

**ANTISOCIAL PERSONALITIES AMONG
MAXIMUM SECURITY PRISONERS**

SONJA LOOTS

ANTISOCIAL PERSONALITIES AMONG MAXIMUM SECURITY PRISONERS

SONJA LOOTS

Thesis is submitted in accordance with the requirements for the degree of

PHILOSOPHIAE DOCTOR

in the Faculty of Humanities
Department of Psychology

UNIVERSITY OF THE FREE STATE

Bloemfontein
November 2010

Promoter: Prof. D.A. Louw

I declare that the thesis hereby submitted by me for the Philosophiae Doctor Degree at the University of the Free State is my own independent work and has not previously been submitted by me at another university or faculty. I furthermore cede copyright of the thesis in favour of the University of the Free State.

S. Loots

November 2010

I would like to express my sincere gratitude to the following individuals:

- Prof. Dap Louw, for guidance reaching far beyond the scope of this study
- Prof. Frans Swanepoel and the UFS Research Directorate, for financially investing in my potential
- Prof. Karel Esterhuyse, for accommodating me in his busy schedule without question
- The Department of Correctional Services and Mangaung Correctional Centre for their willingness to accommodate this study
- Mrs. Maryn Viljoen, for her statistical assistance
- Mrs. Louise Jordaan, for her technical eye and willingness to help
- My strong support system of family and friends

Dedicated to my biggest supporters in this endeavour:

My mother, Elize

My uncle Frank

GENERAL OUTLINE

Article 1:

Construct validity of PPI-R psychopathy among offenders in South Africa

Article 2:

Antisocial personalities: Prevalence among offenders in South Africa

Article 3:

Aggression and violence in South Africa: the role of antisocial personalities

Article 4:

Criminal thinking styles of offenders meeting the criteria for antisocial personalities in South Africa

Article 5:

The predictive value of psychopathic traits and criminal thinking styles in the recidivistic behaviour of offenders in South Africa

EXECUTIVE SUMMARY

BESTUURSOPSOMMING

Executive summary

The longstanding elevated violent crime rate in South Africa urges research attention beyond the mere incidence of reported offences and environmental contributors to crime. Psychological factors require similar attention. Internationally, antisocial personality disorder, psychopathy and dissocial personality disorder, collectively known as antisocial personalities, have been strongly associated with criminality, and particularly violent crime. However, very little research focus has been awarded to these constructs in the developing world.

To explore antisocial personalities in the South African context, a research project was launched, which will be discussed through five related, yet independent research articles. The research sample consisted of 500 male maximum security offenders from the Mangaung Correctional Centre situated near Bloemfontein.

The first study focused on determining to which extent psychopathy is similar in construct in a developing country as in the Western world. Several studies have reaffirmed the construct validity of psychopathy among industrialised nations, yet almost no research has included developing countries. The neglect of local mental health research has led to the application of diagnostic criteria with limited clinical and nearly no scientific consideration of cultural contributions of the South African context. To determine the construct validity of psychopathy, as measured by the revised version of the Psychopathic Personality Inventory (PPI-R), factor analyses were conducted. Several items indicated low factor loadings and were consequently omitted from further analysis.

The second study aimed to identify the prevalence of the antisocial personalities among the sample of offenders. Participants were assessed with the PPI-R, and subscales representing antisocial and dissocial personality disorders from the DSM-IV and ICD-10 Personality Questionnaire (DIP-Q). Results indicated a similar incidence of psychopathy and dissocial personality disorder than international studies. However, the incidence of antisocial personality disorder is much lower than international findings.

The third and fourth study aimed to identify whether individuals meeting the criteria for antisocial personalities in the South African context also present stronger relationships with known associated constructs, such as aggression and criminal thinking styles. The Psychological Inventory of Criminal Thinking Styles (PICTS) and the Aggression Questionnaire (AQ) were incorporated for this assessment. Results largely confirmed the relationship between antisocial personalities, aggression and criminal thinking styles.

The fifth study consisted of a binary logistic regression analysis to determine whether psychopathic traits and/or criminal thinking styles could predict recidivistic behaviour in the South African context. Contrary to most international studies, results indicated that none of the PICTS subscales predicted possible recidivism, while only the Social Influence subscale of the PPI-R significantly predicted group membership between first offence and re-offence.

All five studies include the comparison of results with those from similar studies, a discussion on the implications of the results, the limitations of the study, and recommendations for further research.

Keywords: Psychopathy, antisocial personality disorder, dissocial personality disorder, cross-cultural, prevalence, criminal thinking styles, aggression, construct validity, recidivism.

Bestuursopsomming

Die onrusbarende geweldsmisdaadkoers in Suid-Afrika vereis dringend dat navorsingsaandag verbreed moet word om nie hoofsaaklik te fokus op die voorkomssyfer en omgewingsinvloede van misdaad nie. Sielkundige faktore behoort dieselfde aandag te geniet. So byvoorbeeld word die antisosialepersoonlikheid-versteuring, psigopatie en dissosialepersoonlikheid-versteuring, oftewel antisosiale persoonlikhede, internasionaal geassosieer met misdadige en veral gewelddadige gedrag. Min navorsing is egter al in die ontwikkelende lande gedoen om groter duidelikheid oor hierdie konsepte te verkry.

Om die antisosiale persoonlikhede in die Suid-Afrikaanse konteks te ondersoek, is 'n navorsingsprojek geloods wat in vyf samehangende, dog individuele navorsingartikels bespreek sal word. Die steekproef het bestaan uit 500 manlike maksimumsekuriteit-oortreders vanaf die Mangaung Korrektiewe Sentrum naby Bloemfontein.

Die eerste studie het ten doel gehad om te bepaal in welke mate psigopatie dieselfde konsep in 'n ontwikkelende land as in die Westerse wêreld verteenwoordig. Verskeie studies het die konstruk geldigheid van psigopatie bevestig, alhoewel ongeveer geen studies die ontwikkelende wêreld ingesluit het nie. Die geringskatting van geestesgesondheidsnavorsing het gelei tot die toepassing van diagnostiese kriteria met kultureel-irrelevante en beperkte kliniese toepassing in die Suid-Afrikaanse konteks. Om die konstrukgeldigheid van psigopatie in hier ter lande, soos gemeet deur die hersiene weergawe van die Psychopathic Personality Inventory (PPI-R), te bepaal, is faktoranalise toegepas. Verskeie items het lae faktorladings getoon en is daarvolgens uitgesluit by ander analyses.

Die tweede studie het beoog om die voorkomsyfer van antisosiale persoonlikhede onder die navorsingsdeelnemers te bepaal. Die persone is geassesseer met behulp van die PPI-R en subskale van die DSM-IV and ICD-10 Personality Questionnaire (DIP-Q). Resultate dui op 'n soortgelyke voorkomsyfer van psigopatie en dissosialepersoonlikheid-versteuring as internasionale studies. Die voorkoms van antisosialepersoonlikheid-versteuring is egter laer in vergelyking met internasionale bevindinge.

Met die derde en vierde studies is beoog om te bepaal of individue wat aan die kriteria vir antisosiale persoonlikhede voldoen, ook geassosieer kan word met verwante konsepte soos aggressie en kriminele denkpatrone. Die Psychological Inventory of Criminal Thinking Styles (PICTS) en die Aggression Questionnaire (AQ) is vir hierdie doel aangewend. Die resultate bevestig grootliks die verband tussen antisosiale persoonlikhede, aggressie en kriminele denkpatrone.

Die vyfde studie het bestaan uit 'n logistiese regressie-analise om te bepaal of psigopatiese eienskappe en/of kriminele denkpatrone residivistiese gedrag kan voorspel. In teenstelling met internasionale bevindinge dui die resultate daarop dat geen van die PICTS subskale moontlike residivisme voorspel nie. Slegs een subskaal van die PPI-R wat op sosiale invloed dui, kon 'n beduidende voorspelling maak.

In al vyf studies word die resultate met ander studies vergelyk, die implikasies bespreek, beperkings van die studie aangedui en aanbevelings gemaak.

Sleutelwoorde: Psigopatie, antisosialepersoonlikheids-versteuring, dissosialepersoonlikheids-versteuring, kruiskultureel, voorkoms, kriminele denkpatrone, aggressie, konstruk geldigheid, residivisme.

Construct validity of PPI-R psychopathy among offenders in South Africa

Abstract	1
Introduction	1
Cross-cultural expression of psychopathy	3
Issues in South African cross-cultural assessment	5
<i>Culture and diversity</i>	5
<i>Cross-cultural test application</i>	6
Methodology	6
<i>Participants and procedure</i>	6
<i>Measures</i>	7
<i>Administration of questionnaires</i>	9
<i>Statistical analysis</i>	10
Results and discussion	10
<i>Exploratory factor analysis</i>	12
<i>Confirmatory factor analysis</i>	14
Conclusion	15
Reference list	18

Tables

Table 1: Demographic characteristics	11
Table 2: Internal consistency scores before and after omission of items with low factor loadings	13
Table 3: Confirmatory factor analysis goodness-of-fit statistics	15

Construct validity of PPI-R psychopathy among offenders in South Africa

Abstract

Several studies have confirmed the construct validity of psychopathy among industrialised nations, yet almost no research has been conducted in developing countries. The neglect of local mental health research pertaining to psychopathy, and antisocial personalities in general, has led to the application of diagnostic criteria with limited clinical and nearly no scientific consideration for South African cultural contributions. To determine the construct validity of psychopathy, a sample of 500 male maximum security offenders was assessed with the revised version of the Psychopathic Personality Inventory (PPI-R). Exploratory and confirmatory factor analyses of the PPI-R indicate stronger psychometric properties with the omission of several items. The nature of the omitted items reaffirms the strong cultural influence in the application of foreign measuring instruments, as well as in the manifestation of psychopathic symptomatology.

Introduction

The scarcity of empirical research pertaining to the applicability of Western conceptualised mental disorders in multi-cultural, developing countries such as South Africa could impact heavily on diagnostic processes and treatment strategies. South African mental health practitioners and researchers rely on the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (DSM) and the World Health Organisation's *International Classification of Diseases* (ICD) for training and guidance. Both these manuals, however, are based on Western conceptualisations of

mental disorders. Although both manuals stress the importance of cultural and environmental contributors on consideration of diagnoses, the manifestation of personality disorders in particular is considered to display an increased proneness to cross-cultural bias (Cooke & Michie, 1999; Mikton & Grounds, 2007).

Unlike similar disorders, such as antisocial personality disorder and dissocial personality disorder; and despite a magnitude of research studies proving otherwise, psychopathy has not been recognised by the American Psychiatric Association or the World Health Organisation as a diagnosable mental disorder. Additionally, very few psychopathy studies have included developing countries or their accompanying cultural variations possibly influencing the expression of the construct.

The comprehension of pathological behaviour requires insight into the ethnic and cultural influences affecting the manifestation of disorders. Against this background it is important to evaluate the construct of psychopathy in terms of ethnic and cultural variations. The ultimate goal would be to expand current conceptualisations of psychopathy beyond the bounds of Western society and applying a more critical and global perspective (Sullivan & Kosson, 2007).

In order to explore the concept of psychopathy in the South African context, the main focus of this article is to determine whether psychopathy, as measured with the revised version of the Psychopathic Personality Inventory (PPI-R; Lilienfeld & Widows, 2005), is similar in the South African context as to the Western conceptualisation of this disorder.

Cross-cultural expression of psychopathy

A general contextualisation of psychopathy is “a personality disorder defined by a cluster of interpersonal, affective, lifestyle, and antisocial traits and behaviours, including grandiosity, egocentricity, deceptiveness, shallow emotions, lack of empathy or remorse, irresponsibility, impulsivity, and a tendency to violate social norms” (Hare & Neumann, 2009, p. 791). The aetiology of psychopathy is still largely under debate, although recent findings seem to emphasise the role of biological contributors (Blair, 2005; Dolan & Doyle, 2007). The expression of the disorder, on the other hand, may depend largely on cultural influences (Cooke, Hart & Michie, 2004; Wernke & Huss, 2008).

The concept of culture includes language, beliefs, values, behavioural norms and knowledge, which are learned through the immediate community and passed on from one generation to the next (Minas, 2001; Ponterotto, Casas, Suzuki, & Alexander, 1995). Since cultural factors determine the expression of personality and behaviour in a community, it is not surprising that cultural influences impact on the development of mental disorder symptomatology (Cross & Markus, 1999; Mosotho, Louw, Calitz & Esterhuyse, 2008).

Several cultural groups around the world have identified concepts for individuals engaging in antisocial behaviour and displaying personality characteristics similar to that of the current concept of psychopathy (Cooke, 1996; see Murphy, 1976; see Sullivan & Kosson, 2007). This statement indicates the presence of psychopathic-like individuals across cultures; it does not, however, suggest that the manifestation of the symptoms or traits is similar across cultures. The revised version of the Psychopathy Checklist (PCL-R; Hare, 1991; 2003) has been used in numerous North American and European studies to determine the cross-cultural and cross-national

construct validity of psychopathy (e.g., Cooke, 1997, 1998; Cooke & Michie, 1999; Cooke, Michie, Hart & Clark, 2005a; Cooke, Michie, Hart & Clark, 2005b; Shine & Hobson, 1997; Sullivan, Abramowitz, Lopez & Kosson, 2006). Although most studies report on satisfactory construct validity, European countries report a general lower prevalence of psychopathic traits than their North American counterparts (Cooke, 1998; Cooke et al., 2005a; Dahle, 2006). A meta-analysis among prisoners, psychiatric patients, and forensic offenders indicate prevalence rates ranging from 3% among the Scottish to 49% among Norwegians (see Sullivan & Kosson, 2007). It could therefore be assumed that psychopathy may be generalisable to a certain extent among industrialised countries, but very little is known about the expression of psychopathic traits in a multi-cultural developing country such as South Africa.

In addition to overarching cultural influences on psychopathy, the role of ethnicity and race has also been investigated. In an article on racial and ethnic differences in psychopathy, Lynn (2002) argues that black people, including African Americans and Native Americans represent the highest levels of psychopathy, while white people and East Asians present the lowest prevalence. This argument has, however, been greatly criticised (see Skeem, Edens, Sanford, & Colwell, 2003; Zuckerman, 2003). Empirical evidence also confirms insignificant differences of psychopathy between races and ethnicities (Douglas, Vincent & Edens, 2007; Skeem, Edens, Camp & Colwell, 2004), although the authors do propose additional research.

Issues in South African cross-cultural assessment

Culture and diversity

Sullivan and Kosson (2007) state that the correlates of a universal syndrome of psychopathy should be similar across ethnic and cultural groups. The diversity of South African cultures is reflected in the country's eleven official languages. South Africa's cultural complexity is further enhanced by subcultures which represent both first world (e.g. technological advances) and third world tendencies (e.g. poverty stricken communities and a lack of basic resources; Schwellnus, 2004). Reddy (2010, p. 23) states that South Africa's identity as a whole could be viewed as "a reluctant participant in the Western orbit due to history, but also as hesitant and not too comfortable with its African belonging despite strong cultural and geographical affiliation."

Several authors have argued in favour of an "African Psychology", indicating the presence of an "indigenous African Psychology rooted in the continent's own, unique epistemologies, knowledge systems and identities" (Maree, 2010; see Moll, 2002, p. 9). Those in favour of such an indigenous approach, focus on the uniqueness of a culture while rejecting claims of universal psychological theories (Wheeler, Ampadu & Wangari, 2002). The current study, however, does not aim to discard Eurocentric theories, but rather to incorporate a cross-cultural approach by focusing on commonalities between the current concept of psychopathy and the expression of psychopathy in the South African context. Moll (2002, p. 15) summarises the importance of incorporating the developing world into established Westernised research practices by "bringing African questions to the fore within the world of psychology, they help to remove overly instrumentalist and positivist motives from its centre, and to position new

modes of inquiry appropriate to African conditions at the centre of international debate”.

Cross-cultural test application

The use of assessment measures standardised for culturally different populations other than target South African populations has been a great concern among academics (Maree, 2010). The main issue of employing these measures on a non-standardised population is cross-cultural bias and equivalence. Van de Vijver and Rothmann (2004) define test score bias as the invariability of meaning across cultures. The concept of bias among assessment instruments is further divided into subgroups accounting for the different effects in which cultural and methodological influences can manifest. In close relation to bias, equivalence encompasses the comparability of scores across cultures. Along with other subgroups of equivalence, construct inequivalence, “comparing apples and oranges” (p. 4) is particularly relevant to the current study. Thus, in order to explore psychopathy in the South African context, we need to determine whether the construct of psychopathy is expressed equally among the Westernised and developing worlds.

Methodology

Participants and procedure

In order to ensure that the rights of participants were not infringed on, permission for the current study was granted by two ethical committees representing the Department of Psychology and the Faculty of Humanities at the University of the Free State. Furthermore, an independent review of the current study's proposal was conducted by the Department of Correctional Services' research department. A non-experimental quantitative research approach was employed to acquire data at Mangaung

Correctional Centre (MCC), a maximum security prison located near Bloemfontein housing approximately 3 000 male offenders. A randomised sample of 500 offenders representing various ethnicities and types of crime was selected through the MCC database. The selected offenders were summoned to the visitation hall in groups of 30 where they were informed of the purpose of the study and given the option of participating or returning to their relevant units or work activities. A few offenders opted not to participate in the study, largely because of work responsibilities. This resulted in a response rate of 88%. After the briefing, willing participants were asked to sign a consent form, thereby agreeing to take part in the study and granting permission for use of the information.

