single parents, relatives, foster parents or in a children's home.

4.2.2 Measures

Self-Report Psychopathy Scale (SRP-III; Paulhus et al., in press). This is a self-report inventory modelled after the Psychopathy Checklist-Revised (PCL-R) (Hare, 2003) yet questions asked in SRP-III are less extreme and hence more appropriate for a subclinical sample. It is composed of 64-items (21 of which are scored reversely) which fall into four subcategories:

- (9) Interpersonal Manipulation (IPM), 16 items, (e.g. “I think I could "beat" a lie detector”; “I purposely flatter people to get them on my side”)
- (10) Callous Affect (CA), 16 items, (e.g. “I’m more tough-minded than other people”; “It tortures me to see an injured animal”)
- (11) Erratic Lifestyle (ELS), 16 items, (e.g. “I always plan out my weekly activities”; “I’d be good at a dangerous job because I make fast decisions”)
- (12) Antisocial Behaviour (ASB), 16 items, (e.g. “I never shoplifted from a store”; “I was convicted of a serious crime”).

Responses are measured on a five-point Likert scale with possible answers ranging from “strongly disagree” to “strongly agree”. Overall scores for the scale range from 0 to 256. Additionally, in order to account for cultural differences between Europe and America, where the instrument was created, item number six – “I have never stolen a truck, car or motorcycle” – was changed to: “I have never stolen a car, motorcycle or bicycle”.

Confirmatory factor analyses carried out in chapter two revealed the measure to be best captured by a bifactorial solution. It was found that the scale consists of four grouping factors (Interpersonal Manipulation, Callous Affect, Erratic Lifestyle and Antisocial Behaviour) and two hidden general factors

(Interpersonal/Affective and Antisocial/Lifestyle). It was demonstrated that the four method factors should form the basis of the instrument's subscales.

Internal consistency estimates of reliability for the current sample were examined with the use of Cronbach's alphas. All values proved to be acceptable (.92 for the full scale; .81 for IPM; .73 for CA; .73 for ELS; .86 for ASB).

Updated Illinois Rape Myth Acceptance Scale (IRMA; Payne et al., 1999; McMahon & Farmer, 2011). The original IRMA developed by Payne et al. (1999) consists of 45 items divided into seven subcomponents: *She asked for it; It wasn't really rape; He didn't mean to; She wanted it; She lied; Rape is a trivial event; Rape is a deviant event.* McMahon and Farmer (2011) updated the questionnaire by changing the wording of scale items and focusing on victim blaming. The revised version of IRMA consists of 19 items measured on a 5-point Likert scale (0 = "strongly disagree", 4 = "strongly agree"). Overall scores for the scale range from 0 to 76. Four of the original subcategories were used (*She asked for it; It wasn't really rape; He didn't mean to; She lied*) and a new subscale (Alcohol) was added. The alpha coefficient for the total scale was .87.

Internal consistency estimates of reliability for this sample were examined using Cronbach's alphas. All values proved to be acceptable (.89 for the full scale; .76 for *She asked for it*; .80 for *It wasn't really rape*; .70 for *He didn't mean to*; .87 for *She lied*; .68 for Alcohol).

The Recent Exposure to Violence Scale (REVS; Flannery et al., 2007). The REVS is a 22-item scale measuring children's experiences of violent and threatening events using a 4-point Likert scale (0 = "never", 3 = "almost every day"). Originally, the scale was divided into five subcategories: threats,

slapping/punching/hitting, beatings, knife attacks and shootings. For the purpose of the present study, the shooting subcategory of the inventory has been omitted. Gun ownership in Poland is strictly regulated by the Weapons and Munitions Act and civilian possession of guns is uncommon. Overall scores for the scale used in this study, therefore, range from 0 to 60. Additionally, given that the scale was administered to adult participants and the focus was on their exposure to violence in childhood, all items were re-written in the past tense and the prompting phrase was changed from “How often in the past year...?” to “How often in your childhood...?”.

Cronbach’s alphas for this sample were calculated for the total scale (.89) and all four subscales (.77 for Threats; .73 for Slapping, hitting, punching; .72 for Beatings; .72 for Knife attacks).

The Buss-Perry Aggression Questionnaire – Short Form (BPAQ; Buss & Perry, 1992; Bryant & Smith, 2001). The inventory was designed to measure the level of reactive aggression. The abridged version of the questionnaire was derived from the Buss-Durkee Hostility Inventory (BDHI). The original BPAQ consists of 29 items rated on a 5-point Likert scale (0 = “extremely uncharacteristic of me”, 5 = “extremely characteristic of me”). Confirmatory factor analysis revealed the existence of four factors. These are:

- (5) Physical Aggression (PA) (e.g.: “I get into fights a little more than the average person”)
- (6) Verbal Aggression (VA) (e.g.: “I often find myself disagreeing with people”)
- (7) Anger (A) (e.g.: “I have trouble controlling my temper”)
- (8) Hostility (H) (e.g.: “I am sometimes eaten up with jealousy”).

A later study by Bryant and Smith's (2001), however, revealed some items to have low or multiple loadings and hence they were removed from the scale. The results yielded a 12-item, four-factor refined model of the BPAQ, which was found to be psychometrically superior to the original, unabridged scale. Maxwell (2007) translated and administered both the original and the abridged version of the aggression questionnaire to 1,219 Hong Kong Chinese students. Confirmatory factor analyses revealed poor fit of the data to the 29-item scale, however, the shorter 12-item instrument's construct validity was supported.

The Buss-Perry Aggression Questionnaire was translated to Polish by the AMITY Institute and is widely referred to as the Amity version (Instytut AMITY, n.d.). It contains all 29 items from the original version of the questionnaire, however, for the purpose of the present research, only 12 items composing the abridged version of the instrument have been used. Overall scores for the scale range from 0 to 48. In this sample, Cronbach's alpha for three of the subscales fell below the acceptable range (total score = .83; Physical Aggression = .72; Verbal Aggression = .64; Hostility = .63; Anger = .63).

The Relationships Structure Questionnaire (ECR-RS; Fraley, Heffernan, Vicary & Brumbaugh, 2011). The scale is a self-report measure of adult attachment. It was developed on the basis of the Experiences in Close Relationships – Revised Questionnaire (ECR-R) (Fraley, Waller & Brennan, 2000), which is a 36-item measure consisting of two subscales: avoidance and anxiety. Fraley et al. (2000) explained that individuals who formed an avoidant attachment tend to feel discomfort in intimate relationships and strive to remain independent. Anxious attachment, on the other hand, can be characterised by the fear of losing the partner or being rejected. ECR-RS, as opposed to its predecessor, assesses

attachment across relationships with mother, father, romantic partner and best friend. Each relationship is measured on a 9-item subscale. Avoidance scores are computed by adding the results for items 1-6 (reverse scoring for items 1-4), whereas anxiety – by summing the scores for items 7-9. Answers are recorded on a 6-point Likert scale ranging from “strongly disagree” to “strongly agree”. Overall scores for anxiety subscale range from 0 to 15, whereas scores for avoidance subscale range from 0 to 30. The test-retest reliability for individual scales were found to be: .80 for parental relationships and .65 for romantic relationships. The results were found to be predictive of relationship satisfaction as well as the likelihood of splitting up (Fraley et al., 2011).

Internal consistency estimates of reliability for this sample were examined for the total scale (.94) and eight subscales (.84 for mother avoidance; .87 for mother anxiety; .90 for father avoidance; .91 for father anxiety; .83 for partner avoidance; .91 for partner anxiety; .87 for friend avoidance; .91 for friend anxiety).

Criminal Friend Index (CFI; Mills & Kroner, 1999). The inventory is a part of The Measure of Criminal Attitudes and Associates (MCAA) and is used to quantify criminal associates. Participants are asked to recall four adult friends with whom they spend most of their time and answer the following questions about them: (1) Has this person ever committed a crime?; (2) Does this person have a criminal record?; (3) Has this person ever been to prison; (4) Has this person tried to involve you in a crime?. In the current study, the CFI was used to collect retrospective data. Accordingly, respondents were asked to recall friends with whom they used to spend most their time in childhood. They were then instructed to think of them as adults and answer questions about them.

Loneliness and Social Dissatisfaction Questionnaire (LSDA; Cassidy & Asher, 1992). The purpose of administering the scale is to obtain information about children's feelings of loneliness and dissatisfaction with peer relations. The original questionnaire, prepared by Asher, Hymel and Renshaw (1984) consisted of 24 statements, 8 of which were filler items focusing on hobbies and interests. In Cassidy and Asher's (1992) revised version of the scale, one questionnaire item was omitted and all items were worded as questions. Since the present study assumes a retrospective approach (the measure is administered to adults who are asked to recall their primary school years) all items were presented in past tense. Items are coded 0 (no), 1 (sometimes), and 2 (yes). Total scores range from 0 to 30. Cassidy and Asher (1992) reported the Cronbach's alpha for the scale of .88, which indicated good internal reliability of the self-report measure. Cronbach's alpha for the sample studied here was .89.

All questionnaires (except for the BPAQ which was already available in Polish) were translated to Polish by a professional translator for the purpose of the current study. In order to ensure that the meaning of the original inventories has been retained, the Polish versions were translated back to English. Both original translations and back-translations were then shown to three experts in translation who suggested minor changes.

4.2.3 Procedure

The ethical approval for this project was granted by the University of Huddersfield, University of Security in Poznan, and the Polish Prison Service ethical review boards. The measures were administered to the non-prisoner sample in groups of up to 40 individuals by lecturers working at the University of

Security in Poznan. Prisoners were asked to complete the questionnaires in their living units by the prison psychologist. Appropriate staff were instructed by the principal researcher about procedures involved in conducting this study. Participants gave an informed consent to take part in the study. All participants completed an anonymous, paper and pencil questionnaire which was compiled into a booklet along with an instruction sheet and a consent form attached to the front of the booklet. Each participant was provided with a brief description of the study including the general area of interest, how to complete the questionnaire, and the general expected completion time. Participants were assured about the confidentiality of their participation and informed that they could withdraw from the study at any time. The participation was voluntary without any form of reward. On completion, participants were debriefed on the purpose of the study.

4.2.4 Statistical analysis

A quasi-experimental design was chosen for the study in order to reduce bias in the comparison of a treatment (prisoners) and control (non-prisoners) group (Rosenbaum & Rubin, 1985; Rudner & Peyton, 2006). This research design allows to deal with treatment groups, however, unlike in an experimental design, data are collected outside the laboratory using opportunistic sample. Quasi-experiments, therefore, have the power to assess plausible causation, but at the same time retain the experimental realism (Shadish, Cook & Campbell, 2002).

Moreover, it was hypothesised that the treatment group (prisoners) would differ from the control group (non-prisoners) on a number of psycho-social variables (age, level of education, upbringing, relationship status, childhood exposure to violence, Criminal Friend Index, Loneliness and Social

Dissatisfaction, mother avoidance, mother anxiety, father avoidance, father anxiety, Interpersonal Manipulation, Callous Affect, Erratic Lifestyle, and Antisocial Behaviour), and that these variables would have an impact on the outcome variable (rape myth acceptance). With the use of these covariates, propensity scores (ranging from 0 to 1) were estimated for all participants in order to assess their conditional probability of assignment to the treatment group. In the present chapter, imprisonment is a dichotomous “treatment” variable. The value of “0” is assigned to non-prisoners (control group), and the value of “1” to prisoners (treatment group). Therefore, the predicted likelihood was utilised to create a matched sample of treatment and control respondents. The propensity score is calculated by summarising information from all covariates into one propensity score using logistic regression predicting prisoner group membership (Boduszek et al., 2013; D’Agostino, 1998). This significantly facilitates the process of matching, especially when a large number of confounding variables is analysed. Importantly, the procedure allows for balancing the distribution of covariates between participants assigned to treatment and comparison groups (Shadish, 2013). Fifteen continuous covariates were used in the current model: age, level of education, upbringing, relationship status, childhood exposure to violence, Criminal Friend Index, Loneliness and Social Dissatisfaction in childhood, maternal avoidant attachment, maternal anxious attachment, paternal avoidant attachment, paternal anxious attachment, Interpersonal Manipulation, Callous Affect, Erratic Lifestyle, and Antisocial Behaviour.

Once the propensity scores for all individuals have been calculated, a matching technique is utilised to match prisoners and non-prisoners. In this study, therefore, matching allowed to select participants from the general population

who are matched with the prisoners on background covariates (D'Agostino, 1998). The nearest neighbour matching without replacement technique (Guo & Fraser, 2010) was chosen for the current research. The matching procedure was performed in "MatchIt" package in R version 3.0.2. Participants' propensity scores were used to match prisoners and non-prisoners at one-to-one ratio. During the procedure, the matches for the treatment group are made with the least possible number of matches first (Boduszek et al., 2013). Subsequently, multiple regression analysis was carried out on the matched sample in order to examine which variables should be included in regression model to predict rape myth acceptance.

4.3 RESULTS

4.3.1 Propensity score results

The original sample size consisted of 390 participants, of which 292 were non-prisoners and 98 were prisoners. Firstly, the differences between groups were assessed on all covariates included in Table 4.1. Previous research showed that t-test scores can be unreliable when large size samples are included in the analysis (Austin, 2008; Loughran et al., 2010; Rosenbaum & Rubin, 1985). Therefore, the first step in determining covariate imbalance was to assess the average difference in means, as a percentage of the average standard deviation. Importantly, the standardized absolute percentage difference is calculated on the basis of means, and hence the unit of measurement or the sample size do not impact the results (Rosenbaum & Rubin, 1985; Loughran et al., 2010). The following formula was used to estimate the standardized absolute differences in percentages:

$$100(M_t - M_c) / [(s_t^2 + s_c^2) / 2]^{1/2}$$

where M_t and M_c are the means, and s_t^2 and s_c^2 are the variances for the treatment and control groups respectively. According to Rosenbaum and Rubin (1985), a standardized absolute difference equal to or greater than 20% is suggestive of imbalance between the compared groups. Table 4.1 indicates that 12 of the covariates (age, education, upbringing, exposure to violence, Criminal Friend Index, Loneliness and Social Dissatisfaction, mother anxiety, father anxiety, Interpersonal Manipulation, Callous Affect, Erratic Lifestyle, Antisocial

Behaviour) were imbalanced in the original full sample (before matching). The results revealed the necessity of using propensity score matching.