A detailed depiction of the sample's biographical information will be presented with the results of the study.

Measures

The following self-report measures were used in this study:

- 1) A self-compiled biographical questionnaire to determine age, ethnicity, education levels and other relevant data.
- 2) The most validated instrument to measure the construct of psychopathy is Robert Hare's Psychopathy Checklist (PCL; 1991; 2003). Some authors have, however, warned about "equating the PCL-R with the theoretical construct of psychopathy" (Skeem & Cooke, 2010, p. 433). The PCL and its revised version consist of semi-structured interviews which require extensive training and take a considerable time to administrate. Since the current study is not diagnostic in nature but aims to determine the prevalence of psychopathic traits, it was opted to use *The Psychopathic Personality Inventory – Revised* (PPI-R; Lilienfeld & Widows, 2005). The

PPI-R is a self-report inventory designed as an alternative measure to identify a continuum of psychopathic traits and attitudes. Although the use of self-report measures to identify psychopathic or antisocial traits has been criticised in the past, the trend to use such measures seems to be on the increase. The main reasons behind the augmented use of self-report measures are the reduced financial and time constraints, and the assessment of response styles through validity scales rather than the possible subjectivity found in assessment through interviews (Lilienfeld & Fowler, 2007).

The PPI-R consists of 154 items, eight content scales, Machiavellian Egocentricity (ME), Rebellious Nonconformity (RN), Blame Externalisation (BE), Carefree Nonplanfulness (CN), Social Influence (SOI), Fearlessness (F), Stress Immunity (STI), and Coldheartedness (C); four validity scales, including Deviant Responding (DR), Virtuous Responding (VR), and two Inconsistent Responding (IR-15; IR-40) scales. The DR and VR scales are used to identify faking bad and faking good responses respectively, whereas the IR scales eliminate careless or random responses. The items are answered using a 4-point Likert-type scale (1 = *false*, 2 = *mostly false*, 3 = *mostly true*, and 4 = *true*). Construct, convergent, discriminant and external validity have been found satisfactory in international studies, although in the present study the content validity is concerning. Cultural differences and the effects of a low socioeconomic upbringing could impact on questions such as “When I go on holiday, I plan everything well”, or “I would have liked to be a ‘hippie’”. Cronbach alpha coefficients have been found to range from 0.71 to 0.84, and 0.91 in an American prison sample and a Belgian community sample respectively (Lilienfeld & Widows, 2005; Uzieblo, Verschuere, Van den Bussche, Crombez, 2010).

No studies administering the PPI-R in the South African context could be found to corroborate the psychometric properties.

Administration of the questionnaires

The Mangaung Correctional Centre houses a variety of different cultures, ethnicities and even nationalities. Administering the measures brought forward challenges such as language and comprehension difficulties. Cross-cultural research has been plagued by questionable comparability of test scores across cultures. Different forms of bias, or nuisance factors, have also been identified as impacting on the equivalence of scores across cultures (see Ægisdóttir, Gerstein & Çinarbas, 2008). In order to employ existing measures to differing target populations, the instruments have to be adapted. The mere translation of measures often lack culturally interpretive depth, which implies that the adaptation of measures should also include culture-specific content alterations (Geisinger, 1994). Needless to say, this process demands additional attention to the psychometric properties of the measure, as well as normative consideration. Of the 11 official languages in South Africa, English is the one common denominator. It was therefore opted that translators would assist with the correct interpretation of the questions as well as to contextually explain the use of English jargon such as “daredevil”, which was not understood by a number of the participants. Participants were divided into smaller groups (1 to 5), according to their home language, and were appointed a translator of the same language.

Statistical analysis

To determine the validity of psychopathy, as measured by the PPI-R, exploratory and confirmatory factor analyses will be conducted. SPSS Version 18 will be employed to perform the exploratory factor analysis. Results from the initial factor analysis will then be subjected to a confirmatory factor analysis, performed by the EQS 6 Structural Equations Programme.

Results and Discussion

Table 1 presents the demographic characteristics of the sample. Most participants were aged between 36 and 55 years, followed by between 18 to 35 years. Sesotho was the most spoken home language, followed by Afrikaans, Xhosa, Tswana, Zulu, English and Northern Sotho. Less than 10% of the participants had either never received any schooling or had some form of tertiary education, while most had received either some primary or secondary schooling. The diversity of individual crimes was grouped into violent, sexual and economic-related offences. Sexual crimes are often included in the violent crime category; however, the high rate of sexual crimes in South Africa deserves individual attention. For this reason the sexual crimes and violent crimes are portrayed as separate categories.

Violent crimes represented almost half of the sample, while sexual and economic related crimes represented almost a third and a quarter of the sample respectively. Almost half of the total sample indicated that they have served previous prison terms, of which more than half represent economic crimes, one third violent crimes, and just over 10% represented crimes of a sexual nature.

Table 1: Demographic characteristics

Characteristic	Total N=442	sample %
Age		(N=439)¹
18-35	174	40
36-55	251	57
56+	14	3
Language		(N=439)
Sesotho	152	35
Afrikaans	124	28
Xhosa	66	15
Tswana	50	11
Zulu	31	7
English	11	3
Northern Sotho	5	1
Education		(N=429)
None	28	7
Some primary	195	45
Some secondary	170	40
Tertiary	36	8
Family trouble with law		(N=429)
Father	49	11
Mother	16	4
Brothers	95	22
Sisters	19	4
Times arrested before the age of 16		(N=406)
Never	303	75
Once	49	12
2-4 times	40	10
More than 5 times	14	3
Previous prison terms		(N=437)
None	241	55
1-2	123	28
3-4	39	9
5 and more	34	8
Previous crime classification		(N=163)
Violent/aggressive	53	33
Sexual	22	13
Economic	88	54
Current crime classification		(N=431)
Violent/aggressive	198	46
Sexual	129	30
Economic	104	24
Length of sentence		(N=411)
Less than 10 years	19	5
11-40 years	294	71
More than 40 years	17	4
Life	81	20
Feelings about crime		(N=406)
System failed me	72	18
Circumstances	49	12
Regret	285	70

¹ Sample sizes differ because of incomplete items

Most of the participants are serving 11 to 40 year sentences, with 20% serving life sentences, and less than 10% serving either more than 40 years or less than 10 years. When participants were asked how they felt about the crimes they committed, almost 20% stated they were failed by the judicial system, while just over 10% blamed environmental factors for their criminal activities. The remaining majority indicated that they regret their actions.

Exploratory factor analysis

In order to replicate the factorial composition of the PPI-R, items representing the eight factors, or subscales, were first analysed with the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity. The KMO indicates the strength of relationships among variables in a correlation matrix. KMO statistics are often considered to indicate a minimum of 0.70 for conducting a factor analysis. Bartlett's Test tests the null hypothesis that all the correlations in the matrix to be factor-analysed are zero, which indicates that insignificant results would exclude factor analyses (Vogt, 2005). Only two factors, Rebellious Nonconformity (0.69) and Fearlessness (0.65) did not meet the minimum criteria for KMO statistics. However, all factors did indicate significant results on Bartlett's Test, implying adequate fit for factor analysis.

Items for each factor were analysed individually. First, items with eigenvalues of ≥ 1 were extracted, which resulted in multiple factors per subscale. The analysis was then specified to reveal only one factor. Items with factor loadings below 0.30 were eliminated. A total of 45 items did not display adequate factor loadings and were omitted. Most of the omitted items are indicative of cultural, language, educational and general comprehension barriers. Culturally, the vast majority of South Africans, as well as the prison population, stem from predominantly collectivistic

cultures. Omitted items such as “I pride myself on being offbeat and different from others” or “I look out for myself before I look out for anyone else”, might reflect core characteristics of psychopathy. However, these statements also oppose the altruistic background of the majority of the participants. With regard to language and comprehension difficulties, the negative phrasing of some items, such as “I haven’t thought much about what I want to do with my life”, or “I hardly ever end up being the leader of the group” could have proven difficult to reword into different languages, and thereby causing confusion. Some items just did not fit into the participants’ frame of reference, including items referring to skydiving, writing poetry in a commune, being a race car driver, and the use of English idioms or jargon such as “rake over the coals” or “daredevil”.

Not surprisingly, the eliminated items are also responsible for impeding reliability scores. Table 2 reports on the internal consistency scores for the original inclusive factors, as well as after omission of the low factor loading items. The alpha coefficient scores on all factor scales, except Rebellious Nonconformity, clearly elevated after the omission of the specified items.

Table 2: Internal consistency scores before and after omission of items with low factor loadings

PPI-R factors	Alpha coefficient scores before omission	Alpha coefficient scores after omission²
ME	0.72	0.75
RN	0.61	0.60
BE	0.58	0.72
CN	0.69	0.79
SOI	0.53	0.66
F	0.52	0.60
STI	0.54	0.70
C	0.61	0.68

To further extend analysis of the PPI-R validity, the adapted factor scales were subjected to a confirmatory factor analysis.

² Further analysis of the PPI-R in subsequent articles only included validated items

Confirmatory factor analysis

Goodness-of-fit statistics incorporated in the analysis included the Comparative fit index (CFI); Joreskog-sorbom's GFI fit index, the Root mean-square error of approximation (RMSEA), and the standardised Root mean-square residual index (RMR). The values for the CFI and GFI indexes are deemed acceptable when scores are between 0.9 and 0.94, while a good model fit requires scores ≥ 0.95 . RMSEA scores of ≤ 0.08 are considered acceptable, while a perfect model fit is approximately zero. Similar to RMSEA, the RMR scores are considered acceptable with a score equal to, or smaller than 0.08.

Table 3 reports on the goodness-of-fit statistics. Joreskog-sorbom's GFI fit index, as well as the standardised Root mean-square residual revealed reasonably good fits for all the factors. CFI scores for Machiavellian Egocentricity, Rebellious Nonconformity, Fearlessness, and Coldheartedness subscales, however, were found to lack acceptable model-fit statistics. The Fearlessness subscale also failed to achieve acceptable results on the RMSEA scale.

Table 3: Confirmatory factor analysis goodness-of-fit statistics

	CFI	GFI	RMSEA	RMR
ME	0.836*	0.938	0.056	0.054
RN	0.760*	0.949	0.063	0.058
BE	0.936	0.969	0.049	0.041
CN	0.921	0.954	0.052	0.045
SOI	0.936	0.974	0.039	0.041
F	0.702*	0.933	0.103*	0.076
STI	0.979	0.985	0.030	0.032
C	0.897*	0.965	0.049	0.046

* Not a good fit

As previously stated, Rebellious Nonconformity and Fearlessness factors also did not present adequate KMO scores in the exploratory factor analysis. This could indicate that these two scales need further revision with the application of the PPI-R in the South African context.

Conclusion

The main findings of this study confirm the influential role which overarching cultural differences play in the expression of psychopathologies. Factor analyses revealed that several items have to be omitted from the PPI-R to increase the psychometric properties of the instrument in the South African context. The omitted items largely echoed the influence of language and comprehension, as well as cultural and socioeconomic heritage on the interpretation of items. The confirmatory factor analysis indicated a relatively acceptable application of the adapted construct in the South African context. However, the Rebellious Nonconformity and Fearlessness factors demand additional validation attention, as Rebellious Nonconformity refers to unconventionality and defiance of social norms, which contradict the basic principles of collectivistic communities. Fearlessness, on the other hand, refers to proneness for risk-taking behaviour and the absence of anxiety. The selected items intended to measure this factor, however, includes concepts which are arguably foreign to many of the offenders, especially those who originate from dire impoverished communities.

The following limitations are evident in this study:

The use of international self-report measures, normed for specific cultural groups, has been included in the cross-cultural validation debate. The socio-political turbulence South Africa has been experiencing for the past number of years has suppressed positive growth in psychological research. This implies that there is a severe lack of culture-specific knowledge

contribution with regard to the manifestation of psychopathologies. The richness of South Africa's heritage is evident from the 11 official languages, and the variety of cultures, ranging from predominantly traditional African cultures to those largely Western influenced. In order to ultimately develop assessment measures normed specifically for South African cultural groups, researchers first have to focus on the applicability of Westernised concepts on the South African population. As a starting point, the current study incorporated international measuring instruments, not to implement as diagnostic tools, but to examine the similarities and differences between national and international findings.

Less developed African languages might lack identifiable synonyms for English or academic jargon. A limited number of South Africa's variety of official languages is incorporated in primary or secondary education. This implies that most children are educated in a second or even third language. The only two languages currently used for academic communication on tertiary level are Afrikaans and English. The verbal and written translation of measuring instruments into some less developed languages poses the threat of diminishing validity through the loss of intended conceptualisation of items.

A large group of participants had either never received any schooling or were only partially schooled. Therefore, the translators had to extensively explain some of the items or concepts and write down the participant's answers for them. Because of the group-format in which the assessment took place, it could have been embarrassing for the participants to admit their illiteracy or to ask additional questions if they did not understand some of the items.

A criticism of psychopathy studies is that disproportionate attention is focused on male offender samples, while largely excluding gender and age

differences, as well as community populations. Although this study is also guilty of the mentioned criticism, the aim was to start exploring psychopathy and antisocial personalities in general (as in the subsequent articles) in the South African context, and the larger developing world. Further investigation surrounding psychopathy including these and other additional populations should follow.

In order to ultimately create a culturally inclusive measure of psychopathy for the South African context, it is recommended that this study be extended to include additional measurements of psychopathy, such as the PCL-R as well as other self-report measures. More representative samples will also have to be included in the assessments to determine the extent of ethnic or cultural influence on the manifestation of the disorder.

References

- Blair, R. J. R. (2005). Applying a cognitive neuroscience perspective to the disorder of psychopathy. *Development and Psychopathology*, 17, 865-891.
- Cooke, D. J. (1996). Psychopathic personality in different cultures: What do we know? What do we need to find out? *Journal of Personality Disorders*, 10, 23-40.
- Cooke, D. J. (1997). Psychopaths: oversexed, overplayed but not over here? *Criminal Behaviour and Mental Health*, 7, 3-11.
- Cooke, D. J. (1998). Cross-cultural aspects of psychopathy. In D. J. Cooke, A. E. Forth & R. D. Hare (Eds.), *Psychopathy: Theory, research and implications for society* (pp. 13-45). Dordrecht: Kluwer Academic.
- Cooke, D. J., Hart, S. D., & Michie, C. (2004). Cross-national differences in the assessment of psychopathy: Do they reflect variations in raters' perceptions of symptoms? *Psychological Assessment*, 16, 35-339.
- Cooke, D. J., & Michie, C. (1999). Psychopathy across cultures: North America and Scotland compared. *Journal of Abnormal Psychology*, 108, 58-68.
- Cooke, D. J., Michie, C., Hart, S. D., & Clark, D. (2005a). Searching for the pan-cultural core of psychopathic personality disorder. *Personality and Individual Differences*, 39, 283-295.
- Cooke, D. J., Michie, C., Hart, S. D., & Clark, D. (2005b). Assessing psychopathy in the UK: concerns about cross-cultural generalisability. *British Journal of Psychiatry*, 186, 335-341.
- Cross, S. E., & Markus, H. R. (1999). The cultural constitution of personality. In L. A. Pervin & P. O. John (Eds.), *Handbook of personality* (pp. 378-396). New York: Guilford.
- Dahle, K. (2006). Strengths and limitations of actuarial prediction of criminal reference in a German prison sample: A comparative study of the LSI-R,

HCR-20, and PCL-R. *International Journal of Law and Psychiatry*, 29, 431–442.

Dolan, M., & Doyle, M. (2007). Psychopathy: Diagnosis and implications for treatment. *Psychiatry*, 6(10), 404-408.

Douglas, K. S., Vincent, G. M., & Edens, J. F. (2007). Risk for criminal recidivism. In C. J. Patrick (Ed.), *Handbook of Psychopathy* (pp. 533-554). New York: The Guilford Press.

Ægisdóttir, S., Gerstein, L. H., & Çinarbas, D. C. (2008). Methodological Issues in Cross-Cultural Counseling Research: Equivalence, Bias, and Translations. *The Counseling Psychologist*, 36(2), 188-219. doi: 10.1177/0011000007305384.

Geisinger, K. F. (1994). Cross-Cultural Normative Assessment: Translation and Adaptation Issues Influencing the Normative Interpretation of Assessment Instruments. *Psychological Assessment*, 6(4), 304-312.

Hare, R. D. (1991). *The Hare Psychopathy Checklist-Revised*. Canada: Multi-Health Systems.

Hare, R. D. (2003). *The Hare Psychopathy Checklist-Revised* (PCL-R; 2nd ed.). Ontario: Multi-Health Systems.

Hare, R. (2009). Psychopathy among prisoners in England and Wales. *International Journal of Law and Psychiatry*, 32, 134–141

Hare, R. D., & Neumann, C. S. (2009). Psychopathy: Assessment and Forensic Implications. *The Canadian Journal of Psychiatry*, 54(12), 791-802.

Lilienfeld, S. O., & Fowler, K. A. (2007). The Self-Report Assessment of Psychopathy. In C. J. Patrick (Ed.), *Handbook of Psychopathy* (pp. 102-132). New York: Guilford Press.

Lilienfeld, S. O., & Widows, M. R. (2005). *Professional manual for the Psychopathic Personality Inventory–Revised*. Florida: Psychological Assessment Resources.