Table 4.1

Absolute standardized difference between prisoners and non-prisoners before and after matching

	Before Matching	After Matching
Age	29.05	22.37
Education	-190.97	-169.61
Upbringing	-40.27	-38.22
Relationship	-16.52	-18.64
Exposure to violence	69.68	55.03
Criminal Friend Index	103.08	85.49
Loneliness and Social Dissatisfaction	-27.19	-23.98
Mother avoidance	13.53	9.59
Mother anxiety	50.56	37.45
Father avoidance	-2.26	4.40
Father anxiety	24.94	14.02
Interpersonal Manipulation	24.39	6.31
Callous Affect	34.21	13.94
Erratic Lifestyle	73.68	39.32
Antisocial Behaviour	179.66	103.86

4.3.2 Nearest neighbour matching

Nearest neighbour or 1-to-1 matching was used for the current study. The following algorithm describes the procedure:

$$C(P_i) = \min_j \|P_i - P_j\|, \quad j \in I_0$$

where P_i and P_j are the propensity scores for treated and control participants respectively, I_1 is the set of treated participants, and I_0 is the set of control participants. A neighbourhood $C(P_i)$ contains a treated participants i (i.e., $i \in I_1$) to whom the most similar control participant j (i.e., $j \in I_0$) has been matched, so that the absolute difference of propensity scores between them is the smallest among all possible pairs of propensity scores. When matching is performed without replacement, once a j is paired with an i , j is removed from the I_0 set. Consequently, in the nearest neighbour pair matching (or greedy matching), a single j is matched with each i and the pairs are included in the $C(P_i)$ (Guo & Fraser, 2010).

After running propensity score matching, 98 successfully paired matches were obtained ($N = 196$). Hence, 194 cases from the control group were removed from the analysis. Finally, the following procedure was employed in order to calculate the percentage difference in bias reduction for originally imbalanced variables (D'Agostino 1998; Rosenbaum & Rubin 1985):

$$100(1 - b_m / b_i)$$

where b_i and b_m are the prisoner and non-prisoner covariate mean differences before and after matching respectively. The results in Table 4.2 (last column) demonstrate that all variables improved their balance after matching except relationship status and father avoidance (Note: they did not exceed 20% standardized absolute difference – see Table 4.1 second column).

Table 4.2

Characteristics of unmatched (n = 312) and matched (n = 266) sample and balance improvement after matching

Covariates	Means before matching			Means after matching			% Balance Improvement
	P	NP	M difference	P	NP	M difference	
Distance (propensity score)	.84	.06	.78	.84	.15	.68	12.35
Age	27.38	25.10	2.27	27.38	25.58	1.80	21.05
Education	1.37	2.32	-.95	1.37	2.05	-.68	27.86
Upbringing	.76	.90	-.15	.76	.90	-.14	4.13
Relationship	.14	.21	-.06	.14	.21	-.07	-14.06
Exposure to violence	11.51	7.14	4.37	11.51	7.86	3.65	16.34
CFI	9.47	1.30	8.17	9.47	2.31	7.16	12.30
LSD	25.90	27.14	-1.24	25.90	27.01	-1.11	10.23
Mother avoidance	9.02	8.16	.86	9.02	8.41	.61	28.76
Mother anxiety	3.87	1.95	1.92	3.87	2.39	1.48	23.02
Father avoidance	11.14	11.33	-.18	11.14	10.80	.35	-90.12
Father anxiety	3.82	2.78	1.04	3.82	3.20	.61	41.07
IPM	28.47	26.26	2.21	28.47	27.88	.59	73.17
CA	27.85	25.23	2.61	27.85	26.73	1.11	57.45
ELS	34.82	28.27	6.55	34.82	31.32	3.50	46.53
ASB	27.67	11.15	16.52	27.67	18.55	9.12	44.79
Sample size	98	292		98	98		

Note. P=Prisoners; NP=Non-Prisoners; 194 cases unmatched; CFI = Criminal Friend Index; LSD = Loneliness and Social Dissatisfaction; IMP = Interpersonal Manipulation; CA = Callous Affect; ELS = Erratic Lifestyle; ASB = Antisocial Behaviour.

4.3.3 Post-matching standard multiple regression analysis

Standard multiple linear regression was performed in order to verify which of the included covariates (full set: treatment variable (prisoner/non-prisoner), age, level of education, upbringing, relationship status, exposure to violence, Criminal Friend Index, Loneliness and Social Dissatisfaction, mother avoidance, mother anxiety, father avoidance, father anxiety, Interpersonal Manipulation, Callous Affect, Erratic Lifestyle, Antisocial Behaviour, partner avoidance, partner anxiety, aggression, and sex) could be used to predict rape myth acceptance. Preliminary analyses revealed no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity. The proposed regression model explained 15% ($\text{adj}R^2 = .15$) of the variance in rape myth acceptance ($F_{(20, 175)} = 2.66, p < .001$). Four predictor variables were statistically significant, with mother anxiety recording a higher beta value than Callous Affect, mother avoidance, and aggression (see Table 4.3). These results indicate that childhood insecure attachment with mother-figure, aggressive personality, and unemotional traits have a significant impact on rape-supportive attitudes.

Table 4.3

Post-matching standard multiple regression analysis predicting rape myth acceptance

	R ²	adjR ²	B	SE	β
Model	.23	.15			
Type			1.88	2.76	.08
Age			-.09	.14	-.06
Education			-.01	2.24	-.01
Upbringing			2.34	2.30	.07
Relationship			1.21	2.62	.04
Exposure to violence			-.04	.16	-.02
CFI			-.15	.11	-.01
LSD			.02	.21	-.10
Mother avoidance			.37	.19	.19*
Mother anxiety			.78	.30	.25**
Father avoidance			-.05	.16	-.03
Father anxiety			-.15	.29	-.05
IPM			.02	.14	.02
CA			.34	.16	.22*
ELS			-.08	.13	-.06
ASB			-.20	.13	-.16
Partner avoidance			.06	.17	.03
Partner anxiety			-.11	.24	-.04
Aggression			.27	.12	.18*
Sex			.23	2.67	.01

Note. P=Prisoners; NP=Non-Prisoners; 194 cases unmatched; CFI = Criminal Friend Index; LSD = Loneliness and Social Dissatisfaction; IMP = Interpersonal Manipulation; CA = Callous Affect; ELS = Erratic Lifestyle; ASB = Antisocial Behaviour.
*p < .05. **p < .01.

4.4 DISCUSSION

The main purpose of this chapter was to expand the current understanding of how certain psychological factors influence rape-supportive attitudes through the application of propensity score matching procedure. It was conceptualised that childhood insecure attachment as well as loneliness and social dissatisfaction would have a significant effect on stereotypical thinking about rape. Previous research indicated that sexual offenders display insecure attachment patterns (Smallbone & Dadds, 1998; Ward et al., 1996), loneliness, and intimacy deficits (Bumby & Hansen, 1997; Garlick, 1989; Seidman et al., 1994). However, to date no evidence exists verifying the correlation between attachment style, loneliness, and associations with criminal friends and rape myth acceptance. Another psychological factor studied here in relation to rape myth acceptance was aggressive personality. Previous results suggest that the likelihood to endorse rape stereotypes is positively associated with increased levels of hostility, verbal aggression, physical aggression, and anger (Forbes et al., 2004; Jacques-Tiura et al., 2007; Sierra et al., 2010). Trait aggression was also reported to be correlated with aggressive behaviour directed against intimate partner, and sexual jealousy (Archer & Webb, 2006). Analysis in the previous chapter demonstrated that one psychopathy dimension, Callous Affect, plays an important role in rape myth acceptance. Another significant effect was reported for childhood exposure to violence. Nevertheless, studies utilising more robust statistical analyses and with more diverse samples are still needed in order to support the tentative findings.