Lynn, R. (2002). Racial and ethnic differences in psychopathic personality. *Personality and Individual Differences*, 32, 273-316.

- Maree, K. (2010). Assessment in psychology in the 21st century - a multi-layered endeavour [Editorial]. *South African Journal of Psychology*, 40(3), 229-233.
- Mikton, C., & Grounds, A. (2007). Cross-cultural clinical judgment bias in personality disorder diagnosis by forensic psychiatrists in the UK: A case-vignette study. *Journal of Personality Disorders*, 21(4), 400-417.
- Minas, H. (2001). Service Responses to Cultural Diversity. In G. Thornicroft & G. Szumukler (Eds.), *Textbook of Community Psychiatry* (pp. 192-206). Oxford, New York: Oxford University Press.
- Moll, I. (2002). African psychology: Myth and reality. *South African Journal of Psychology*, 32(1), 9-16.
- Mosotho, L., Louw, D., Calitz, F. J. W., & Esterhuyse, K. G. F. (2008). Clinical manifestations of mental disorders among Sesotho speakers. *International Journal of Psychiatry in Clinical Practice*, 12(3), 171-179.
- Murphy, J. (1976). Psychiatric labeling in cross cultural perspectives. *Science*, 19, 1019-1028.
- Ponterotto, J. G., Casas, J. M., Suzuki, L. A., & Alexander, C. M. (Eds.). (1995). *Handbook of multicultural counseling* (2nd ed.). Thousand Oaks, CA: Sage Publications Inc.
- Reddy, T. (2010). South Africa and the West. *The New Presence*, 1, 23-26.
- Schwellnus, I. (2004). Psychopathic traits in a group of Basotho students (Unpublished master's dissertation). University of the Free State, Bloemfontein.
- Shine, J., & Hobson, J. (1997). Construct validity of the Hare Psychopathy Checklist, Revised, on a UK prison population. *The Journal of Forensic Psychiatry*, 8(3), 546-561.
- Skeem, J. L., & Cooke, D. J. (2010). Is Criminal Behavior a Central Component of Psychopathy? Conceptual Directions for Resolving the Debate. *Psychological Assessment*, 22(2), 433-445.

- Skeem, J. L., Edens, J. F., Camp, J., & Colwell, L. H. (2004). Are there ethnic differences in levels of psychopathy? A meta-analysis. *Law and Human Behavior, 28*(5), 505-527.
- Skeem, J. L., Edens, J. F., Sanford, G. M., & Colwell, L. H. (2003). Psychopathic personality and racial/ethnic differences reconsidered: A reply to Lynn (2002). *Personality and Individual Differences, 35*, 1439-1462.
- Sullivan, E. A., Abramowitz, C. S., Lopez, M., & Kosson, D. S. (2006). Reliability and construct validity of the Psychopathy Checklist-Revised for Latino, European American, and African American male inmates. *Psychological Assessment, 18*(4), 382-392.
- Sullivan, E. A., & Kosson, D. S. (2007). Ethnic and cultural variations in psychopathy. In C. J. Patrick (Ed.), *Handbook of Psychopathy* (pp. 437-458). New York: The Guilford Press.
- Uzieblo, K., Verschuere, B., Van den Bussche, E., & Crombez, G. (2010). The validity of the Psychopathic Personality Inventory-Revised in a community sample. *Assessment, 17*(3), 334-346.
- Van de Vijver, A. J. R., & Rothmann, S. (2004). Assessment in multicultural groups: The South African case. *South African Journal of Industrial Psychology, 30*(4), 1-7.
- Vogt, W. P. (2005). Dictionary of statistics & methodology: A nontechnical guide for the social sciences (3rd ed.). Thousand Oaks, CA: Sage Publications Inc.
- Wernke, M. R., & Huss, M. T. (2008). An alternative explanation for cross-cultural differences in the expression of psychopathy. *Aggression and Violent Behavior, 13*, 229-236.
- Wheeler, E. A., Ampadu, L. M., & Wangari, E. (2002). Lifespan development revisited: African-centered spirituality throughout the life cycle. *Journal of Adult Development, 9*(1), 71-78.
- Zuckerman, M. (2003). Are there racial and ethnic differences in psychopathic personality? A critique of Lynn's (2002) racial and ethnic

differences in psychopathic personality. *Personality and Individual Differences*, 35, 1463-1469.

Antisocial Personalities: Prevalence among offenders in South Africa

Abstract	1
Introduction	1
The antisocial personalities	3
Methodology	7
<i>Participants and procedure</i>	7
<i>Measures</i>	8
<i>Administration of questionnaires</i>	9
<i>Statistical analysis</i>	10
Results and discussion	11
<i>Psychopathic traits</i>	13
<i>ASPD traits</i>	17
<i>DPD traits</i>	18
<i>Comorbidity</i>	19
Conclusion	21
Reference list	22

Tables

Table 1: Demographic characteristics	12
Table 2: Prevalence of antisocial personalities	13
Table 3: VR and DR median responses	15
Table 4: PPI-R multiple analysis of variance	16
Table 5: ASPD and DPD internal consistency	17

Figures

Figure 1: Comorbidity of antisocial personalities

20

Antisocial personalities: Prevalence among offenders in South Africa

Abstract

The identification of offenders who meet the criteria for psychopathy, antisocial personality disorder or dissocial personality disorder could be of significant value for the violent crime crisis in South Africa. A sample of 500 male maximum security offenders was selected to be assessed with the Psychopathic Personality Inventory-Revised (PPI-R) and subscales representing antisocial and dissocial personality disorders from the DSM-IV and ICD-10 Personality Questionnaire (DIP-Q). Results for the incidence of psychopathy and dissocial personality disorder indicate a similar trend than other countries, whereas the prevalence of antisocial personality disorder contradicts international findings. These results warrant further investigation into the expression of antisocial personalities in the South African context.

Introduction

Along with a turbulent history of social and political transformation, South Africa is also notorious for violent crime and its resulting ripple-effect on all spheres of life. The South African Police Service (SAPS) has reported a slight decrease in most crime categories from previous years. However, it is disquieting that 72% of all offenders are currently incarcerated because of violent crimes (Department of Correctional Services [DCS], 2009; SAPS, 2010).

Important social factors related to violent crime have been identified as poverty-related variables, urbanisation, the influx of illegal immigrants as well as a lack of policing and economical inequality (Demombynes & Ozler,

2005; SAPS, 2010). South Africans have also been criticised for the adoption of a “culture of violence”, implying the acceptance of violence in conflict resolution and everyday life (DCS, 2007, p. 50; Louw, 2007). Despite the causative role these and other social causal factors play, research regarding possible intrapersonal contributory factors of violent crime, such as personality characteristics, have been severely neglected.

The identification of a distinct criminal personality type has been fraught with methodological problems and complexities associated with personality formation. Several studies have, however, determined a significant association between violent crime and antisocial personalities, including psychopathy, antisocial personality disorder (ASPD) and dissocial personality disorder (DPD; Dolan & Doyle, 2007; Hare, Hart & Harpur, 1991; Porter & Woodworth, 2006; Snowden, Gray, Smith, Morris & MacCulloch, 2004). Regrettably, disagreements surrounding the classification of the antisocial personalities have hindered the potential identification of individuals who meet the diagnostic criteria of an antisocial personality, resulting in a failure to take the diagnosis into consideration when planning and implementing treatment and rehabilitation strategies.

The present study will therefore focus on differentiating between the antisocial personalities in order to determine the prevalence in a South African maximum security prison sample. The research should prove valuable to gain a better understanding of offenders and ultimately impact on their rehabilitation or treatment needs.

The antisocial personalities

Since the early 1800's the antisocial personalities have been referred to as madness without psychotic features, moral insanity, psychopathy, sociopathy, antisocial personality disorder and dissocial personality disorder (American Psychiatric Association [APA], 1952/1968/1980/1994/2000;

Cleckley, 1941; Pinel as cited in Andrade, 2008; World Health Organisation [WHO], 1992). The concept of psychopathy evolved from earlier descriptions of the disorder and finally expanded into a modern clinical portrait with Cleckley's (1941) set of characteristics associated with the psychopathic personality. The characteristics included superficial charm, intelligence, the absence of delusions and nervousness, unreliability, untruthfulness and insincerity, a lack of remorse, antisocial behaviour, poor judgement and failure to learn from experience, pathological egocentricity, general poverty in major affective reactions, unresponsiveness in general interpersonal relations, potential substance abuse, largely unsuccessful suicidal tendencies, impersonal sexual relations, and failure to follow any life plan.

The APA's *Diagnostic and Statistical Manual of Mental Disorders* (DSM) incorporated Cleckley's characteristics to formulate diagnostic criteria for antisocial reaction, one of six personality disturbances under the broader sociopathic personality disorder (APA 1952; 1968). In a failed attempt to minimise confusion among clinicians and to promote the effective communication of mental disorders, the APA replaced the term sociopathic personality disorder with ASPD in the subsequent publication of the DSM (APA, 1980).

Since then, very little research attention has been given to sociopathy, largely because of differing views on defining the current concept. Lykken (1995, p.7) regards sociopathy and psychopathy as "opposite endpoints of a common dimension, with difficult temperament maximized at the psychopathic end and inadequate parenting maximized at the sociopathic end". Thus, according to Lykken, the only difference between psychopathy and sociopathy is the origin of the disorders. While the aetiology of psychopathy is widely regarded to be biological in nature, sociopathy is considered to have its origins in parental and socialisation deficits, which in

turn, might lead to related psychopathic traits. Babiak and Hare (2006, p. 19), however, does not quite agree with this definition of sociopathy and regards the concept as “patterns of attitudes and behaviours that are considered antisocial and criminal by society at large, but are seen as normal or necessary by the subculture or social environment in which they developed”. Although both definitions of sociopathy indicate the importance of inadequate socialisation, Babiak and Hare (2006) do not seem to view psychopathy and sociopathy as similar in construct. Where psychopathy is deemed a disorder of personality, and not necessarily associated with crime, sociopathy is regarded as consisting of attitudes and behaviours which are often related to criminal activities. Sociopathic individuals are also considered to encompass a normal capacity for empathy, guilt and loyalty, although the foundation of their moral sense of right and wrong are skewed.

These apparent inconsistencies in the definition of sociopathy have led to the exclusion of the concept in the present study. The current focus will therefore fall on psychopathy, ASPD and DPD.

While *personality traits* played a central role in the original construct of psychopathy, the diagnostic criteria for ASPD focuses more on the *behaviours* that typify the disorder (Hare et al., 1991). According to the most recent APA guidelines, the DSM-IV-TR, ASPD can only be diagnosed when the individual is 18 years old and has a proven history of conduct disorder before the age of 15. Other prerequisites include the presence of three or more of the following criteria: a disregard for social norms and the safety of others, deceitfulness, impulsivity, aggressiveness, irresponsibility, and a lack of remorse (APA, 2000). The APA also stipulates the manifestation of these criteria in behavioural terms. The reasoning behind moving away from the original personality focused criteria was that behaviour, unlike personality traits, can arguably be more reliably measured

(Hare, 1996). In response to the adaptation, Hare contends that ASPD fails to assess the interpersonal factors that maintain antisocial behaviour. Widiger, Frances and Trull (1989), in agreement with Hare, argue that a specific personality trait may cause a variety of behaviours and a specific behaviour could reflect more than one personality trait. Based on Cleckley's original personality-based criteria for psychopathy, Robert Hare set out to discriminate between ASPD and psychopathy. He developed a set of measurable criteria, the Hare Psychopathy Checklist (PCL; 1980; 1991; 2003), to assess the extent of psychopathic traits present in individuals. Studies have found that only 15% to 38% of individuals who are diagnosed with ASPD meet the revised version of the PCL criteria for psychopathy, while around 80% to 90% of psychopathic offenders also meet ASPD criteria (Dolan & Doyle, 2007; Hare, 2003; Hildebrand & de Ruiter, 2004).

Adding to the confusion surrounding the diagnosis of psychopathy and ASPD, the 10th edition of the World Health Organisation's *International Classification of Diseases* (ICD-10), uses the term dissocial personality disorder to conceptualise a set of symptoms also based on psychopathic personality traits. DPD is characterised by gross disparity between behaviour and the prevailing social norms, callous unconcern for the feelings of others, irresponsibility, incapacity to retain relationships, low frustration tolerance, incapacity for guilt and a tendency for blame externalisation (WHO, 1992). In contrast with ASPD, the diagnostic criteria for DPD focuses more on the traditional concept of psychopathy, but emphasises the *lack of affect or expressed emotion* rather than the presence of specific personality traits or behaviours (Ogloff, 2006). Unlike psychopathy, which has by far been the most researched of the antisocial personalities, very few studies have focused exclusively on DPD.

The diagnostic criteria of psychopathy, ASPD and DPD do overlap to some extent. Traits such as deceitfulness and impulsivity are both criteria for

psychopathy and ASPD, while DPD, ASPD and psychopathy criteria all include irresponsibility, a lack of remorse, disregard for social norms, and irritability. Psychopathic and DPD criteria also overlap in terms of a proneness to blame others for unacceptable behaviours. Nevertheless, it is clear that the diagnostic criteria for psychopathy, ASPD and DPD place emphasis on the presence or absence of different characteristics, thereby encouraging the notion of three distinct, but related disorders.

Despite the extensive research focus on psychopathy, the construct is yet to be included as a personality disorder in the DSM or ICD. The APA does, however, acknowledge the use of psychopathy, sociopathy and DPD as a synonym for ASPD in the DSM-IV-TR (APA, 2000). The ICD-10, on the other hand, also includes amoral, antisocial, asocial, psychopathic, and sociopathic personalities in the description of DPD (WHO, 1992). The recognition, and inclusion in the case of the ICD-10, of these additional constructs in the diagnostic criteria of ASPD and DPD only adds to what Hare (1996, p. 39) identifies as a “diagnostic confusion” surrounding these personalities, which has hindered the reliability of diagnoses and potential treatment of persons involved.

Studies have shown that offenders who meet psychopathic or ASPD criteria have greater criminogenic needs, commit more violent crimes, and tend to recidivate more than non-psychopathic offenders (Babiak & Hare, 2006; Hemphill, Hare & Wong, 1998; Simourd & Hoge, 2000; Wilson, 2004; Wojciechowski, 2002). The identification of antisocial personalities within the South African criminal justice system could therefore impact on the employment of effective risk assessment, treatment programmes and rehabilitation strategies.

Methodology

Participants and procedure

In order to ensure that the rights of participants were not infringed on, permission for the current study was granted by two ethical committees representing the Department of Psychology and the Faculty of Humanities at the University of the Free State. Furthermore, an independent review of the current study's proposal was conducted by the Department of Correctional Services' research department. A non-experimental quantitative research approach was employed to acquire data at Mangaung Correctional Centre (MCC), a maximum security prison located near Bloemfontein housing approximately 3 000 male offenders. A randomised sample of 500 offenders representing various ethnicities and types of crime was selected through the MCC database. The selected offenders were summoned to the visitation hall in groups of 30 where they were informed of the purpose of the study and given the option of participating or returning to their relevant units or work activities. A few offenders opted not to participate in the study, largely because of work responsibilities. This resulted in a response rate of 88%. After the briefing, willing participants were asked to sign a consent form, thereby agreeing to take part in the study and granting permission for use of the information.

A detailed depiction of the sample's biographical information will be presented with the results of the study.

Measures

The following self-report measures were used in this study:

- 1) A self-compiled biographical questionnaire to determine age, ethnicity, education levels and other relevant data.

2) The most validated instrument to measure the construct of psychopathy is Robert Hare's Psychopathy Checklist - Revised (1991, 2003). However, the PCL-R consists of semi-structured interviews which require extensive training and take a considerable time to administrate. Since the current study is not diagnostic in nature but aims to determine the prevalence of psychopathic traits, it was opted to use *The Psychopathic Personality Inventory – Revised* (PPI-R; Lilienfeld & Widows, 2005). The PPI-R is a self-report inventory designed as an alternative measure to identify a continuum of psychopathic traits and attitudes. Although the use of self-report measures to identify psychopathic or antisocial traits has been criticised in the past, the trend to use such measures seems to be on the increase. The main reasons behind the augmented use of self-report measures are the reduced financial and time constraints, and the assessment of response styles through validity scales rather than the possible subjectivity found in assessment through interviews (Lilienfeld & Fowler, 2007).

The PPI-R consists of 154 items, eight content scales, Machiavellian Egocentricity (ME), Rebellious Nonconformity (RN), Blame Externalisation (BE), Carefree Nonplanfulness (CN), Social Influence (SOI), Fearlessness (F), Stress Immunity (STI), and Coldheartedness (C); four validity scales, including Deviant Responding (DR), Virtuous Responding (VR), and two Inconsistent Responding (IR-15; IR-40) scales. The DR and VR scales are used to identify faking bad and faking good responses respectively, whereas the IR scales eliminate careless or random responses. The items are answered using a 4-point Likert-type scale (1 = *false*, 2 = *mostly false*, 3 = *mostly true*, and 4 = *true*). International studies have reported satisfactory construct, convergent and discriminant validity, and Cronbach alpha coefficients have been found to range from 0.71 to 0.84, and 0.91 in an American prison sample and a Belgian community sample respectively

(Lilienfeld & Widows, 2005; Uzieblo, Verschuere, Van den Bussche & Crombez, 2010).