In the present study, two different samples of participants (prisoners and non-prisoners) were utilised. Consequently, applying propensity score matching was deemed an appropriate technique for reducing selection bias. Propensity

score matching followed by post-matching multivariate analysis allows to simulate experimental randomisation and control the covariates in a cross-sectional study design. Therefore, predictions can be made with a greater degree of certainty (Boduszek et al., 2013). Given the originality of the topic under investigation and the statistical procedure applied to make predictions, this study provides important empirical evidence to the research on rape myth acceptance.

Childhood insecure attachment with the mother-figure was found to significantly contribute to the level of rape myth acceptance. The strongest effect was found for mother anxiety, however, mother avoidance was also a significant predictor. The results indicate that individuals who formed anxious and avoidant attachment with the mother-figure are more likely to endorse negative rape attitudes. Indeed, past research found violent and sexual offenders to display avoidant attachment style (Adshead, 2002; Ward et al., 1995). Contrary to Smallbone and Dadds' (2000) findings, no effect of avoidant paternal attachment was found. One possible explanation of these results is that the lack of an appropriate pattern of relating to mother (the first woman in a person's life) is reflected in cognitive functioning which affects the perception of other women. Moreover, poor quality attachment may have an adverse effect on the ability to empathise with others (Adshead, 2002). This is in line with Bowlby's (1969) conceptualisation of the importance of the primary attachment, and Lieberman's (2004) suggestion that disorganised attachment may lead to emotional as well as social problems. Smallbone and Dadds' (1998) suggestion that mental models erected on the basis of disorganised attachment are prone to disorganisation themselves was found to be accurate. Moreover, the assumption that mother-infant interactions are especially important for the child's social, emotional and

cognitive development has been supported. More specifically, it was proposed that the object against which violence is indirectly aimed is often the mother herself (Ayers, 2003; Stern, 1985). This is reminiscent of the displaced aggression theory (Anderson & Bushman, 2002) which suggests that aggression can be transferred onto an innocent person or object when aggressing against the source of provocation is impossible. Therefore, displaced aggression against the mother-figure may result in negative attitudes towards other women. Finally, Smallbone and Dadds (2001) found maternal avoidant attachment to be predictive of sexual coercion. This shared variance between sexual coercion and rape myth acceptance may be indicative of a potential association between the two constructs.

Another statistically significant predictor of rape myth acceptance was aggressive personality. This finding supports the confluence model of sexual assault perpetration which posits that hostile masculinity and impersonal sex increase the likelihood of sexual aggressiveness (Malamuth et al., 1991), and men's misperceptions of women's sexual intentions (Jacques-Tiura et al., 2007). Also in line with the present findings are earlier reports of increased levels of hostility, anger, physical aggression, and verbal aggression among individuals more accepting of rape myths (Sherrod, 2003; Sierra et al., 2010). These findings indicate that individuals with increased hostility levels are more likely to hold negative attitudes towards the victims of rape. In addition, their lack of trust in people suggests that they may not take a woman's refusal to have sex seriously, and disbelieve women who claim to have been raped.

When looking at the psychopathy dimensions in predicting associations with rape myth acceptance, the findings suggest a significant role of Callous

Affect. Participants who scored higher on the Callous Affect subscale were more likely to accept stereotypes about rape. This is in line with previous research results which demonstrated that individuals with more callous characteristics display more sexual aggression (Bernat et al., 1999; Caputo et al., 1999; DeGue & DiLillo, 2004; Knight & Sims-Knight, 2003; Kosson & Kelly, 1997; Wheeler et al., 2002). Blair's (1995) theoretical construction of VIM whose absence was suggested to lead to sexually coercive behaviours was found to explain the process of rape myth acceptance very well (Knight & Guay, 2007). A direct effect of Callous Affect on rape myth acceptance was reported by Mouilso and Calhoun's (2013). Additionally, these results support and advance prior findings from the structural equation modelling presented in the previous chapter, which indicated a statistically significant association between callous traits and rape myth acceptance. Individuals displaying increased CU traits are not constrained by guilt or remorse in interpersonal relations (Helfgott, 2008), and have difficulties in processing negative emotional stimuli (Blair, 1999). Moral socialisation and incorporation of societal norms is contingent on emotional responsiveness to negative stimuli (Fowles & Kochanska, 2000). Therefore, the lack of emotional responsiveness may result in the inability to relate with and attach to others. Consequently, stereotypical perceptions of victim culpability in the context of rape are likely to be formed.

Further, even though Antisocial Behaviour psychopathy subscale was suggested to have a significant effect on rape myth acceptance (Mouilso & Calhoun, 2013), and sexual coercion (Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2005; Lalumière & Quinsey, 1996; Mailloux & Malcolm, 2001), the present results do not support these assumptions. This is supportive of

the findings reported in the previous chapter. Both the current results and results from the previous chapter suggest that it is the emotional rather than behavioural aspect of psychopathy that impacts a person's cognition.

It was also hypothesised that associations with criminal friends as well as loneliness and social dissatisfaction would have a significant effect on rape myth acceptance, however, this prediction was not supported. Past research identified peer influence and peer rejection as significant predictors of antisocial behaviour (Coie & Miller-Johnson, 2001; Cowen & Cowen, 2004; Dodge & Pettit, 2003; Laird et al., 2001; Mounts, 2002). Peer-rejected children, on the other hand, were reported to gravitate to criminal friends (Laird et al., 2005). Moreover, findings from previous studies demonstrated that sexual offenders suffer from increased levels of loneliness and the lack of intimacy (e.g., Bumby & Hansen, 1997; Marshall, 1989, 2010; Seidman et al., 1994). This suggests that loneliness and social incompetence may result in the inability to form healthy, fulfilling sexual relations. This in turn may lead to frustration and hence an attempt to obtain a semblance of intimacy through sexually aggressive behaviours. As indicated by the current results, however, neither loneliness and social dissatisfaction nor associations with criminal friends affect attitudes pertaining to rape and victim culpability.

Furthermore, contrary to results reported in the previous chapter, childhood exposure to violence was not found to be a significant predictor of rape myth acceptance. It was hypothesised that the previously reported significant association between experiences of violence and rape myth acceptance could be due to victimised individuals' tendency towards self-blame (Graham & Juvonen, 1998) which suggests that victims of violence may begin to think that violence is

morally right and consequently show greater acceptance of rape myths. Individuals that witness violence in their environment might also learn that it is not against moral standards to obtain goals, and to expect positive outcomes of using aggression (Bandura, 1999; Farrington, 1991; Ng-Mak et al., 2002). However, the present results demonstrate that after reducing selection bias by applying propensity score matching, exposure to violence is not a direct predictor of the tendency to endorse rape stereotypes. Therefore, the significant effect of childhood exposure to violence on rape myth acceptance found in the previous chapter could be due to not controlling for selection bias.