3) To measure antisocial and dissocial personality disorders *The DSM-IV and ICD-10 Personality Questionnaire* (DIP-Q; Ottosson et al., 1995) was used. The DIP-Q is derived from the ICD-10 and DSM-IV classification of mental disorders. The questionnaire consists of 140 true/false items and encompasses all eight ICD-10 and all ten DSM-IV personality disorders' criteria. Only the two subscales measuring DPD and ASPD were used in this study. Preliminary validation of the relevant DIP-Q subscales did not render sufficient reliability coefficients for either the DPD or the ASPD subscales (Ottosson et al., 1995). Findings from a pilot study in the present project did, however, deliver sufficient reliability scores, with alpha coefficients of 0.81 and 0.63 for the ASPD and DPD subscales respectively.

No studies administering the PPI-R or DIP-Q in South African samples could be found to corroborate the mentioned psychometric properties.

Administration of questionnaires

The Mangaung Correctional Centre houses a variety of different cultures and ethnicities. Administering the measures brought forward challenges such as language and comprehension difficulties. Of the 11 official languages in South Africa, English is the one common denominator. It was therefore opted that translators would assist with the correct interpretation of the questions as well as to contextually explain the use of English jargon such as "daredevil", which was not understood by a number of the participants. Participants were divided into smaller groups (1 to 5), according to their home language, and were appointed a translator of the same language.

Statistical analysis

SAS Version 9.1.3 and SPSS Version 18 were employed to analyse the data. Recent taxometric analyses report that both antisocial personality disorder and psychopathy are more dimensional in nature than categorical, and should therefore rather be measured on a continuum (e.g., Marcus, John & Edens, 2004; Marcus, Lilienfeld, Edens & Poythress, 2006). The DIP-Q, however, only allows for categorical responses, thus the results for the prevalence of ASPD and DPD traits will mainly be descriptive in nature. The PPI-R, on the other hand, allows for the dimensionality of psychopathy to be incorporated. The participants' total PPI-R scores will be divided into four groups representing scores ranging from 60-69 (low psychopathy), 70-79 (moderate psychopathy), ≥ 80 (high psychopathy), and non-psychopaths. A multivariate analysis of variance (MANOVA) will be conducted to identify whether scores differ significantly between the groups. The Scheffé-procedure will then be incorporated to further explore the differences between groups associated with psychopathic traits. To determine the magnitude of statistically significant results, effect sizes will be calculated. The 5% as well as the 1% level of significance will be used in this study.

An outline of the sample's relevant demographic characteristics will be presented first (Table 1), followed by a successive discussion on the prevalence of psychopathy, antisocial personality disorder and dissocial personality disorder.

Results and discussion

Most participants were aged between 36 and 55 years, followed by between 18 to 35 years. Sesotho was the most spoken home language, followed by Afrikaans, Xhosa, Tswana, Zulu, English and Northern Sotho. Less than 10% of the participants had either never received any schooling or had some form of tertiary education, while most had received either some

primary or secondary schooling. The diversity of individual crimes was grouped into violent, sexual and economic-related offences. Sexual crimes are often included in the violent crime category; however, the high rate of sexual crimes in South Africa deserves individual attention. For this reason the sexual crimes and violent crimes are portrayed as separate categories.

Violent crimes represented almost half of the sample, while sexual and economic related crimes represented almost a third and a quarter of the sample respectively. Almost half of the total sample indicated that they have served previous prison terms, of which more than half represent economic crimes, one third violent crimes, and just over 10% represented crimes of a sexual nature. Most of the participants are serving 11 to 40 year sentences, with 20% serving life sentences, and less than 10% serving either more than 40 years or less than 10 years. When participants were asked how they felt about the crimes they committed, almost 20% stated they were failed by the judicial system, while just over 10% blamed environmental factors for their criminal activities. The remaining majority indicated that they regret their actions.

Table 1: Demographic characteristics

Characteristic	Total sample (N=442)	%
Age		(N=439)
18-35	174	40
36-55	251	57
56+	14	3
Language		(N=439)
Sesotho	152	35
Afrikaans	124	28
Xhosa	66	15
Tswana	50	11
Zulu	31	7
English	11	3
Northern Sotho	5	1
Education		(N=429)
None	28	7
Some primary	195	45
Some secondary	170	40
Tertiary	36	8
Family trouble with law		(N=429)
Father	49	11
Mother	16	4
Brothers	95	22
Sisters	19	4
Times arrested before the age of 16		(N=406)
Never	303	75
Once	49	12
2-4 times	40	10
More than 5 times	14	3
Previous prison terms		(N=437)
None	241	55
1-2	123	28
3-4	39	9
5 and more	34	8
Previous crime classification		(N=163)
Violent/aggressive	53	33
Sexual	22	13
Economic	88	54
Current crime classification		(N=431)
Violent/aggressive	198	46
Sexual	129	30
Economic	104	24
Length of sentence		(N=411)
Less than 10 years	19	5
11-40 years	294	71
More than 40 years	17	4
Life	81	20
Feelings about crime		(N=406)
System failed me	72	18
Circumstances	49	12
Regret	285	70

Psychopathic traits

Table 2 discloses the prevalence of antisocial personalities in the current sample.

Table 2: Prevalence of antisocial personalities³

	Total	% of total N
Psychopathy:		
Total	114	27%
Low psychopathy (60-69)	25	6%
Moderate psychopathy (70-79)	58	14%
High psychopathy (≥ 80)	31	7%
Antisocial personality disorder	77	17%
Dissocial personality disorder	185	38%

N = 442

N = 414 (PPI-R psychopathy)⁴

The PPI-R's Inconsistent Responding scales identify a protocol classification score of acceptable (≤ 14), atypical (15 to 16) and highly atypical (≥ 17) from the sum of absolute difference scores. In the current study, however, only scores deemed as acceptable by the Inconsistent Responding scales were included for interpretation. The scoring of the PPI-R indicates the presence of psychopathic traits when a score of 60 or more is established. The total percentage of individuals who met the criteria for psychopathy represented 27% of the sample. This figure is similar to other reports of psychopathic traits among offenders, which fluctuate from 15% to 25% in American samples. United Kingdom samples, on the other hand, have revealed a much lower account of psychopathy (Coid & Yang, 2006; Hare, 1996; Hare, Clark, Grann & Thornton, 2000; Lalumière, Harris & Rice, 2001). Reasons for the dissimilarity in psychopathy scores could include

³ No South African data on the prevalence of any of the antisocial personalities could be found.

⁴ Sample sizes differ because of omitted items and incomplete questionnaires

cultural differences, the possibility of co-morbid disorders, and differing samples and measures of assessment. The probability of malingering should also be taken into account.

Table 3 reports on the Virtuous Responding (faking good) and Deviant Responding (faking bad) responses. The Deviant and Virtuous Responding scales do not suggest elimination, but significant responses should be taken into consideration with the interpretation of scores. Respondents in the present study indicated a significant ($p \leq 0.01$; $M=72.00$ and $M=75.00$) faking bad response in the two groups representing moderate psychopathy (70-79) and high psychopathy (≥ 80) respectively. This could imply that these respondents are either genuinely more psychopathic, with or without attempts to malingering, or it could imply that the respondents' malingering behaviour naturally elevated the scores on the PPI-R (Edens, Buffington & Tomicic, 2000).

Among other traits, psychopathy is associated with pathological lying and manipulation (Hare, 2003). This association could lead to the assumption that psychopathic respondents are more easily able to influence the outcome of psychopathy measures. Book, Holden, Starzyk, Wasylkiw and Edwards (2006) argue that, although there is a possibility that psychopathic traits could enable socially desirable responses, they are not likely to facilitate malingering. Similarly, Poythress, Edens and Watkins (2001) found an insignificant association between psychopathic traits and malingering among offenders. Edens (2004) reports that psychopathic traits do not significantly influence respondents' self-report scores related to levels of anxiety, harm avoidance or interpersonal dominance, however, social deviance, low constraint and negative emotionality was found to be highly susceptible to faking. The progression in faking bad scores among the psychopathy groups in the current study could be attributed to parallel increases in psychopathic characteristics, such as deceitfulness, thereby

increasing the faking bad score. Alternatively, the elevated faking bad response scores could be attributed to language and comprehension difficulties, which in turn might increase the scores for psychopathic traits. It seems the extent of influence psychopathy has on successful malingering or faking in self-report measures still requires more research interest.

Table 3: VR and DR median responses

PPI-R Group	Median VR	Median DR
Low psychopathy (60-69)	55.00	54.00
Moderate psychopathy (70-79)	53.00	72.00*
High psychopathy (≥ 80)	53.00	75.00*

* $p \leq 0.01$

Concerning the reliability of the PPI-R in the current study, the internal consistency estimates for the original content scales ranged from 0.52 to 0.73. After conducting exploratory and confirmatory factor analyses, several items producing low factor loadings were omitted to increase the instrument's psychometric properties. The alpha coefficients after omission of the items indicate moderate to high reliability (see Article 1).

Results for the multiple analysis of variance conducted to identify significant differences between the mean scores of the psychopathy groups are presented in Table 4. Hotelling's Trace score indicated the presence of significant differences between the variables ($F_{24; 1214} = 6.088$; $p = 0.00$). Significant differences were evident for every PPI-R subscale, except for Blame Externalisation. Further analyses with the Scheffé-procedure resulted in insignificant differences between the psychopathy groups for Blame Externalisation, Social Influence and Stress Immunity subscales. Additionally, results indicated significant differences in psychopathic traits between most groups. The limited insignificant differences were mostly between the non-psychopathic and low psychopathy groups with regard to

Machiavellian Egocentricity, Rebellious Nonconformity, Fearlessness, Carefree Nonplanfulness, and Coldheartedness scales, the latter of which only produced a significant difference between non-psychopathic and moderate psychopathic groups.

Table 4: PPI-R multiple analysis of variance

PPI-R scales	Non- psychopaths		60-69		70-79		≥80		F	p	f
	M	SD	M	SD	M	SD	M	SD			
ME	33.27	9.00	29.08	7.39	36.89	5.50	42.85	8.18	17.78	0.00	0.36
RN	21.69	5.76	20.15	3.51	23.89	3.83	27.97	4.90	16.63	0.00	0.35
BE	29.09	6.75	28.65	8.92	29.14	5.92	31.45	5.72	1.31	0.27	
CN	18.18	5.30	17.54	5.67	21.98	5.79	21.67	5.89	11.16	0.00	0.28
SOI	28.83	6.34	30.12	5.37	30.36	5.10	31.70	4.80	3.08	0.03*	0.15
F	16.70	5.16	13.88	4.07	18.30	3.86	23.30	4.83	22.83	0.00	0.41
STI	19.50	5.81	19.35	7.25	17.84	4.65	16.58	6.39	3.41	0.02*	0.16
C	17.76	5.33	18.00	6.16	20.18	5.28	18.85	5.29	3.38	0.02*	0.16

* $p \leq 0.05$

The calculated effect sizes were evaluated by the following standards: $f=0.1$ (small effect), $f=0.25$ (moderate effect), and $f=0.4$ (large effect). Only the Fearlessness scale produced a large effect size, indicating a strong practical applicability of the significance. However, the Fearlessness scale produced questionable psychometric properties in the factor analyses (see Article 1); therefore this result should be considered with caution. Moderate to strong effect sizes were calculated for Machiavellian Egocentricity, Rebellious Nonconformity, and Carefree Nonplanfulness scales. The remaining three scales, Social Influence, Coldheartedness, and Stress Immunity, report less significant differences ($p \leq 0.05$) together with small effect sizes. The insignificant differences of scales representing some of the core characteristics of psychopathy (e.g., manipulation of others and not taking responsibility for actions) support the notion that the expression of psychopathy among offenders in South Africa might differ from international reports.

ASPD traits

The internal consistency coefficients of the two DIP-Q subscales are reported in Table 5. Similar to the pilot study results, the ASPD subscale showed good internal consistency ($\alpha=0.84$), while the DPD subscale indicated a lower score ($\alpha=0.65$).

Table 5: ASPD and DPD internal consistency

	α
ASPD	0.84
DPD	0.65

The prevalence of ASPD in this sample represented 17% (Table 2). This finding is inconsistently low when compared to other studies where ASPD represented between 38% and 49% of the offender population (APA, 2000; Fazel & Danesh, 2002; Guy, Poythress, Douglas, Skeem & Edens, 2008; Singleton, Meltzer & Gatward, 1998). Estimations of ASPD prevalence among prison populations have been suggested to reach up to 80% (Hare, 2003). Similar to the present study, however, another South African study indicated an ASPD prevalence of only 12% among an unsentenced offender sample (Smal & Louw, 2009). The prerequisite of conduct disorder in the diagnosis of ASPD could influence the low prevalence of the disorder among offenders in South Africa. Most South African cultures still advocate a collectivistic way of living, with extended families and community engagement central to children's upbringing. Children are not necessarily involved in antisocial behaviour from a young age, but poverty-related issues, unemployment, and the effects of HIV/Aids might influence future antisocial behaviour and increase the alluring nature of crime. Along with several impoverished communities spread across South Africa, the country

is also deemed one of the most highly unequal societies in the world in terms of wages or salaries. Of those who are unemployed, young people represent over 70% (Mashele, 2008). The impact of HIV/Aids has also left over a million children orphaned (Kates & Martin, 2006). The trauma associated with this loss as well as the hardships that follow are related to an increased risk for psychological disturbances (Lokhat & Van Niekerk, 2000). The high levels of unemployment, poverty and a sense of desperation might therefore increase the probability of engaging in antisocial or criminal behaviour.

DPD traits

The number of participants meeting the criteria for DPD represented 42% of the total sample (Table 2). Although slightly higher, this finding seems to confirm other reports of DPD ranging from 20% to 40% in offender samples (Ille, Lahousen, Rous, Hofmann & Kapfhammer, 2005; Ullrich, Borkinenau & Marneros, 2001). Smal and Louw (2009) reported a much lower incidence of DPD (5%) among an unsentenced prisoner sample in South Africa. The discrepancy in prevalence of DPD could be attributed to the lack of a culture-specific standardised measure to assess traits related to DPD, as well as the lack of sufficient research studies to compare results. Additionally, the relatively low reliability of the DIP-Q's DPD subscale could impact on the results of the current study.

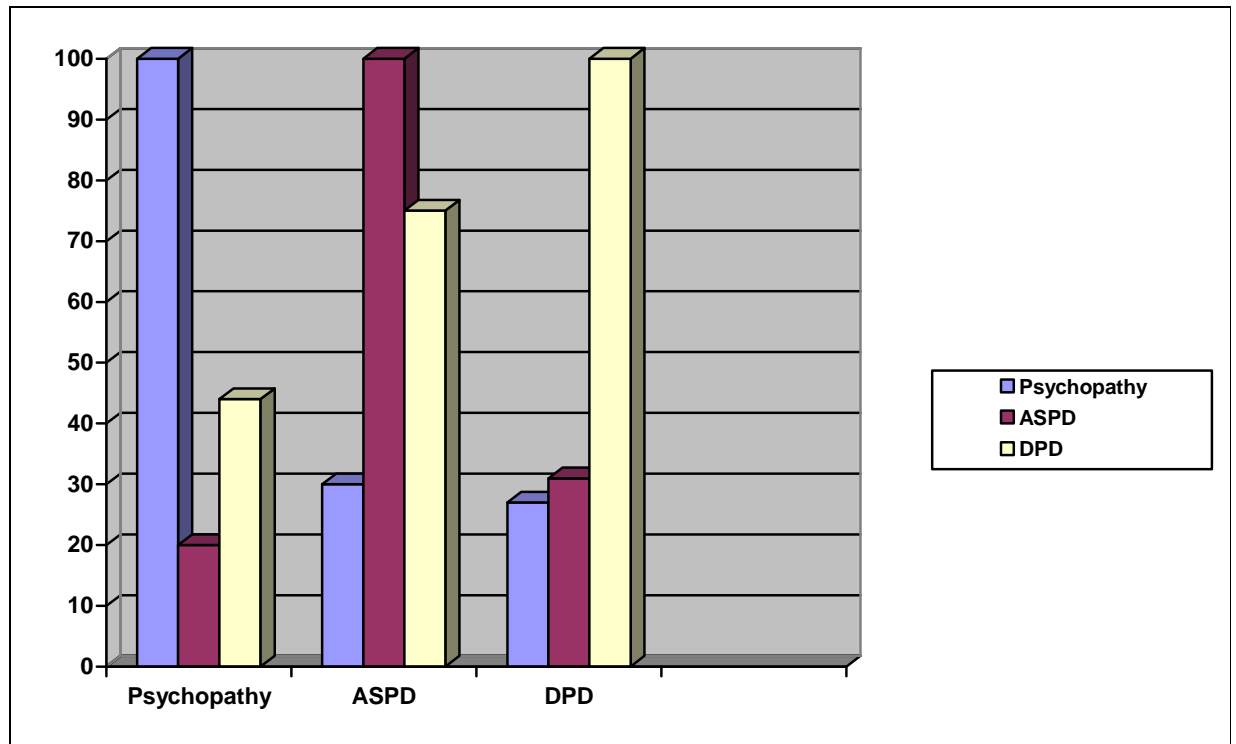
Comorbidity

The comorbidity of the antisocial personalities is presented in Figure 1. Of the participants meeting the criteria for psychopathy, 20% also met the criteria for ASPD, while 30% of those meeting the criteria for ASPD also met the criteria for psychopathy. These findings confirm previous results with regard to the percentage of participants with ASPD who meet the criteria for psychopathy, but contradict other findings concerning participants who are

considered psychopathic also meeting the criteria for ASPD. Hildebrand & de Ruiter (2004) report 81% of those diagnosed as psychopathic met the criteria for ASPD, while 38% of those with ASPD met the criteria for psychopathy. Similarly, Dolan and Doyle (2007) reported that 90% of psychopathic offenders meet the criteria for ASPD, while only 25% to 30% of those diagnosed with ASPD meet the criteria for psychopathy. Coid and Ulrich (2010) also report that 32% of ASPD prisoners meet the criteria for psychopathy.

Once again the discrepancy could be indicative of cultural influence and needs further investigation. Of the participants meeting the criteria for psychopathy, 44% also met the criteria for DPD, while 27% of those who met the diagnostic criteria for DPD also met the criteria for psychopathy. Concerning ASPD and DPD comorbidity, 75% of those who met the criteria for ASPD also met the criteria for DPD, while only 31% of those meeting the criteria for DPD also met the criteria for ASPD. The comorbidity results indicate an evident differentiation between psychopathy, ASPD and DPD as distinct constructs measuring different variables.

Figure1: Comorbidity of antisocial personalities



Conclusion

This study aimed to contribute to the ongoing battle against crime in South Africa by refocusing attention beyond known social contributors to criminal and antisocial behaviour. The main findings indicate a similar prevalence of traits associated with psychopathy and dissocial personality disorder than international studies. Further analysis of psychopathy traits indicated significant differences between most groups representing various levels of psychopathy. Together with reaffirming the dimensionality of psychopathy, this finding also supports the notion of differing cross-cultural expressions of psychopathic traits, although additional research is needed. Similarly, the significantly lower prevalence of antisocial personality disorder emphasises

the need for additional research concerning cultural influences in the manifestation of mental disorders.

This study, however, is not without limitations. Comprehension and language differences were evident throughout this study. Even though the use of translators aided with the interpretation of the measures, differences in contextual comprehension were still evident. The lack of comprehension of certain concepts could also impact on the reliability of the measure and increase faking good/bad responses. Additionally, the measuring instruments used to identify ASPD and DPD criteria did not allow for the dimensional nature of these disorders.

From this background, it is recommended that the exploration into antisocial personalities in the South African context be extended to include other vulnerable populations, including female offenders, youth offenders, as well as the community in general. Furthermore, additional research is needed to explore the influence of culture in the manifestation of antisocial personalities.

Reference list

- American Psychiatric Association. (1952). *Diagnostic and statistical manual of mental disorders*. Washington, DC: APA.
- American Psychiatric Association. (1968). *Diagnostic and statistical manual of mental disorders* (2nd ed.). Washington, DC: APA.
- American Psychiatric Association. (1980). *The Diagnostic and Statistical Manual of Mental Disorders* (3rd ed.). Washington DC: APA.
- American Psychiatric Association. (1994). *The Diagnostic and Statistical Manual of Mental Disorders* (4th ed.). Washington DC: APA.
- American Psychiatric Association. (2000). *The Diagnostic and Statistical Manual of Mental Disorders* (4th ed. Text revision). Washington DC: APA.
- Andrade, J. T. (2008). The inclusion of antisocial behavior in the construct of psychopathy: A review of the research. *Aggression and Violent Behavior*, 13, 328-335.
- Babiak, P., & Hare, R. D. (2006). *Snakes in suits: When psychopaths go to work*. New York: Harper Collins Publishers Inc.
- Book, A. S., Holden, R. R., Starzyk, K. B., Wasylkiw, L., & Edwards, M. J. (2006). Psychopathic traits and deception in experimentally induced conditions. *Personality and Individual Differences*, 41, 601-608.
- Cleckley, H. (1941). *The mask of sanity*. St. Louis: Mosby.
- Coid, J., & Ullrich, S. (2010). Antisocial personality disorder is on a continuum with psychopathy. *Comprehensive Psychiatry*. Advanced online publication. doi:10.1016/j.comppsy.2009.09.006
- Coid, J., & Yang, M. (2006). *The epidemiology of psychopathy*. Presented at the 6th Annual International Association of Forensic Mental Health Services Conference, Amsterdam, and 14-16 June. Retrieved from <http://www.iafmhs.org/iafmhs.asp?pg=pastconf>
- Demombynes, G., & Ozler, B. (2005). Crime and local inequality in South Africa. *Journal of Development Economics*, 76, 265-292.

Department of Correctional Services. (2007). *White Paper on Corrections*. Retrieved from <http://www.dcs.gov.za>

Department of Correctional Services. (2009). *Annual Report for the 2008/2009 financial year*. Retrieved from <http://www.dcs.gov.za>

Dolan, M., & Doyle, M. (2007). Psychopathy: Diagnosis and implications for treatment. *Psychiatry*, 6(10), 404-408.

Edens, J. F. (2004). Effect of response distortion on the assessment of divergent facets of psychopathy. *Assessment*, 11(1), 109-112.

Edens, J. F., Buffington, J. K., & Tomicic, T. L. (2000). An Investigation of the Relationship between Psychopathic Traits and Malingering on the Psychopathic Personality Inventory. *Assessment*, 7, 281-296.

Fazel, S., & Danesh, J. (2002). Serious mental disorders in 23 000 prisoners: A systematic review of 62 surveys. *Lancet*, 359, 545-550.

Guy, L. S., Poythress, N. G., Douglas, K. S., Skeem, J. L., & Edens, J. F. (2008). Correspondence between self-report and interview-based assessments of antisocial personality disorder. *Psychological Assessment*, 20(1), 47-54.

Hare, R. D. (1980). A research scale for the assessment of psychopathy in criminal populations. *Personality and Individual Differences*, 1, 111- 119.

Hare, R. D. (1991). *The Hare Psychopathy Checklist-Revised*. Canada: Multi-Health Systems.

Hare, R. D. (1996). Psychopathy and antisocial personality disorder: a case of diagnostic confusion. *Psychiatric Times*, 13, 39-40.

Hare, R. D. (2003). *The Hare Psychopathy Checklist-Revised (PCL-R; 2nd ed.)*. Ontario: Multi-Health Systems.

Hare, R.D., Clark, D., Grann, M., & Thornton, D. (2000). Psychopathy and the predictive validity of the PCL-R: An international perspective. *Behavioral Sciences and the Law*, 18, 623-645.

Hare, R. D., Hart, S. D., & Harpur, T. J. (1991). Psychopathy and the DSM-IV criteria for antisocial personality disorder. *Journal of Abnormal Psychology*, 100, 391-398.

- Hemphill, J. F., Hare, R. D., & Wong, S. (1998). Psychopathy and recidivism: A review. *Legal and Criminological Psychology*, 3, 141-172.
- Hildebrand, M., & de Ruiter, C. (2004). PCL-R psychopathy and its relation to DSM-IV Axis I and II disorders in a sample of male forensic psychiatric patients in the Netherlands. *International Journal of Law and Psychiatry*, 27, 233-248.
- Ille, R., Lahousen, F., Rous, F., Hofmann, P., & Kapfhammer, H. P. (2005). Personality profile and psychic deviations in offenders examined for psychiatric-forensic appraisal. *Nervenarzt*, 76, 52-60.
- Kates, J., & Martin, A. (2006) *HIV/AIDS Policy Fact Sheet, South Africa*. California: The Kaiser Family Foundation.
- Lalumière, M. L., Harris, G. T., & Rice, M. E. (2001). Psychopathy and developmental instability. *Evolution and Human Behaviour*, 22, 75-92.
- Lilienfeld, S. O., & Fowler, K. A. (2007). The Self-Report Assessment of Psychopathy. In C. J. Patrick (Ed.), *Handbook of Psychopathy* (pp. 102-132). New York: Guilford Press.
- Lilienfeld, S. O., & Widows, M. R. (2005). *Professional manual for the Psychopathic Personality Inventory–Revised*. Florida: Psychological Assessment Resources.
- Lockhat, R., & Van Niekerk, A. (2000). South African children: A history of adversity, violence and trauma. *Ethnicity and Health*, 5, 291-302.
- Louw, A. (2007). Crime and perceptions after a decade of democracy. *Social Indicators Research*, 81, 235-255.
- Lykken, D. T. (1995). *The antisocial personalities*. New Jersey: Lawrence Erlbaum.
- Marcus, D. K., John, S. L., & Edens, J. F. (2004). A taxometric analysis of psychopathic personality. *Journal of Abnormal Psychology*, 113(4), 626-635.
- Marcus, D. K., Lilienfeld, S. O., Edens, J. F., & Poythress, N. G. (2006). Is antisocial personality disorder continuous or categorical? A taxometric analysis. *Psychological Medicine*, 36, 1571-1581.

Mashele, P. (2008). The 'shoot to kill' approach inflammatory rhetoric no solution to crime. *South African Crime Quarterly*, 26, 11-14.

Ogloff, J. R. P. (2006). Psychopathy/antisocial personality disorder conundrum. *Australian and New Zealand Journal of Psychiatry*, 40, 519-528.

Ottosson, H., Bodlund, O., Ekselius, L., Lindström, E., Von Knorring, L., Kullgren, G., & Söderberg, S. (1995). The DSM-IV and ICD-10 Personality Questionnaire (DIP-Q): Construction and preliminary validation. *Nordic Journal of Psychiatry*, 49, 285-291.

Porter, S., & Woodworth, M. (2006). Psychopathy and Aggression. In C. J. Patrick (Ed.), *Handbook of Psychopathy* (pp. 481-494). New York: Guilford Press.

Poythress, N. G., Edens, J. F., & Watkins, M. M. (2001). The Relationship between Psychopathic Personality Features and Malingering Symptoms of Major Mental Illness. *Law and Human Behavior*, 25(6), 567-582

Simourd, D. J., & Hoge, R. D. (2000). Criminally psychopathy: A risk-and-need perspective. *Criminal Justice and Behaviour*, 27(2), 256-272.

Singleton, N., Meltzer, H., & Gatward, R. (1998). *Psychiatric Morbidity among Prisoners in England and Wales*. London: Office for National Statistics.

Smal, M., & Louw, D. A. (2009). *Psychopathy, Antisocial Personality Disorder and Dissocial Personality Disorder in a Group of Unsentenced Prisoners*. Manuscript submitted for publication.

Snowden, R. J., Gray, N. S., Smith, J., Morris, M., & MacCulloch, M. J. (2004). Implicit affective associations to violence in psychopathic murderers. *The Journal of Forensic Psychiatry and Psychology*, 15(4), 620-641.

South African Police Service. (2010). *Annual Report*. Retrieved from www.saps.gov.za

Ullrich, S., Borkenau, P., & Marneros, A. (2001). Personality disorders in offenders: categorical versus dimensional approaches. *Journal of Personality Disorders*, 15, 442-449.

Uzieblo, K., Verschuere, B., Van den Bussche, E., & Crombez, G. (2010). The Validity of the Psychopathic Personality Inventory–Revised in a Community Sample. *Assessment*, 17(3) 334–346.

Widiger, T. A., Frances, A. J., & Trull, T. J. (1989). Personality disorders. In R. J. Craig (Ed.), *Clinical and diagnostic interviewing* (pp. 221-236). New Jersey: Jason Aronson.

Wilson, N. J. (2004). *New Zealand high-risk offenders: Who are they and what are the issues in their management and treatment?* New Zealand: Department of Corrections Psychological Service.

Wojciechowski, S. (2002). *Criminogenic risk/need and responsivity: The psychopathic offender*. Paper presented at Probation and Community Corrections: Making the Community Safer Conference convened by the Australian Institute of Criminology and the Probation and Community Corrections Officers' Association Inc. Perth, Australia, 23-24 September.

World Health Organisation. (1992). *The ICD-10 Classification of Mental and Behavioural Disorders: Clinical descriptions and diagnostic guidelines*. Geneva: World Health Organisation.

Aggression and violence in South Africa: the role of antisocial personalities

Abstract	1
Introduction	1
Violence in the South African context	2
Antisocial personalities, aggression and violence	3
Methodology	5
<i>Participants and procedure</i>	5
<i>Measures</i>	6
<i>Administration of questionnaires</i>	8
<i>Statistical analysis</i>	8
Results and discussion	9
<i>Analysis of variance</i>	14
<i>Psychopathy and aggression correlates</i>	17
Conclusion	19
Reference list	21

Tables

Table 1: Demographic characteristics	10
Table 2: Prevalence of antisocial personalities	11
Table 3: Scale intercorrelations of the current sample	12
Table 4: Scale intercorrelations: Buss and Perry	12
Table 5: Alpha coefficients, mean and standard deviations	13
Table 6: Difference between aggression amongst individuals with DPD and those without	14
Table 7: Difference between aggression amongst individuals	

with ASPD and those without	15
Table 8: PPI-R multiple analysis of variance	16
Table 9: Pearson correlation coefficients of psychopathy and aggression subscales	17

Aggression and violence in South Africa: the role of antisocial personalities

Abstract

Internationally, antisocial personalities have been strongly associated with aggression and violence. To determine whether the same findings apply to offenders in South Africa, a sample of 500 male maximum security offenders was assessed with the Psychopathic Personality Inventory-Revised (PPI-R), subscales representing antisocial and dissocial personality disorders from the DSM-IV and ICD-10 Personality Questionnaire (DIP-Q), and the Aggression Questionnaire. Independent t-test analyses indicated significant differences in aggression between individuals with and without antisocial personality disorder and dissocial personality disorder respectively. A multivariate analysis of variance indicated that total aggression scores, verbal aggression, and especially anger differ significantly between offenders with various levels of psychopathy.

Introduction

The prolonged elevation in South African violent crime rates has encouraged the investigation of contributory factors to the violent disposition of these acts. Aggression and violence are believed to exist on a continuum, with violence being viewed as a product of, and a more severe form of aggression (Berkowitz, 1993).

Antisocial personality disorder (ASPD), dissocial personality disorder (DPD) and psychopathy, collectively known as antisocial personalities, have all been associated with violent crime and aggression (American Psychiatric

Association [APA], 2000; Falkenbach, Poythress & Creevy, 2008; Hare, 2006; Porter & Woodworth, 2007; World Health Organisation [WHO], 1992). Psychopathic individuals, in particular, have been found to demonstrate significantly more violent criminal behaviour than those lacking psychopathic traits (Cornell et al., 1996). Together with impacting the assessment of risk for recidivism, the presence of aggression and violence in individuals meeting the criteria for antisocial personalities could pose a noteworthy threat to society as a whole (Cale & Lilienfeld, 2006; Daffern & Howells, 2007).

In order to obtain a better understanding of offenders meeting the criteria for antisocial personalities in South Africa, the aim of this study will be to identify whether different forms of aggression are more common among offenders meeting the criteria for antisocial personalities than those who do not.

Violence in the South African context

The historical and contemporary social environment of South Africa has particular relevance to the enhancement of aggression and violence. Historically, violence was mainly perpetuated through segregation and oppressive governance. The democratic rebirth of South Africa in 1994, however, brought on additional environmental contributors to violence and violent crime, such as poverty and economic inequality, of which both have been strongly associated with violence and violent crime (Crutchfield & Wadsworth, 2003; Fajnzylber, Lederman & Loayza, 2002). From an evolutionary perspective, Barber (2008) states that the variety and intensity of psychological stress associated with impoverished communities, increases competition and intensifies physical aggression, which ultimately increases the probability of criminal violence. Also contributing to violent crime is the normalisation of violence in general, the accessibility of

firearms, feelings of hostility, exposure to violence, and substance abuse (Centre for the Study of Violence and Reconciliation [CSV], 2009). The CSV further expresses concern over the excessive degree of violence portrayed in incidents of crime, which stresses the need to search beyond these environmental contributors to acts of aggression and violence.

Antisocial personalities, aggression and violence

Researchers seem to agree that aggression and violence, as is the case with most behavioural attributes, do not stem from singular causal factors, but result from multiple factorial interactions, varying from environmental contributors to personality vulnerabilities (Imbusch, 2003). It is also widely recognised that aggression is the result of provocation instead of spontaneous outbursts of behaviour (Geen, 1998). Aggression manifests in different forms of behaviour (see Patrick & Zempolich, 1998), of which several subtypes have been identified throughout the years. The subtypes seemingly receiving most research attention are proactive/reactive⁵ and direct/indirect⁶ forms of aggression (Cohen, Hsueh, Russell & Ray, 2006). Where proactive aggression represents behaviour that is controlled, planned and instrumental in nature, reactive aggression comprises of behaviour that is more retaliatory or impulsive (Ostrov & Houston, 2008). On the other hand, direct aggression refers to harm through verbal or physical acts, while indirect aggression encompasses a more passive way of causing harm through manipulation or damaging of the victim's relationships (Archer & Coyne, 2005; Cohen et al., 2006). Research focus on the relationship between psychopathy and direct aggression, particularly physical aggression, has lead to neglected interest in the role of indirect aggression in antisocial personalities, which often manifests in the form of manipulation (Warren & Clabour, 2009).