Finally, it was predicted that imprisonment would have a significant effect on rape myth acceptance, i.e. prisoners would be more likely to endorse rape stereotypes than non-prisoners. This hypothesis was formed on the basis of previous research findings which indicated that being exposed to male-dominated environments (such as fraternities and athletic teams) may result in greater rape myth acceptance (Boeringer, 1996; Koss & Gaines, 1993), and the results of an analysis presented in the previous chapter. However, the study in chapter three employed t-tests, which assess whether the means of two groups are statistically different, but do not control for additional covariates. The covariates included in the present chapter were found to have a significant effect on the outcome of the analysis, and the direct effect of incarceration was not supported. The results indicated that it is the psychological variables rather than imprisonment that may lead to stereotypical thinking about rape. Moreover, although previous studies reported a significant effect of fraternity and athletic participation on rape myth acceptance, it may be that some individuals choose to become members of such circles due to underlying psychological traits. Therefore, it could be that those

traits, rather than exposure to male-dominated environment, influence rape myth acceptance.

The present chapter utilised a robust methodological design. Propensity score matching procedure applied here allowed for assessing the effect of treatment by accounting for confounding variables and hence correcting selection bias in making estimates. The technique has never before been used in studies investigating rape myth acceptance. Consequently, the current results significantly widen the scope of the current knowledge of rape myth acceptance and associated psychological variables. Nonetheless, this chapter has several limitations that suggest directions for the future research. The present research was conducted within a sample of prisoners and non-prisoners. The prisoners sample, however, was composed of males only, whereas the general population sample included both males and females. In the future, for a greater generalisation of findings, researchers should examine rape myth acceptance among male and female prison population. Additionally, it would be beneficial to distinguish between sexual and non-sexual offenders. This would allow for examining the potential differences in rape myth acceptance between the two groups. Such an investigation would also have the power to verify whether sexual aggression correlates significantly with cognitive distortions pertaining to rape. Finally, the present chapter used a sample of Polish adults and hence it cannot be certain that the findings apply to other populations. More research with participants from other cultural and linguistic backgrounds are needed in order to exclude the possibility that the effects reported here were due solely to cross-cultural differences.

Findings of the current chapter provide a substantial contribution to the understanding of rape myth acceptance. The present results revealed which psychological factors significantly predict the endorsement of rape stereotypes. The findings suggested that childhood anxious and avoidant attachment with mother persists into adulthood and affects a person's cognitive functioning in the context of attitudes towards women. Moreover, aggressive as well as callous personality traits were found to have a profound effect on an individual's likelihood to endorse rape stereotypes. This evidence highlighted the importance of psychological characteristics in understanding the emergence of rape-supportive attitudes. Therefore, educational programmes which aim at reducing gender inequality and interpersonal violence against women should embrace aspects intended to develop strong positive associations with parents, empathic engagement with others, and reduce aggressive behaviours.

CHAPTER 5

Conclusion

5.1 OVERVIEW OF CHAPTERS, AIMS AND FINDINGS

5.1.1 Chapter one

Chapter one provided an overview of psychological and criminological theories and previous research specifically related to the domains of psychopathy, aggression, childhood experiences conducive to offending, and sexual offending. The first part of the chapter focused on the central concept of this research study - psychopathy. The purpose of the theoretical introduction was to present the construct of psychopathy from historical, clinical, and developmental perspective. This was done in order to elucidate the structure of psychopathy and explain how psychopathic traits can be translated into unlawful behaviour. Research revealed that psychopathy is characterised by a constellation of interpersonal (e.g., deceitfulness, superficial charm, grandiosity), affective (e.g., lack of empathy, remorse, or guilt), lifestyle (e.g. impulsivity, irresponsibility), and behavioural (e.g., social deviance, criminality) features (Hare & Neumann, 2008). These features were reported to be crucial in accounting for offending behaviour, whereas their development was found to be guided by a number of environmental, biological, and genetic factors. Moreover, different psychopathy variants were identified. The ability to recognise personality traits related with different types of psychopathy was noted to be of paramount importance for explaining behavioural and cognitive patterns of those individuals.

The next central part of chapter one focused on adverse childhood experiences and their influence on criminal behaviour and criminal thinking. It was suggested that parenting style may have a significant effect on child and juvenile delinquency. Baumrind (1991a) identified and described four different parental styles: authoritarian, permissive, authoritative, and neglecting. Research

found that adolescents raised in families with the lack of structured activities were significantly more likely to engage in criminal behaviour in young adulthood. Another aspect of familial environment closely related to the development of antisocial behaviour is parental monitoring. Patterson (1982, 1986) proposed the coercion developmental theory which emphasises the role of poor parental monitoring in early-onset delinquency. Another theoretical concept looked at in this section was attachment. Bowlby (1969) highlighted the importance of the early relationship between parent and child for the child's emotional and social development. Bowlby's attachment theory received a significant amount of attention from researchers studying antisocial and criminal behaviour. Findings of those studies were presented and discussed. In addition, the focus of this section was on how peer rejection and associations with deviant peers can influence the emergence of criminal behaviour. Theoretical frameworks and results of empirical studies pertaining to early experiences with peer groups and antisocial behaviour were presented.

The subsequent section of the introductory chapter approached the concept of aggression. Aggression is a psychological concept defined as an intent and attempt to harm another person or destroy an object (Bartol & Bartol, 2014). Researchers have long debated over the origins of aggressive predispositions. The controversy remains unsolved and different theoretical perspectives offer distinct descriptions and explanations of the phenomenon of aggression. Therefore, the goal was to discuss the hypothesised origins of aggression by looking at psychoanalytical, behavioural, and cognitive definitions. For the purpose, the psychodynamic model (Freud, 1960), the frustration-aggression hypothesis (Dollard et al., 1939), and the cognitive-neoassociation model (Berkowitz, 1973)

of the development of human aggression were presented and described. The role of past learning experiences and information processing in the shaping of aggressive behaviour was also discussed. Additionally, just like psychopathy, aggression does not constitute a uniform concept. Researchers identified and argued for the existence of different dimensions of aggression. Therefore, different typologies and forms of aggression were explored. Lastly, the link between aggression and psychopathy was discussed. Research demonstrated that the expression of reactive and instrumental aggression varies depending on psychopathy variant. This review indicated how these differences may contribute to a better understanding of psychopaths and their criminal actions.

Finally, attention turned to sexual offending and rape myth acceptance. According to official statistics available on the prevalence of sex offences in England and Wales, in 2011/12 the police recorded a total of 53,665 sexual offences. There were 16,041 instances of rape and 22,053 cases of sexual assault. (Office for National Statistics, 2013). Sexual violence can significantly influence women's physical as well as psychological well-being. Victims of rape are often said to suffer double victimisation, once by the perpetrator and then by the criminal justice system. Damaging may also be the media attention and the attitudes of the public who may question whether the attack really happened (Bartol & Bartol, 2014). One of the major factors contributing to the maintenance of relatively high rates of sexual offending are attitudes about women and interpersonal violence against women. Rape myths are stereotypical or false beliefs about the culpability of victims, the innocence of rapists, and the illegitimacy of rape as a serious crime. Research suggested that rape-supportive attitudes are common among both sexual offenders and men in the general

population. Moreover, empirical studies revealed an important role of sexual fantasy, imagination, and pornography in sexual aggression (Knight & Sims-Knight, 2011; Thornton, 2002; Wyre, 1992). It was found that deviant sexual fantasies may be reinforced by the exposure to sexually violent media content and result in overtly aggressive behaviour (Malamuth & Check, 1981). Viewing pornography may also lead to the greater acceptance of interpersonal violence against women (Allen et al., 1995). Additionally, sexual coercion was argued to be predicted by childhood exposure to violence as well as callous/unemotional traits and antisocial tendencies (Knight & Sims-Knight, 2003). However, the influence of childhood maltreatment on rape myth acceptance has never before been tested. Given the serious consequences related to sexual offending and the prevalence of rape myths, it was noted that research into rape myth acceptance and associated psychological factors is warranted.