⁵ Proactive/reactive aggression is also referred to as instrumental/ planned/goal-oriented vs. impulsive/hostile/retaliatory aggression

⁶ Also referred to as overt/covert aggression

Aggression is considered a “developmentally salient behaviour” manifesting from early childhood to adulthood and is often associated with personality disorders (Ostrov & Houston, 2008, p. 1147). The manifestation of aggression through frustration, irritability or physical fights are included in the description of all three antisocial personalities. The American Psychiatric Association’s diagnostic features of ASPD, as described in the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM), continuously refer to the association of the disorder with aggression, specifically physical aggression (APA, 2000). Impulsive aggression has also been found to correlate with ASPD (Coccaro & Siever, 2005). Psychopathy, on the other hand, has been associated with violent behaviour, proactive aggression, as well as direct and indirect forms of aggression (Cornell et al., 1996; Hare, 2006; Jones & Paulhus, 2010; Patrick & Zempolich, 1998; Porter & Woodworth, 2007; Porter, Woodworth, Earle, Drugge & Boer, 2003; Warren & Clabour, 2009). Babiak and Hare (2006) describe psychopaths as exerting more aggressive and threatening behaviour, and are also responsible for committing crimes with a greater degree of violence than non-psychopaths. The diagnostic criteria for DPD also include a “very low tolerance to frustration and a low threshold for discharge of aggression, including violence” (WHO, 1992, p. 159).

Three possible explanations for the strong relationship between the antisocial personalities and aggression have been suggested by Hart and Hare (1996), including the presence of antisocial cognitions, affective deficits, and behavioural tendencies, such as impulsivity and irresponsibility, which all facilitate aggressive behaviour. Confirming the suggestion by Hart and Hare is a study by Cima, Smeets and Jelicic (2008), who determined that, unlike non-psychopaths, aggression in psychopathic offenders is not related to traumatic childhood experiences. Their finding corroborates the

presence of aggression as a symptom of psychopathy and not as a consequence of adverse life experiences.

In order to examine aggression among the antisocial personalities in the South African context, the following methodological steps were ensued.

Methodology

Participants and procedure

In order to ensure that the rights of participants were not infringed on, permission for the current study was granted by two ethical committees representing the Department of Psychology and the Faculty of Humanities at the University of the Free State. Furthermore, an independent review of the current study's proposal was conducted by the Department of Correctional Services' research department. A non-experimental quantitative research approach was employed to acquire data at Mangaung Correctional Centre (MCC), a maximum security prison located near Bloemfontein housing approximately 3 000 male offenders. A randomised sample of 500 offenders representing various ethnicities and types of crime was selected through the MCC database. The selected offenders were summoned to the visitation hall in groups of 30 where they were informed of the purpose of the study and given the option of participating or returning to their relevant units or work activities. A few offenders opted not to participate in the study, largely because of work responsibilities. This resulted in a response rate of 88%. After the briefing, willing participants were asked to sign a consent form, thereby agreeing to take part in the study and granting permission for use of the information.

A detailed depiction of the sample's biographical information will be presented with the results of the study

Measures

The following self-report measures were used in this study:

1) A self-compiled biographical questionnaire, to determine age, ethnicity, education levels and other relevant data.

2) The most validated instrument to measure the construct of psychopathy is the revised version of Robert Hare's Psychopathy Checklist (PCL-R; 1991; 2003). However, the PCL-R consists of semi-structured interviews which require extensive training and take a considerable time to administrate. Since the current study is not diagnostic in nature but aims to identify individuals presenting psychopathic personality traits, it was opted to use *The Psychopathic Personality Inventory – Revised* (PPI-R; Lilienfeld & Widows, 2005). The PPI-R is a self-report inventory designed as an alternative measure to identify a continuum of psychopathic traits and attitudes. Although the use of self-report measures to identify psychopathic or antisocial traits has been criticised in the past, the trend seems to be on the increase. The main reasons behind the augmented use of self-report measures are the reduced financial and time constraints, and the assessment of response styles through validity scales rather than the possible subjectivity found in assessment through interviews (Lilienfeld & Fowler, 2007).

The PPI-R consists of 154 items, eight content scales, Machiavellian Egocentricity (ME), Rebellious Nonconformity (RN), Blame Externalisation (BE), Carefree Nonplanfulness (CN), Social Influence (SOI), Fearlessness (F), Stress Immunity (STI), and Coldheartedness (C); four validity scales, including Deviant Responding (DR), Virtuous Responding (VR), and two Inconsistent Responding (IR-15; IR-40) scales. The DR and VR scales are

used to identify faking bad and faking good responses respectively, whereas the IR scales eliminate careless or random responses. Construct, convergent, discriminant and external validity have been found satisfactory and Cronbach alpha coefficients ranged from 0.71 to 0.84 and 0.91 in an American prison sample and a Belgian community sample respectively (Lilienfeld & Widows, 2005; Uzieblo, Verschuere, Van den Bussche & Crombez, 2010).

3) To measure antisocial and dissocial personality disorders *The DSM-IV and ICD-10 Personality Questionnaire* (DIP-Q; Ottosson et al., 1995) was used. The DIP-Q is derived from the ICD-10 and DSM-IV classification of mental disorders. The questionnaire consists of 140 true/false items and encompasses all eight ICD-10 and all ten DSM-IV personality disorders' criteria. Only the two subscales measuring DPD and ASPD were used in this study. Preliminary validation of the relevant DIP-Q subscales did not render sufficient reliability coefficients for either the DPD or the ASPD subscales (Ottosson et al., 1995). Findings from a pilot study in the present project did, however, deliver sufficient reliability scores, with alpha coefficients of 0.81 and 0.63 for the ASPD and DPD subscales respectively.

4) *The Aggression Questionnaire* (Buss & Perry, 1992), which measures the presence of four factors indicative of behaviours, emotions and cognitions associated with aggression. The 29-items are divided into four factor scales, including Physical Aggression (PA), Verbal Aggression (VA), Anger (A) and Hostility (H). Physical and verbal aggression involves hurting or harming others and represents the instrumental component of behaviour. On the other hand, anger represents the affective component of behaviour, while hostility incorporates the cognitive component of behaviour. Each item is scored on a five-point Likert scale (with 5="extremely characteristic of me" to 1="extremely uncharacteristic of me"). An American community sample indicated internal consistency scores ranging from 0.72 to 0.85 for

all four of the subscales and revealing an alpha coefficient of 0.89 for the total scale (Buss & Perry, 1992). Cronbach alpha coefficients from an offender sample revealed scores ranging from 0.50 (Verbal Aggression) to 0.82 (Hostility), while the internal coefficient score for the total measure was determined to be 0.92 (Williams, Boyd, Cascardi & Poythress, 1996). Construct and convergent validity have also been found adequate.

No studies administering the PPI-R, DIP-Q or Aggression Questionnaire on South African samples could be found to corroborate the mentioned psychometric properties.

Administration of the questionnaires

The Mangaung Correctional Centre houses a variety of different cultures and ethnicities. Administering the measures brought forward challenges such as language and comprehension difficulties. Of the 11 official languages in South Africa, English is the one common denominator. It was therefore opted that translators would assist with the correct interpretation of the questions as well as to contextually explain the use of English jargon such as “daredevil”, which was not understood by a number of the participants. Participants were divided into smaller groups (1 to 5), according to their home language, and were appointed a translator of the same language.

Statistical analysis

SPSS Version 18 was employed to analyse the data. Descriptive statistics and prevalence of the antisocial personalities are relayed first. This will be followed by a comparison of the aggression mean scores between offenders meeting the criteria for the respective antisocial personalities and those who do not. The categorical nature of ASPD and DPD DIP-Q scores will be

compared by means of independent *t*-tests. The PPI-R, however, allows for the dimensionality of psychopathy and variance will be calculated with a multiple analysis of variance (MANOVA). Because the independent variable consists of more than one subgroup (low, moderate and high psychopathy, as well as non-psychopaths), the Scheffé-procedure will be incorporated to determine which of the subgroups' average scores reflect statistically different scores from the various dependent variables (Aggression Questionnaire subscales). To determine the practical application of statistically significant results, effect sizes will be calculated. The 5% as well as the 1% level of significance will be used in this study.

Finally, Pearson Product-Moment Correlation coefficients will then be computed to define the relationship between the subscales of the Aggression Questionnaire and those of the Psychopathic Personality Inventory-Revised.

Results and Discussion

The demographic characteristics of the sample are portrayed in Table 1. Most participants were aged between 36 and 55 years, followed by between 18 to 35 years. Sesotho was the most spoken home language, followed by Afrikaans, Xhosa, Tswana, Zulu, English and Northern Sotho. Less than 10% of the participants had either never received any schooling or had some form of tertiary education, while most had received either some primary or secondary schooling. The diversity of individual crimes was grouped into violent, sexual and economic-related offences. Sexual crimes are often included in the violent crime category; however, the high rate of sexual crimes in South Africa deserves individual attention. For this reason the sexual crimes and violent crimes are portrayed as separate categories. Violent crimes represented almost half of the sample, while sexual and economic related crimes represented almost a third and a quarter of the

sample respectively. Almost half of the total sample indicated that they have served previous prison terms, of which more than half represent economic crimes, one third violent crimes, and just over 10% represented crimes of a sexual nature.

Table 1: Demographic characteristics

Characteristic	Total sample	% (N=442)
Age		(N=439)
18-35	174	40
36-55	251	57
56+	14	3
Language		(N=439)
Sesotho	152	35
Afrikaans	124	28
Xhosa	66	15
Tswana	50	11
Zulu	31	7
English	11	3
Northern Sotho	5	1
Education		(N=429)
None	28	7
Some primary	195	45
Some secondary	170	40
Tertiary	36	8
Family trouble with law		(N=429)
Father	49	11
Mother	16	4
Brothers	95	22
Sisters	19	4
Times arrested before the age of 16		(N=406)
Never	303	75
Once	49	12
2-4 times	40	10
More than 5 times	14	3
Previous prison terms		(N=437)
None	241	55
1-2	123	28
3-4	39	9
5 and more	34	8
Previous crime classification		(N=163)
Violent/aggressive	53	33
Sexual	22	13
Economic	88	54
Current crime classification		(N=431)
Violent/aggressive	198	46
Sexual	129	30
Economic	104	24
Length of sentence		(N=411)
Less than 10 years	19	5
11-40 years	294	71
More than 40 years	17	4

Life	81	20
Feelings about crime		(N=406)
System failed me	72	18
Circumstances	49	12
Regret	285	70

Most of the participants are serving 11 to 40 year sentences, with 20% serving life sentences, and less than 10% serving either more than 40 years or less than 10 years. When participants were asked how they felt about the crimes they committed, almost 20% stated they were failed by the judicial system, while just over 10% blamed environmental factors for their criminal activities. The remaining majority indicated that they regret their actions.

The prevalence of psychopathy, ASPD and DPD, reported in Table 2, indicate that psychopathy represented 27% of the current sample, while ASPD and DPD represented 17% and 38% respectively (for a more ample description of prevalence, refer to Article 2).

Table 2: Prevalence of antisocial personalities

	N	% of total
Psychopathy:		
Total	114	27%
Low psychopathy (60-69)	25	6%
Moderate psychopathy (70-79)	58	14%
High psychopathy (≥ 80)	31	7%
Antisocial personality disorder	77	17%
Dissocial personality disorder	185	38%

N = 442

N = 414 (PPI-R)

Scale intercorrelations for the Aggression Questionnaire are portrayed in Table 3. In contrast to Buss and Perry's (1992) findings (Table 4), the current study indicates relatively high correlations between the Hostility, Verbal and Physical aggression scales. This finding challenges Buss and

Perry's proposal of only singling out anger as taking the role of a "psychological bridge" (p. 457) between instrumental components (physical or verbal aggression) and the cognitive component (hostility). A similar contradiction to Buss and Perry's assumption was found in a validation study of the Aggression Questionnaire among a Dutch sample of adolescents attending a residential rehabilitation programme, where the authors report moderately high intercorrelations between all scales (Morren & Meesters, 2002). A more relevant viewpoint for the current finding is that of Blacker, Watson and Beech (2008), who state that anger is an emotional reaction brought on by the cognitive appraisal of a precipitating event. The effect of hostility on anger is reciprocal in nature, causing additional hostile thoughts through elevated levels of anger. Thus, the interplay between anger and hostility is more important in the acts of aggression, rather than a one-way process where anger mediates between hostility and aggression.

Table 3: Scale intercorrelations of the current sample

Subscales	PA	VA	A	H
PA	1.00	0.46	0.57	0.47
VA		1.00	0.46	0.61
A			1.00	0.50
H				1.00

(PA=Physical Aggression, VA=Verbal Aggression, A=Anger, H=Hostility)

Table 4: Scale intercorrelations: Buss and Perry

Subscales	PA	VA	A	H
PA	1.00	0.45	0.48	0.28
VA		1.00	0.48	0.25
A			1.00	0.45
H				1.00

The Cronbach alpha coefficients, mean (*M*) and standard deviation (*SD*) scores of the current study are presented in Table 5. For comparison purposes, the *M* and *SD* scores of Buss and Perry (1992), using a community sample, as well as those of Williams et al. (1996), portraying an offender sample's statistics, are included in the table.

Table 5: Alpha coefficients, mean and standard deviations

Subscale	α	M (N=430)	SD	M*	SD*	M**	SD**
PA	0.65	24.8	6.5	24.3	7.7	24.1	7.7
VA	0.56	16.7	4.1	15.2	3.9	13.6	3.9
A	0.60	19.3	5.3	17.0	5.6	16.4	5.5
H	0.71	25.7	6.5	21.3	5.5	19.9	6.6
Total	0.87	86.5	17.9	77.8	16.5	72.8	19.7

(PA=Physical Aggression, VA=Verbal Aggression, A=Anger, H=Hostility)

* (Buss & Perry, 1992); ** (Williams et al., 1996).

The internal consistency scores for the current sample, ranging from 0.56 to 0.71, are lower than the original findings of Buss and Perry (1992) from a community sample. However, similar to the current findings, alpha coefficients between 0.50 and 0.82 were obtained in other offender samples (Morren & Meesters, 2002; Williams et al., 1996) as well as a Spanish student sample (Garcia-Leon et al., 2002). The relatively low alpha coefficients found in offender samples and cross-cultural community samples might be indicative of a need for further validation concerning the use of this measuring instrument in penal and cross-national contexts. Overall, the current sample indicated higher mean scores than Buss and Perry's original community sample. Interestingly, the offender sample used by Williams et al. (1996), revealed lower mean scores in all scales than the original community sample. Other offender samples indicate mean scores varying from 80.4 in a Spanish sample (Garcia-Leon et al., 2002) to 97.0 among violent offenders (Smith, Waterman & Ward, 2006). Community samples, on the other hand, have consistently shown lower incidence of

aggression, with mean scores ranging from 62.7 among general public participants (Smith et al., 2006) to 74.3 among male Spanish students (Garcia-Leon et al., 2002).

Analysis of variance

Table 6 reports on the variance in aggression scores between individuals meeting the criteria for DPD and those who do not. Results of the independent *t*-test indicate significant ($p \leq 0.01$) differences on all the aggression subscales.

Table 6: Variance of aggression amongst individuals with DPD and those without

Subscales	DPD		Non-DPD		<i>t</i>	<i>p</i>	<i>d</i>
	M	SD	M	SD			
PA	27.51	5.91	22.88	6.33	7.69	0.00	0.70
VA	17.80	4.00	15.96	3.99	4.70	0.00	0.45
A	21.46	4.90	17.70	5.12	7.66	0.00	0.71
H	27.54	5.63	24.30	6.80	5.41	0.00	0.50
Total	94.30	15.25	80.84	17.71	8.25	0.00	0.75

Cohen (1988) indicates the method and guidelines to consider when determining effect sizes and recommends $d=0.2$ to be interpreted as a small effect, $d=0.5$ as a medium effect, and $d=0.8$ as a large effect. The effect sizes of Physical Aggression, Anger and the total aggression score indicate a moderate to strong practical application of the results, while Verbal aggression and Hostility produced more moderate effect size scores. This implies that individuals meeting the criteria for DPD tend to be more aggressive emotionally, cognitively and behaviourally than those who do not meet the criteria for DPD.

The variance between aggression scores of offenders with ASPD traits and those without is reported in Table 7. Similar to the DPD findings, all aggression scores were found to be significantly different between the two

groups. However, the more indirect forms of aggression, Verbal Aggression and Hostility, indicated a less significant score ($p \leq 0.05$) than the predominantly direct forms of aggression, Physical Aggression and Anger ($p \leq 0.01$). This finding is consistent with other studies, who report that individuals who tend to show more direct aggression (i.e., Physical Aggression and Anger) also tend to show more indirect aggression (i.e., Hostility and Verbal Aggression), and that the choice of one type of aggression over the other may be dependent on either situational factors or external moderators (e.g., Coyne & Archer, 2005; Warren & Clabour, 2009). Similarly, Williams et al. (1996) suggest that the Aggression Questionnaire's four-factor structure may not be generalisable to an offender population. In their study, an exploratory factor analysis of the measure revealed a two-factor structure, consisting of Physical Aggression/Anger, and Verbal Aggression/Hostility. This implies that offenders who score high in hostility would tend to be more verbally aggressive, while those who report higher levels of anger would be more prone to physical aggression.

Table 7: Variance of aggression amongst individuals with ASPD and those without

Subscales	ASPD		Non-ASPD		<i>t</i>	<i>p</i>	<i>d</i>
	M	SD	M	SD			
PA	28.13	5.96	24.14	6.48	4.91	0.00	0.61
VA	17.60	4.35	16.56	4.01	2.01	0.04*	0.25
A	23.21	4.57	18.46	5.14	7.41	0.00	0.89
H	27.32	5.91	25.32	6.60	2.42	0.02*	0.31
Total	96.27	17.28	84.48	17.46	5.32	0.00	0.66

* $p \leq 0.05$

The effect sizes of the groups also portray similar results than the DPD analysis. Verbal Aggression and Hostility only managed moderate practical application of the results, while Physical Aggression, total aggression scores, and especially Anger, indicated stronger practical significance.

Ultimately, the relatively low internal consistency score for Verbal Aggression ($\alpha=0.56$) should be taken into account as an influencing factor.

To determine the variance of aggression scores between different groups of psychopaths and non-psychopaths, a one-way multivariate analysis of variance (MANOVA) was conducted, of which the results are reported in Table 8. Hotelling's Trace score indicated the presence of significant differences between the variables ($F_{12; 1178} = 1.862$; $p=0.03$). Further results indicate significant differences between the various psychopathy groups, Verbal Aggression ($p\leq 0.05$), Anger ($p\leq 0.01$), and the total scores for aggression ($p\leq 0.05$). No significant differences were evident between the psychopathy scores, Physical Aggression, and Hostility.

Table 8: PPI-R multiple analysis of variance

Subscales	Non-psychopaths		60-69		70-79		≥ 80		<i>F</i>	<i>p</i>	<i>f</i>
	M	SD	M	SD	M	SD	M	SD			
PA	24.91	6.22	26.00	6.12	23.98	6.17	25.94	8.56	0.88	0.45	
VA	16.80	3.89	16.04	3.64	16.21	3.94	18.52	5.19	2.69	0.05*	0.15
A	19.35	5.20	19.33	4.06	17.89	5.38	22.15	6.33	4.47	0.00	0.19
H	25.73	6.22	23.79	7.50	24.87	6.68	27.97	7.14	2.36	0.07	
Total	86.79	17.23	85.17	18.25	82.94	17.62	94.58	21.46	3.02	0.03*	0.15

* $p\leq 0.05$

To explore the variance of aggression among different levels of psychopathy and non-psychopaths, the Scheffé-procedure was incorporated. Results of this analysis revealed no significant differences between the four groups in terms of Physical Aggression, Verbal Aggression or Hostility. The only significant differences were found between the Anger scores of high psychopathy and non-psychopaths ($p\leq 0.05$), as well as high psychopathy and moderate psychopathy groups ($p\leq 0.01$). This finding is noteworthy because of the strong identified relationship between proactive aggression and psychopathy (e.g., Hare, 2003; 2006). Proactive

aggression is considered to be planned and calculated behaviour, which is largely expressed without the presence of anger (Cohen et al., 2006). Since anger is considered a significant prelude to hostile cognitions and aggressive behaviour (e.g., Howells, 1998), further research attention is needed to explore the role of anger and aggression amongst psychopaths in the South African context.

The Scheffé-procedure also revealed significant differences in total aggression scores between moderate and high psychopathic groups. The effect sizes of the significant variances were interpreted by the following guidelines: small effect ($f=0.10$), moderate effect ($f=0.25$), and large effect ($f=0.40$). Results indicate that the variance in Verbal Aggression, Anger and total aggression scores only display small to moderate practical significance.

Psychopathy and aggression correlates

In order to identify which specific psychopathic traits correlate higher than others with aggression, the subscales of the PPI-R were correlated with the aggression subscales (Table 9). The DIP-Q, used to measure ASPD and DPD traits, does not include structured subscales and could not be included in this analysis.

Table 9: Pearson correlation coefficients of psychopathy and aggression subscales

Aggression	PPI-R subscales							
	ME	RN	BE	CN	SOI	F	STI	C
Physical	0.22**	0.29*	0.34*	0.04	0.02	0.31*	-0.24*	-0.07
Verbal	0.27*	0.25*	0.24*	0.07	0.02	0.19**	-0.25*	0.05
Anger	0.36*	0.35*	0.30*	0.00	-0.00	0.29*	-0.37*	-0.11
Hostility	0.31*	0.33*	0.48*	-0.01	0.02	0.17	-0.20**	-0.15

* $p \leq 0.01$; ** $p \leq 0.05$

Machiavellian Egocentricity (ME), Rebellious Nonconformity (RN), Blame Externalisation (BE), Carefree Nonplanfulness (CN), Social Influence (SOI), Fearlessness (F), Stress Immunity (STI), and Coldheartedness (C)

Anger consistently correlated the highest with most of the PPI-R subscales. Hostility correlated significantly with Machiavellian Egocentricity, Rebellious Nonconformity, Blame Externalisation ($p \leq 0.01$) and Stress Immunity ($p \leq 0.05$), although the latter correlation was significantly negative. A strong correlation between Blame Externalisation and Hostility is noteworthy, reaffirming the depiction of Blame Externalisation as an internal perception of the world being hostile versus the belief of oneself as being an innocent victim (Lilienfeld & Widows, 2005). Both Physical and Verbal Aggression also correlated significantly with most psychopathy subscales. An interesting finding is that three of the eight psychopathy subscales (Carefree Nonplanfulness, Social Influence and Coldheartedness) did not yield significant correlations with any of the four aggression scales. Carefree Nonplanfulness is intended to measure impulsivity and a failure to learn from mistakes, while Social Influence measures the perceived ability to influence others, and Coldheartedness assesses a general lack of empathy, loyalty and attachment to others. Contrary to the current findings, Coldheartedness has been found to correlate with aggression, although direct forms of aggression indicated a greater relationship than indirect aggression (Uzieblo et al., 2010). The Stress Immunity subscale revealed significant negative correlations with all the aggression subscales. Stress Immunity measures a general lack of anxiety and the ability to remain calm under pressure. The negative correlations thus imply that the presence, rather than the absence of anxiety, is more associated with different types of aggression. Similar results were obtained from Cima et al. (2008), who found aggression significantly related to various subscales of the PPI, including Machiavellian Egocentricity, Fearlessness, Impulsive Nonplanfulness, Blame Externalisation, as well as a similar negative association with stress immunity.

Conclusion

The significant differences between aggression scores of offenders with and without antisocial personality disorder and dissocial personality disorder respectively, confirm the inclusion of aggression in the diagnostic criteria for ASPD and DPD. Results for the presence of aggression amongst psychopaths, however, indicated that neither direct nor indirect aggression stands out as a primary form of aggression among psychopaths in this sample. Only anger produced a significantly more salient presence among high psychopathic individuals. One of the most important differences between anger and aggression is that anger is an emotional reaction, while aggression is behavioural. The general belief that anger preludes acts of aggression warrants further exploration into the role of anger and aggression in future institutional misconduct and possible recidivistic behaviour of psychopathic offenders.

The limitations of this study include firstly that Mangaung Correctional Centre (MCC) is a maximum security prison which mainly houses prisoners with lengthy sentences. Additionally, most inmates are acquired through transfers from lower security prisons because of violent or unruly behaviour. This implies that the prisoners from MCC could naturally be more aggressive than offenders in other South African prisons. Secondly, the Aggression Questionnaire indicated a relatively low reliability score for Verbal Aggression, which could have influenced subsequent analyses. The Aggression Questionnaire also only allows measurement of four factors associated with aggressive conduct, which largely pertains to direct and indirect forms of aggression. It excludes other forms of aggressive behaviour, such as proactive/reactive aggression, which are known to be associated with antisocial personalities. A third limitation is that the debate surrounding cultural differences in the manifestation of psychopathologies have not been adequately addressed in South Africa. One could also argue

that aggression might culturally manifest differently among individuals with antisocial personalities, with specific relevance to psychopathy in this case. Fourthly, most of the participants had a first language other than English. The decision to use translators in stead of translating the measuring instruments into several languages could have implications for the validity of the questionnaires. Although the items on the instruments are adapted to lower levels of comprehension, some English terminology or phrases do not have equivalent concepts in African languages. The fifth limitation of this study is the exclusive focus on male prisoners. It is recommended that similar studies be extended to include female prisoners, incarcerated youth, and community samples.

Ultimately, the findings from the current study indicate an urgent need for further exploration of antisocial personalities and factors associated with these personality types. South Africa's high violent crime rate is a clear indication of the expression of aggressive and violent behaviour. Further research concerning the causal factors and cultural manifestation associated with aggressive behaviours and personality disorders should ensue. Only then will researchers be able to create relevant assessment measures to be incorporated in treatment programmes.

Reference list

- American Psychiatric Association. (2000). *The Diagnostic and Statistical Manual of Mental Disorders* (4th ed. Text revision). Washington, DC: APA.
- Archer, J., & Coyne, S. M. (2005). An integrated review of indirect, relational, and social aggression. *Personality and Social Psychology Review*, 9, 212-230.
- Babiak, P., & Hare, R. D. (2006). *Snakes in suits: When psychopaths go to work*. New York, NY: Harper Collins.
- Berkowitz, L. (1993). *Aggression: Its causes, consequences and control*. New York, NY: McGraw-Hill Inc.
- Blacker, J., Watson, A., & Beech, A. R. (2008). A combined drama-based and CBT approach to working with self-reported anger aggression. *Criminal Behaviour and Mental Health*, 18, 129-137.
- Buss, A. H., & Perry, M. (1992). The Aggression Questionnaire. *Journal of Personality and Social Psychology*, 63(3), 452-459.
- Cale, E. M., & Lilienfeld, S. O. (2006). Psychopathy factors and risk for aggressive behavior: A test of the "Threatened Egotism" hypothesis. *Law and Human Behavior*, 30(1), 51-74.
- Centre for the Study of Violence and Reconciliation. (2009). *Why does South Africa have such high rates of violent crime?* Supplement to the final report of the study on the violent nature of crime in South Africa. Braamfontein, Johannesburg: CSVR.
- Cima, M., Smeets, T., & Jellic, M. (2008). Self-reported trauma, cortisol levels, and aggression in psychopathic and non-psychopathic prison inmates. *Biological Psychology*, 78, 75-86.
- Coccaro, E., & Siever, L. (2005). The neurobiology of personality disorder. In J. M. Oldham, A. E. Skodol, & D. S. Bender (Eds.), *The American Psychiatric Publishing Textbook of Personality Disorders* (pp. 155-170). Washington, DC: American Psychiatric Publishing.

- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Cohen, R., Hsueh, Y., Russell, K. M., & Ray, G. E. (2006). Beyond the individual: A consideration of context for the development of aggression. *Aggression and Violent Behavior, 11*, 341-351.
- Cornell, D. G., Warren, J., Hawk, G., Stafford, E., Oram, G., & Pine, D. (1996) Psychopathy in Instrumental and Reactive Violent Offenders. *Journal of Consulting and Clinical Psychology, 64*, 783-790.
- Coyne, S. M., & Archer, J. (2005). The relationship between indirect aggression on television and in real life. *Social Development, 14*, 324-338.
- Crutchfield, R. D., & Wadsworth, T. (2003). Poverty and violence. In W. Heitmeyer & J. Hagan (Eds.), *International handbook of violence research* (pp. 67-82). Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Daffern, M., & Howells, K. (2007). Antecedents for aggression and the function analytic approach to the assessment of aggression and violence in personality disordered patients within secure settings. *Personality and Mental Health, 1*, 126-137.
- Fajnzylber, P., Lederman, D., & Loayza, N. (2002). What causes violent crime? *European Economic Review, 46*, 1323-1357.
- Falkenbach, D., Poythress, N., & Creevy, C. (2008). The exploration of subclinical psychopathic subtypes and the relationship with subtypes of aggression. *Personality and Individual Differences, 44*, 821-832.
- Garcia-Leon, A., Reyes, G. A., Vila, J., Perez, N., Robles, H., & Ramos, M. M. (2002). The Aggression Questionnaire: A validation study in student samples. *The Spanish Journal of Psychology, 5*(1), 45-53.
- Geen, R. G. (1998). Processes and personal variables in affective aggression. In R. G. Geen & E. Donnerstein (Eds.), *Human aggression: theories, research and implications for social policy*. California: Academic Press.
- Hare, R. D. (1991). *The Hare Psychopathy Checklist-Revised*. Canada: Multi-Health Systems.

- Hare, R. D. (2003). *The Hare Psychopathy Checklist-Revised* (PCL-R; 2nd ed.). Ontario: Multi-Health Systems.
- Hare, R. D. (2006). Psychopathy: A clinical and forensic overview. *Psychiatric Clinics of North America*, 29, 709-724.
- Hart, S. D., & Hare, R. D. (1996). Psychopathy and risk assessment. *Current Opinion in Psychiatry*, 9, 380-383.
- Howells, K. (1998). Cognitive-behavioural interventions for anger, aggression and violence. In N. Tarrier, A. Wells, & G. Haddock (Eds.), *Treating complex cases: The cognitive behavioural therapy approach* (pp. 295–318). Chichester: Wiley.
- Imbusch, P. (2003). The concept of violence. In W. Heitmeyer & J. Hagan (Eds.), *International handbook of violence research* (pp. 13-39). Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Jones, D. N., & Paulhus, D. L. (2010). Different provocations trigger aggression in narcissists and psychopaths. *Social Psychological and Personality Science*, 1(1), 12-18.
- Lilienfeld, S. O., & Fowler, K. A. (2007). The Self-Report Assessment of Psychopathy. In C. J. Patrick (Ed.), *Handbook of Psychopathy* (pp.102-132). New York: Guilford Press.
- Lilienfeld, S. O., & Widows, M. R. (2005). *Professional manual for the Psychopathic Personality Inventory–Revised*. Florida: Psychological Assessment Resources.
- Morren, M., & Meesters, C. (2002). Validation of the Dutch Version of the Aggression Questionnaire in Adolescent Male Offenders. *Aggressive Behavior*, 28, 87-96.
- Ostrov, J. M., & Houston, R. J. (2008). The utility of forms and functions of aggression in emerging adulthood: Association with personality disorder symptomatology. *Journal of Youth and Adolescence*, 37, 1147-1158.
- Ottosson, H., Bodlund, O., Ekselius, L., Lindström, E., Von Knorring, L., Kullgren, G., & Söderberg, S. (1995). The DSM-IV and ICD-10 Personality

Questionnaire (DIP-Q): Construction and preliminary validation. *Nordic Journal of Psychiatry*, 49, 285-291.

Patrick, C. J., & Zempolich, K. A. (1998). Emotion and aggression in the psychopathic personality. *Aggression and Violent Behavior*, 3(4), 303-338.

Porter, S., & Woodworth, M. (2007). Psychopathy and aggression. In C. J. Patrick (Ed.), *Handbook of Psychopathy* (pp. 481-494). New York: Guilford Press.

Porter, S., Woodworth, M., Earle, J., Drugge, J., & Boer, D. (2003) In cold blood: Characteristics of sexual homicide committed by psychopathic and non-psychopathic offenders. *Law and Human Behavior*, 27, 459-470.

Smith, P., Waterman, M., & Ward, N. (2006). Driving aggression in forensic and non-forensic populations: Relationships to self-reported levels of aggression, anger and impulsivity. *British Journal of Psychology*, 97, 387-403. doi:10.1348/000712605X79111

Uzieblo, K., Verschuere, B., Van den Bussche, E., & Crombez, G. (2010). The Validity of the Psychopathic Personality Inventory–Revised in a Community Sample. *Assessment*, 17(3), 334-346.

Warren, G. C., & Clarbour, J. (2009). Relationship between psychopathy and indirect aggression use in a noncriminal population. *Aggressive Behavior*, 35, 408-421.

Williams, T. Y., Boyd, J. C., Cascardi, M. A., & Poythress, N. (1996). Factor structure and convergent validity of the Aggression Questionnaire in an offender sample. *Psychological Assessment*, 8(4), 398-403.

World Health Organisation. (1992). *The ICD-10 Classification of Mental and Behavioural Disorders: Clinical descriptions and diagnostic guidelines*. Geneva: World Health Organisation.

Criminal thinking styles of offenders meeting the criteria for antisocial personalities in South Africa

Abstract	1
Introduction	1
Criminal thinking styles and antisocial personalities	2
Methodology	5
<i>Participants and procedure</i>	5
<i>Measures</i>	5
<i>Administration of questionnaires</i>	8
<i>Statistical analysis</i>	8
Results and discussion	8
<i>Group comparisons on Mean PICTS scores</i>	13
Conclusion	18
Reference list	20

Tables

Table 1: Demographic characteristics	10
Table 2: Prevalence of antisocial personalities	11
Table 3: Internal consistency, mean and standard deviations	12
Table 4: Difference between criminal thinking amongst individuals with and without DPD	13
Table 5: Difference between criminal thinking styles amongst those with and without ASPD	14
Table6: PPI-R multiple analysis of variance	15

Criminal thinking styles of offenders meeting the criteria for antisocial personalities in South Africa

Abstract

To increase comprehension of psychopathy, antisocial personality disorder and dissocial personality disorder in the South African context, this study aims to identify whether offenders meeting the criteria for antisocial personalities display a greater proneness to thinking styles supportive of a criminal lifestyle. The Psychological Inventory of Criminal Thinking Styles (PICTS), the revised version of the Psychopathic Personality Inventory (PPI-R) and subscales measuring antisocial and dissocial personality disorder respectively from the DSM-IV and ICD-10 Personality Questionnaire (DIP-Q), were used to measure the extent of criminal thinking styles among 500 male offenders. Results indicate significant differences in the criminal thinking styles of participants with ASPD and DPD and those without, which contribute to the maintenance of a criminal lifestyle and possible re-offending behaviour. However, psychopathic groups indicated insignificant differences in criminal thinking styles.