5.1.2 Chapter two

Previous research revealed contradictory results as to the factor structure of psychopathy as a clinical construct, and the controversy is far from resolved. Therefore, the second chapter aimed to evaluate the factor structure and construct validity of the Polish version of the SRP-III (Paulhus et al., in press) using confirmatory factor analysis. Given that the SRP-III is a new self-report measure of psychopathy, further investigation of its construct validity and dimensionality had to be undertaken. Additionally, for the purpose of the current research, the Polish version of the instrument was prepared and thus an exploration of its psychometric properties was justified. The testing of this measure was a vital and necessary preliminary step prior to the testing of the theoretically formulated models that constitute the body of this thesis. Moreover, it was crucial to identify

psychopathy factors which should be used to determine appropriate subscales of the SRP-III. This was done in order to ensure that the measurement of a central construct in this research work was reliable and valid.

The 64-item Polish version of the SRP-III was used to collect data from Polish adults recruited at the University of Security in Poznan (Poland). The sample consisted of both males ($n = 175$) and females ($n = 144$). Additionally, 94 of the study participants reported working for uniformed services such as the military or police. The data was subjected to confirmatory factor analysis in order to find the best model fit. The study tested four possible solutions, each supported by theory and earlier empirical research: (1) a traditional two-factor model with emotional and behavioural components represented by separate dimensions (affective/interpersonal and lifestyle/antisocial) (Hare, 1991); (2) a four-factor model (affective, interpersonal, lifestyle and antisocial) suggested for the English version of the SRP-III (Neal & Sellbom, 2012; Paulhus et al., in press); (3) a four-factor model (affective, interpersonal, lifestyle and antisocial) loading on two hierarchical factors (affective/interpersonal and erratic lifestyle/antisocial); (4) a bifactorial solution with four grouping factors (affective, interpersonal, lifestyle and antisocial) and two general factors (affective/interpersonal and erratic lifestyle/antisocial) (Boduszek et al., in press). Statistical findings indicated that the data was best explained by a bifactor model of psychopathy with four meaningful grouping factors (Interpersonal Manipulation, Callous Affect, Erratic Lifestyle, and Antisocial Behaviour), which formed the basis for creating the SRP-III subscales, and two hidden general factors (Interpersonal/Affective, Lifestyle/Antisocial).

Furthermore, a more thorough examination of the accuracy of treating Interpersonal Manipulation and Callous Affect facets as measures of distinct dimensions was necessary due to a high correlation between them. The incremental validity of psychopathy facets was assessed by testing their correlations with reactive aggression. Results of the structural equation modelling revealed that Interpersonal Manipulation and Callous Affect dimensions of psychopathy formed differential associations with aggression. More specifically, Interpersonal Manipulation correlated significantly with overall aggression in the positive direction, whereas Callous Affect was found to be negatively but not significantly correlated with the external variable. According to Carmines and Zeller (1979), scale facets relating differently with external variables measure disparate concepts and hence the hypothesised conceptual overlap between the two factors could be dismissed.

In the study, group differences between male and female as well as uniformed and non-uniformed participants' psychopathy scores were also investigated. With men having scored significantly higher than women on Interpersonal Manipulation, Callous Affect, Antisocial Behaviour and overall psychopathy, the findings supported earlier research results suggesting distinct behavioural and emotional manifestations of psychopathy in males and females. Moreover, this study was the first to assess differences in psychopathy scores between uniformed and non-uniformed populations. It was found that uniformed participants scored significantly higher on Callous Affect dimension, whereas differences on Antisocial Behaviour were near to reaching statistical significance (with uniformed participants having scored higher).

5.1.3 Chapter three

Previous research demonstrated a significant role of psychopathy factors in the study of rape myth acceptance. Additionally, Affective/Interpersonal and Impulsive/Antisocial traits as well as childhood exposure to violence were linked with sexual coercion. According to Blair (1995), a dysfunctional violence inhibition mechanism (VIM) in individuals with increased psychopathic traits renders them unable to experience moral emotions (e.g., sympathy, guilt, remorse, and empathy). It was suggested that the fostering of empathy leads to the inhibition of aggression. Therefore, the failure to conceptualise the distress of others as an aversive stimulus could result in sexually coercive behaviours. Importantly, it was argued that rape myth acceptance is a cognitive distortion which constitutes a crucial link between psychopathy and rape perpetration (Mouislo & Calhoun, 2013). Moreover, consistent with the cycle-of-violence hypothesis, it was indicated that childhood maltreatment experiences may increase an individual's risk for condoning interpersonal violence against women (Dhawan & Marshall, 1996; Fagan & Wexler, 1988). It was also noted that childhood physical/verbal abuse increases the risk of the development of callous/unemotional traits (Knight & Sims-Knight, 2003). However, few empirical studies with sound methodological designs have been conducted in order to determine the role of psychopathy and childhood exposure to violence in rape myth acceptance. Therefore, the main objective of this study was to incorporate and empirically assess the nature of these associations within a single structural equation model in order to determine if different aspects of psychopathy and childhood exposure to violence have a significant impact on stereotypical thinking about sexual aggression.

Further, considering that previous research included samples drawn from university or prison populations, it was suggested that combining an adult criminal sample and adult general population sample would be appropriate to test this particular aim and would significantly contribute to the current psychological and criminological literature. Therefore, data for this study was collected from offenders incarcerated in the medium-security prison in Stargard Szczecinski (Poland), and adults recruited at the University of Security in Poznan (Poland). Subsequently, a model of rape myth acceptance was specified and tested using structural equation modelling. Six latent factors were identified: rape myth acceptance, four factors of psychopathy (Interpersonal Manipulation, Callous Affect, Erratic Lifestyle, and Antisocial Behaviour), and childhood exposure to violence. Observed variables included in the model were: type of data (prisoners vs. non-prisoners), gender, age and relationship (single vs. in a relationship).

Results suggested that Callous Affect and childhood exposure to violence have a significant, positive influence on rape myth acceptance. This finding is in line with previous research which found that individuals with more callous characteristics are more sexually aggressive (Bernat et al., 1999; Caputo, Frick, & Brodsky, 1999; DeGue & DiLillo, 2004; Knight & Sims-Knight, 2003; Kosson & Kelly, 1997), and Blair's (1995) violence inhibition mechanism which suggests social emotions inhibit aggressive behaviour. Moreover, individuals who witness violence might learn that using aggression in order to obtain one's goals is not against moral standards (Bandura, 1999; Farrington, 1991; Ng-Mak, Stueve, Salzinger, & Feldman, 2002). Additionally, being a victim of or witnessing violent behaviours can muffle empathic responses (Knight & Sims-Knight, 2003). Notably, prior research failed to explore the relationship between exposure to

violence and cognitive distortions pertaining to rape and victim culpability. Therefore, this study significantly extends the scope of the current understanding of rape myth acceptance.

5.1.4 Chapter four

Analysis in chapter three demonstrated that Callous Affect and childhood exposure to violence play an important role in accounting for stereotypical thinking about rape. In chapter four, in order to extend the findings of the earlier study, further psychological characteristics and their role in rape myth acceptance were examined. Previous psychological studies indicated insecure childhood attachment as an important factor in the formation of violent individuals. Prior research provides support for the theoretical assumption that violent and sexual offenders display insecure attachment patterns (Adshead, 2002; Smallbone & Dadds, 1998; Ward, Hudson & Marshall, 1996), loneliness, and intimacy deficits (Bumby & Hansen, 1997; Garlick, 1989; Seidman et al., 1994). Further, preliminary results of studies examining the role of aggressive personality in rape-supportive attitudes suggested that the propensity for endorsing rape stereotypes is positively associated with increased levels of hostility, verbal aggression, physical aggression, and anger (Forbes et al., 2004; Jacques-Tiura et al., 2007; Sierra et al., 2010), however, such research is sparse. Also, no studies up to date investigated the role of attachment, loneliness, and peer rejection in cognitive distortions pertaining to rape, which may be especially important in accounting for interpersonal violence against women. Additionally, studies employing robust statistical analyses are still rare and hence more methodologically sound research is needed in order to support the previous findings. Thus, the primary objective of chapter four was to provide further

empirical support for the effect of adverse childhood experiences and personality traits on rape myth acceptance using a sample of prisoners incarcerated in the Stargard Szczecinski Prison in Poland, and a sample of adult general population recruited at the University of Security in Poznan (Poland).

It was hypothesised that insecure attachment, loneliness and social dissatisfaction, associations with criminal friends, childhood exposure to violence, Callous Affect, and aggression would have an effect on rape attitudes. Based on results reported in chapter three, a significant effect of imprisonment on rape myth acceptance was predicted. In chapter three, differences between prisoners and non-prisoners' scores on rape myth acceptance were assessed using t-tests. However, t-tests lack the power to control for additional covariates which can have a significant effect on the outcome of the analysis. To control for selection effects, there was a need to match participants based on whether or not they were subject to incarceration. This was achieved with the use of propensity score matching (PSM) procedure. Unlike traditional adjustment methods, the PSM technique allows for comparing participants on a large number of characteristics. By reducing the selection bias, PSM produces samples of individuals which are ready for more reliable comparisons. In this study, matching allowed to select participants from the general population who are matched with the prisoners on psycho-social covariates (D'Agostino, 1998). Also, post matching multiple regression analysis could be used with a much larger number of covariates than would be appropriate for multiple regression without propensity score matching (Guo & Fraser, 2010).

The post matching multiple regression model explained 15% of the variance in rape myth acceptance and identified four significant predictors:

maternal anxious attachment, maternal avoidant attachment, Callous Affect, and aggression. The study results revealed which psychological factors significantly predict the endorsement of rape stereotypes. It was indicated that childhood anxious and avoidant attachment with the mother figure persists into adulthood and affects a person's cognitive functioning in the context of attitudes towards women and interpersonal violence against women. Aggressive and callous personality traits were found to have a profound effect on an individual's likelihood to accept rape stereotypes. This evidence highlights the importance of psychological characteristics in understanding the emergence of rape-supportive attitudes. Given the originality of the topic under investigation and the statistical technique applied to make predictions, this study makes a significant contribution to the research on rape myth acceptance and correlated psychological factors.

5.2 LIMITATIONS, STRENGTHS AND FUTURE DIRECTIONS

As with any research attempt, there were a number of limitations associated with this study which should be considered in the future.

In relation to the validation of the self-report psychopathy measure, the SRP-III, although a sufficient sample was acquired to reliably conduct the confirmatory factor analysis, it would have been beneficial to conduct this validation among a sample of adults recruited outside university. University of Security in Poznan (Poland) offers part-time training courses with flexible timetables for working adults, many of whom work in full-time employment. Therefore, individuals from a wide spectrum of backgrounds were acquired for the study. Still, however, for the purpose of the validation, it would have been advantageous to include participants of lower educational level, which could not be done in a higher education setting, in order to collect a sample more representative of the general population.

Furthermore, the construct of psychopathy as measured by the SRP-III was found to be best captured by a bifactorial model with four meaningful grouping factors and two hidden general factors. Given that the bifactor modelling is a new and underexplored approach, further investigation of the validity and applicability of the measure is warranted. Additionally, the bifactor structure was found superior in the validation of the SRP-III derived from a Polish translation. Studies described in chapter three and chapter four were also conducted with Polish participants. Therefore, the generalisability of the current findings to populations in other cultures remains to be determined. Future research should seek to replicate this study among participants from other cultural

and linguistic backgrounds in order to exclude the possibility that the effects reported here were due solely to cross-cultural differences.

While the current results provided supportive evidence for the construct validity of the Polish version of the SRP-III, this finding should be tempered by the fact that a parcelling procedure was necessary in order to find an acceptable model fit. A significant limitation associated with the SRP-III is the failure to be able to identify an adequate factorial solution when using the individual items of the scale. This was observed in both the Polish and English version of the scale (see Neal & Sellbom, 2012). This occurrence is likely due to the very high indicator-to-factor ratio of the scale. Future research should therefore seek to develop a psychometrically valid abbreviated version. This effort could be greatly facilitated by the current results. Items for the abbreviated version could be selected based on the strength of factor loadings within four grouping psychopathy factors. This would allow researchers to identify the most appropriate indicators of the relevant latent variables of interest.

Another limitation is related to the use of self-report instruments and rating scales within a sample of prisoners whose command of language is poor, and who have a short attention span. Therefore, the concern is that the participants could not fully understand the questions posed to them. In addition, because the instruments are based on participants' self-reports, some of the observed effects (e.g. parental attachment, relationships with peers in school) might be the consequence of response bias. Moreover, when asked about aggression or other socially undesirable behaviours and traits, some participants might have chosen not to answer honestly. However, this aspect of the study could not be controlled by the researcher.

One of the advantages of this study was the use of a sample of adult prisoners and a sample of adult non-prisoners in one analysis. Most previous studies examining rape myth acceptance and correlated psycho-social factors focused on college or prisoner sample separately. Therefore, this study provided an important addition to the existing empirical literature on the role of offending in rape myth acceptance.

Moreover, the study described in chapter three utilised structural equation modelling which allowed for the inclusion of numerous latent and observed variables in one analysis and hence a model of rape myth acceptance could be specified and tested. This has not been done in the previous empirical investigations of the acceptance of myths pertaining to rape. This study, hence, contributes significantly to the scientific communities' understanding of the phenomena of psychopathy and rape myth acceptance, and broadens the understanding of the potential childhood factors involved in the development of stereotypical thinking about rape. Longitudinal research designs are, however, ultimately necessary to obtain a reliable developmental picture of rape myth acceptance. Also, in order to improve the reliability of the proposed structural equation model, it is recommended that larger sample sizes are utilised.

The last empirical chapter employed a robust methodological design. Propensity score matching procedure allowed for assessing the effect of treatment by accounting for confounding variables and hence correcting selection bias in making comparisons between treatment and control group. In this research study, participants were matched on the basis of whether they were subject to incarceration. Unlike traditional adjustment methods, propensity score matching allows for comparing participants on a large number of characteristics. The

technique has never before been used in studies investigating rape myth acceptance. Consequently, the current results significantly widen the scope of the current knowledge of rape myth acceptance and associated psychological factors. For example, previous studies have not inquired into the role of attachment and loneliness in cognitive distortions pertaining to rape. Nonetheless, given that this study is the first to suggest a predictive relationship between certain psychological variables and rape myth acceptance, replications of this study with similar methodological approaches are clearly needed.

5.3 CONTRIBUTION OF THIS RESEARCH

This research project contributes to a better understanding of the nature of psychopathy. The most significant contribution is marked by the preparation of the Polish translation of the SRP-III. Construct validity and dimensionality of the new version of the scale was confirmed within a relatively large adult general population sample. The structure of psychopathy as a clinical construct has long been a subject of considerable academic controversy. Based on work with the PCL-R, a variety of factorial solutions have been identified including correlated two- (Harpur, Hakstian, & Hare, 1998; Hare et al., 1990), three- (Cooke & Michie, 2001), and four- (Hare 2003; Hare & Neumann, 2006) factor models. More recently, a number of independent authors have utilised an alternative model structure which may yield a theoretically and statistically satisfactory solution with regards to the underlying structure of psychopathy. This involved the application of bifactor modelling procedures. This research, by employing a new bifactorial modelling approach, provides a significant contribution to this ongoing debate. Moreover, the study sample consisted of both uniformed and non-uniformed participants, which significantly increases the power and value of the research. To date, most studies relied on student samples and hence the reliability of self-report psychopathy measures is highly questionable. This study has the strength to verify the earlier reported results regarding the dimensionality of psychopathy by providing a novel cultural and social context to those explorations.

The second significant contribution of the current findings is related to specifying and testing a structural model of rape myth acceptance within a sample of prisoners and non-prisoners. The present findings suggested that one

psychopathy factor, Callous Affect, and childhood exposure to violence were significant predictors of rape myth acceptance. It was hence revealed that callous/unemotional traits together with the experience of maltreatment in childhood have the power to shape a person's attitudes towards interpersonal violence against women. Previously, Knight and Sims-Knight (2003) suggested that childhood physical/verbal abuse influences the development of unemotional traits, whereas callousness was theorised to have a direct effect on sexually coercive behaviour. The current results indicated that policy makers seeking to reduce violence against women should focus resources on specially designed educational programmes directed towards reducing stereotypes pertaining to rape as well as develop empathic engagement with others. Furthermore, based on the research findings, it can be suggested that children who were exposed to violence either as witnesses or victims should be the main target of such educational programmes. Such well-informed intervention programmes could prevent the development of dysfunctional beliefs and attitudes about interpersonal violence against women.

Current results are also supportive of the confluence model of sexual aggression proposed by Malamuth et al. (1991). According to the theoretical model, hostile masculinity and impersonal sex increase the likelihood of sexual aggressiveness. The framework was applied in a study on men's misperceptions of women's sexual intentions. Using structural equation modelling, the frequency of misperception was found to be predicted by hostile masculinity, impersonal sex, drinking during dates, and sexual situations (Jacques-Tiura et al., 2007). This research significantly extends the model by including a number of psychological variables in a propensity score matching procedure. Post-matching multiple

regression analysis revealed a significant predictive utility of Callous Affect, maternal anxious attachment, maternal avoidant attachment, and aggression in accounting for rape myth acceptance. This research suggested that the endorsement of erroneous beliefs pertaining to rape and victim culpability is contingent on personality traits and affected by early childhood experiences. Therefore, educational programmes which aim at reducing gender inequality and interpersonal violence against women should embrace aspects intended to develop strong positive associations with parents, empathic engagement with others, and reduce aggressive behaviours. These findings also indicate that the reduction of hostility levels may result in the reduction of rape myth acceptance. Finally, the development of secure attachment with mother figure appears crucial for a child's healthy psycho-social growth. This is in line with Bowlby's (1969) conceptualisation of the importance of the primary attachment, and Lieberman's (2004) suggestion that disorganised attachment may lead to emotional as well as social problems.

Additionally, current results provided a clarification of the role of imprisonment in rape myth acceptance. Previous research findings indicated that being exposed to male-dominated environments (such as fraternities and athletic teams) may result in greater rape myth acceptance (Boeringer, 1996; Koss & Gaines, 1993). However, most of the studies were qualitative in nature and hence the association between exposure to male-dominated circles and rape myth acceptance remained to be verified. This thesis utilised propensity score matching, which allowed for reducing bias in the background covariates and isolating the effect of incarceration. The results indicated that it is the psychological variables rather than imprisonment that may lead to stereotypical

thinking about rape. Moreover, although previous studies reported a significant effect of fraternity and athletic participation on rape myth acceptance, the present results suggested that men who spend time in male-dominated environments may choose to do so due to underlying psychological factors which are also predictive of rape myth acceptance. Therefore, rape myth acceptance may be augmented by spending time with other males but it is not directly affected by it. This evidence highlighted the importance of psychological characteristics in understanding the emergence of rape-supportive attitudes.

Another significant contribution made by this research project is the use of advanced statistical analytic procedures. Studies in the area of psychology and criminology often fail to adopt robust analytic techniques, which substantially influences the reliability of findings. This thesis sought to utilise the most recent developments in statistical analytic techniques in order to obtain new insight into relationships between variables included in the study. The use of structural equation modelling as well as propensity score analysis allowed for uncovering the most accurate picture of rape myth acceptance and related factors within offending and non-offending populations. It is believed that such an approach has the power to significantly enrich the current psychological and criminological literature. Additionally, the application of these advanced statistical procedures could contribute to setting new standards for future research in the field of criminal psychology.

This research project made a number of significant contributions, including the preparation and validation of the Polish version of SRP-III, and the specification of a structural model of rape myth acceptance. Moreover, this study is one of the few within the field of criminal psychology to employ propensity

score matching with post-matching multiple regression analysis. This in turn allowed for the inclusion of numerous variables within one model of rape myth acceptance while controlling for selection bias. Additionally, this research sought to establish how different psychopathy dimensions influence the development of erroneous beliefs pertaining to rape and victim blaming. It was discovered that only Callous Affect, i.e. the psychopathy factor often referred to as the core of psychopathic personality, has the power to affect a person's cognition. Consequently, psychopathy should not be treated as a unidimensional construct, but as a group of related facets correlating differently and independently with external variables.

The finding that psychopathy should be conceptualised as a multidimensional concept is especially important in light of contradictory evidence reported by researchers studying neurobiological abnormalities in psychopathic individuals. Most studies into brain abnormalities related to psychopathy fail to control for psychopathy variants, which significantly undermines the reliability of findings. Participants who meet the established total cut-off point are classed as psychopaths and the different dimensions of the disorder are not considered separately. Studies in which psychopathy variants were accounted for have consistently found that psychopaths do not form a homogenous group (e.g., Boccardi et al., 2010; Fectau et al., 2008; Gregory et al., 2012; Yang et al., 2010). The current results highlighted the importance of treating psychopathy as a four-dimensional construct.

This study has proven successful in its initial objective to advance the scope of the current understanding of rape myth acceptance, its relationship with different psychopathy factors and other psychological variables. Moreover, this

thesis, by providing some original insights, opens up new routes for future research to explore.

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