Introduction

South African research on crime revolves almost exclusively around the incidence of reported crimes and the social contributors to crime (e.g., Louw, 2007; South African Police Service [SAPS], 2010). While there is no denying that deficient or undesirable environmental factors correlate with criminality (e.g., Lykken, 1995; Walters & White, 1990), research concerning the role of internal contributory factors in relation to crime has severely been neglected in developing countries such as South Africa.

Two intrapersonal entities that have been found to correlate with criminal behaviours are thinking styles and antisocial personalities, the latter of which includes psychopathy, antisocial personality disorder (ASPD) and dissocial personality disorder (DPD; Babiak & Hare, 2006; Bulten, Nijman & Van der Staak, 2009; Gendreau, Little & Goggin, 1996; Walters & White, 1990). Cognitions, and consequently thinking styles, are intrinsically related to personality characteristics (Zhang, 2002), which leads to the assumption that the presence of antisocial personality characteristics will enhance certain criminal thinking styles supportive of a criminal lifestyle.

The current study will therefore aim to identify whether offenders meeting the criteria for antisocial personalities differ in their criminal thinking from those without antisocial personalities. The knowledge gained by this study could provide a better understanding of the relationship between criminal cognitions and traits associated with antisocial personalities, which in turn could impact on treatment interventions (Magyar, Carr, Rosenfeld & Rotter, 2009).

Criminal thinking styles and antisocial personalities

Although not officially recognised by the American Psychiatric Association or the World Health Organisation as a diagnosable personality disorder, research on psychopathy, as well as antisocial personalities in general, has dominated the field of psychological contributors to criminal behaviour (Magyar et al., 2009). The roles of thinking styles and choice in criminality only came to attention in the 1970's with the work of Yochelson and Samenow (as cited in Bader, 2007). Walters (1990) later elaborated on criminal cognitions and developed a criminal lifestyle perspective, arguing that behaviour is controlled by variable thinking patterns rather than more invariable personality traits. Therefore, criminal thinking styles are regarded as one component of a cognitive belief system upholding criminal behaviour

(Bulten et al., 2009; Walters, 2006). A second principle of the lifestyle model is that behaviour is driven by choice, irrespective of personality or environmental influences. When individuals are faced with options, cognitions play a mediating role between certain biologic and environmental factors, as well as between maturational, informational and reinforcement history considerations. Walters' research on the role of cognitions in criminal behaviour expanded into the development of the Psychological Inventory of Criminal Thinking Styles (PICTS; 2006), which identifies eight primary thinking styles upholding criminal behaviour. The thinking styles include mollification (blame projection as an attempt to justify behaviour), cutoff (impulsive reactions to events), entitlement (a sense of privilege and ownership), power orientation (control over the immediate environment), sentimentality (doing good deeds to justify criminal or bad behaviour), superoptimism (irrational beliefs of avoiding negative consequences for criminal acts), cognitive indolence (thoughts focusing on the "easy way out"), and discontinuity (inconsistent thoughts and a general lack of follow through from thoughts to action).

The basic premise of Walters' research is that all of these factors influence decisions; however, the behavioural outcome is ultimately a result of choice. In agreement with Walters' focus on cognitions in criminality, Sharp (2000) describes criminal behaviour as the result of erroneous thinking, which influences feelings and consequently produces criminal behaviour. Since criminal thinking is viewed as a dynamic or alterable risk factor for re-offending behaviour, Walters (1990) argues that once offenders take responsibility for their actions, they can challenge their criminal thinking styles and ultimately change their behaviours. Thus, intervention strategies targeting offenders should rather focus on amendable factors, such as thinking styles and behaviour, than attempting to adjust the more enduring nature of personality traits.

Research surrounding the relationship between antisocial personality characteristics and thinking styles is still in its infancy (Magyar et al., 2009). Authors such as Gonsalves, Scalora and Huss (2009) believe that criminal thinking and behaviour associated with psychopathy should be further examined to enhance understanding of the cognitions associated with such behaviours. Studies have, however, indicated a positive relationship between the two concepts. In measuring the role of cognitive distortions in psychopaths, Blackburn (2006) proposes that dysfunctional schemas play a mediating role between psychopaths' attributes and ensuing behaviour. Similarly, Walters and Knight (2010) found that offenders meeting the criteria for ASPD scored significantly higher on criminal thinking and antisocial attitude measures, as well as portraying an increased likeliness to receive disciplinary infractions while incarcerated.

In her study on the antisocial thinking of sexual offenders, Bader (2007) suggests that psychopathic personality traits and criminal thinking styles could be viewed as a unitary construct, specifically in the treatment of sexual offenders. Similarly, Walters (2008) remarks on the resemblance between antisocial personalities and criminal thinking, and emphasises the presence of shared structural and content features. In contrast to Bader's proposal of a unitary concept, Zhang (2002) acknowledges the intertwined relationship between personality characteristics and thinking styles, but argues that the two entities be assessed separately. Zhang's study pertaining to the inclusion of thinking styles in the measurement of personality revealed that personality characteristics only accounted for a small percentage of variance in thinking styles among a student sample, while thinking styles accounted for most variance found in the data.

To determine whether the thinking styles of those associated with antisocial personalities differ from the regular prison population, the following methodological steps were applied.

Methodology

Participants and procedure

In order to ensure that the rights of participants were not infringed on, permission for the current study was granted by two ethical committees representing the Department of Psychology and the Faculty of Humanities at the University of the Free State. Furthermore, an independent review of the current study's proposal was conducted by the Department of Correctional Services' research department. A non-experimental quantitative research approach was employed to acquire data at Mangaung Correctional Centre (MCC), a maximum security prison located near Bloemfontein housing approximately 3 000 male offenders. A randomised sample of 500 offenders representing various ethnicities and types of crime was selected through the MCC database. The selected offenders were summoned to the visitation hall in groups of 30 where they were informed of the purpose of the study and given the option of participating or returning to their relevant units or work activities. A few offenders opted not to participate in the study, largely because of work responsibilities. This resulted in a response rate of 88%. After the briefing, willing participants were asked to sign a consent form, thereby agreeing to take part in the study and granting permission for use of the information.

A detailed depiction of the sample's biographical information will be presented with the results of the study.

Measures

The following self-report measures were used in this study:

1) A self-compiled biographical questionnaire to determine age, ethnicity, education levels and other relevant data.

2) The most validated instrument to measure the construct of psychopathy is the revised version of Robert Hare's Psychopathy Checklist (PCL-R; 1991; 2003). However, the PCL-R consists of semi-structured interviews which require extensive training and take a considerable time to administrate. Since the current study is not diagnostic in nature, it was opted to use *The Psychopathic Personality Inventory – Revised* (PPI-R; Lilienfeld & Widows, 2005). The PPI-R is a self-report inventory designed as an alternative measure to identify a continuum of psychopathic traits and attitudes. Although the use of self-report measures to identify psychopathic or antisocial traits has been criticised in the past, the trend to use such measures seems to be on the increase. The main reasons behind the augmented use of self-report measures are the reduced financial and time constraints, and the assessment of response styles through validity scales rather than the possible subjectivity found in assessment through interviews (Lilienfeld & Fowler, 2007).

The PPI-R consists of 154 items, eight content scales, Machiavellian Egocentricity (ME), Rebellious Nonconformity (RN), Blame Externalisation (BE), Carefree Nonplanfulness (CN), Social Influence (SOI), Fearlessness (F), Stress Immunity (STI), and Coldheartedness (C), three factor scales, Self-Centred Impulsivity (SCI), Fearless Dominance (FD) and Coldheartedness (C); four validity scales, including Deviant Responding (DR), Virtuous Responding (VR), and two Inconsistent Responding (IR-15; IR-40) scales. The DR and VR scales are used to identify faking bad and faking good responses respectively, whereas the IR scales eliminate careless or random responses. Construct, convergent, discriminant and external validity have been found satisfactory and Cronbach alpha coefficients ranged from 0.71 to 0.84 and 0.91 in an American prison

sample and a Belgian community sample respectively (Lilienfeld & Widows, 2005; Uzieblo, Verschuere, Van den Bussche, & Crombez, 2010).

3) To measure antisocial and dissocial personality disorders *The DSM-IV and ICD-10 Personality Questionnaire* (DIP-Q; Ottosson et al., 1995) was used. The DIP-Q is derived from the 10th edition of the World Health Organisation's *International Classification of Diseases* (ICD-10) and the fourth edition of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV). The questionnaire consists of 140 true/false items and encompasses all eight ICD-10 and all ten DSM-IV personality disorders' criteria. Only the two subscales measuring DPD and ASPD were used in this study. Preliminary validation of the relevant DIP-Q subscales did not render sufficient reliability coefficients for either the DPD or the ASPD subscales (Ottosson et al., 1995). Findings from a pilot study in the present project did, however, deliver sufficient reliability scores, with alpha coefficients of 0.81 and 0.63 for the ASPD and DPD subscales respectively.

4) *The Psychological Inventory of Criminal Thinking Styles* (PICTS; Walters, 2006) is an 80-item questionnaire that assesses eight thinking styles related to maintaining a criminal lifestyle, including Mollification (Mo), Cutoff (Co), Entitlement (En), Power Orientation (Po), Sentimentality (Sn), Superoptimism (So), Cognitive Indolence (Ci), and Discontinuity (Ds). Additionally, the measure consists of four factor scales, Problem Avoidance (PRB), Interpersonal Hostility (HOS), Self-Assertion/Deception (AST) and Denial of Harm (DNH), two general content scales, Current Criminal Thinking (CUR) and Historical Criminal Thinking (HIS), two composite scales, Proactive Criminal Thinking (P) and Reactive Criminal Thinking (R), and one special scale, Fear of Change (FOC). The PICTS also comprises of three validity scales, the revised Confusion scale (Cf-r), the revised Defensiveness scale (Df-r) and the number of omitted items. The

questionnaire is often used for assessing the risk for recidivism in offenders. Test-retest measures of reliability indicated scores ranging from 0.72 to 0.85 in an American prison sample. Concurrent, predictive, and construct validity have also been proven satisfactory.

No studies administering the PPI-R, DIP-Q or PICTS in South African samples could be found to corroborate the mentioned psychometric properties.

Administration of the questionnaires

The Mangaung Correctional Centre houses a variety of different cultures and ethnicities. Administering the measures brought forward challenges such as language and comprehension difficulties. Of the 11 official languages in South Africa, English is the one common denominator. It was therefore opted that translators would assist with the correct interpretation of the questions as well as to contextually explain the use of English jargon such as “daredevil”, which was not understood by a number of the participants. Participants were divided into smaller groups (1 to 5), according to their home language, and were appointed a translator of the same language.

Statistical analysis

SPSS Version 18 was employed to analyse the data. Descriptive statistics are presented first, including the demographic characteristics of the sample and the prevalence of the antisocial personalities. This will be followed by a comparison of the mean thinking style scores of ASPD and DPD respectively by means of independent *t*-tests. Psychopathy's dimensional nature allows for the inclusion of several independent variables (non-psychopaths, low psychopathy, moderate psychopathy, and high

psychopathy) to be compared with the various PICTS subscales, therefore a multivariate analysis of variance (MANOVA) will be conducted. To determine the practical application of statistically significant results, effect sizes will be calculated. The 5% as well as the 1% level of significance will be used in this study.

Results and discussion

A detailed demographic profile of the sample is portrayed in Table 1. Most participants were aged between 36 and 55 years, followed by between 18 to 35 years. Sesotho was the most spoken home language, followed by Afrikaans, Xhosa, Tswana, Zulu, English and Northern Sotho. Less than 10% of the participants had either never received any schooling or had some form of tertiary education, while most had received either some primary or secondary schooling. The diversity of individual crimes was grouped into violent, sexual and economic-related offences. Sexual crimes are often included in the violent crime category; however, the high rate of sexual crimes in South Africa deserves individual attention. For this reason the sexual crimes and violent crimes are portrayed as separate categories. Violent crimes represented almost half of the sample, while sexual and economic related crimes represented almost a third and a quarter of the sample respectively. Almost half of the total sample indicated that they have served previous prison terms, of which more than half represent economic crimes, one third violent crimes, and just over 10% represented crimes of a sexual nature.

Most of the participants are serving 11 to 40 year sentences, with 20% serving life sentences, and less than 10% serving either more than 40 years or less than 10 years. When participants were asked how they felt about the crimes they committed, almost 20% stated they were failed by the judicial system, while just over 10% blamed environmental factors for their

criminal activities. The remaining majority indicated that they regret their actions.

Table 1: Demographic characteristics

Characteristic	Total sample	% (N=442)
Age		(N=439)
18-35	174	40
36-55	251	57
56+	14	3
Language		(N=439)
Sesotho	152	35
Afrikaans	124	28
Xhosa	66	15
Tswana	50	11
Zulu	31	7
English	11	3
Northern Sotho	5	1
Education		(N=429)
None	28	7
Some primary	195	45
Some secondary	170	40
Tertiary	36	8
Family trouble with law		(N=429)
Father	49	11
Mother	16	4
Brothers	95	22
Sisters	19	4
Times arrested before the age of 16		(N=406)
Never	303	75
Once	49	12
2-4 times	40	10
More than 5 times	14	3
Previous prison terms		(N=437)
None	241	55
1-2	123	28
3-4	39	9
5 and more	34	8
Previous crime classification		(N=163)
Violent/aggressive	53	33
Sexual	22	13
Economic	88	54
Current crime classification		(N=431)
Violent/aggressive	198	46
Sexual	129	30
Economic	104	24
Length of sentence		(N=411)
Less than 10 years	19	5
11-40 years	294	71
More than 40 years	17	4
Life	81	20
Feelings about crime		(N=406)
System failed me	72	18

Circumstances	49	12
Regret	285	70

The prevalence of psychopathy, ASPD and DPD is portrayed in Table 2. Recent taxometric analyses report that both antisocial personality disorder and psychopathy are more dimensional in nature than categorical, and should therefore rather be measured on a continuum (e.g., Marcus, John & Edens, 2004; Marcus, Lilienfeld, Edens & Poythress, 2006).

Table 2: Prevalence of antisocial personalities

	Total	% of total
Psychopathy:		
Total	114	27%
Low psychopathy (60-69)	25	6%
Moderate psychopathy (70-79)	58	14%
High psychopathy (≥ 80)	31	7%
Antisocial personality disorder	77	17%
Dissocial personality disorder	185	38%

$N = 442$; $N = 414$ (PPI-R)

Because of the dimensionality of ASPD, Marcus et al. (2006) specifically point out that the comparison of groups with and without ASPD should be avoided. However, the current study implemented a self-report questionnaire based on the DSM-IV's classification of the disorder. Since the current DSM criteria does not allow for scale responses, the sample was limited to yes and no answers to indicate the presence/absence or agreeability/disagreeability of the criteria. The dimensionality of ASPD, however, will be considered when interpreting the results. In terms of psychopathy, the PPI-R recommends a cut-off score of 60 to indicate the presence of psychopathic traits. The dimensionality of psychopathy was taken into account by dividing those meeting the criteria into groups representing an interval of 10 points, e.g., 60-69 (low psychopathy), 70-79 (moderate psychopathy), and ≥ 80 (high psychopathy).

Psychopathic individuals represented 27% of the current sample, while ASPD and DPD represented 17% and 38% respectively (for a more ample description of prevalence, refer to Article 2). The internal consistency of the PICTS subscales, as well as the mean and standard deviation scores of the total sample are presented in Table 3. Similar to Walters (2006), who determined the internal consistency of the PICTS subscales to range from 0.55 to 0.91, the current study produced alpha coefficients ranging from 0.50 to 0.80.

Table 3: Internal consistency, mean and standard deviations

Scales	α	Walters α	M	SD
Total	0.90			
Mo	0.56	0.64	16.22	4.50
Co	0.69	0.78	17.84	3.88
En	0.56	0.59	16.12	4.69
Po	0.55	0.65	16.24	4.59
Sn	0.56	0.55	19.47	4.91
So	0.59	0.63	16.30	4.89
Ci	0.60	0.76	18.22	4.36
Ds	0.69	0.79	16.88	4.77
PRB	0.75	0.87	22.07	5.91
HOS	0.70	0.78	17.87	5.72
AST	0.72	0.83	19.83	6.41
DNH	0.63	0.66	25.65	5.99
CUR	0.80	0.88	27.19	7.43
HIS	0.76	0.83	24.09	7.56
P			86.07	24.58
R			95.98	21.69

(Mo=Mollification, Co=Cutoff, En=Entitlement, Po=Power Orientation, Sn=Sentimentality, So=Superoptimism, Ci=Cognitive Indolence, Ds=Discontinuity, PRB=Problem Avoidance, HOS=Interpersonal Hostility, AST=Self-Assertion/Deception, DNH=Denial of Harm, CUR=Current Criminal Thinking, HIS=Historical Criminal Thinking, FOC=Fear of Change, Cf-r=confusion scale, Df-r=Defensiveness scale).

The alpha coefficients of most subscales in the current study only revealed moderate reliability, which should be taken into consideration with the interpretation of results. Ultimately the internal consistency scores indicate a moderate to moderately high reliability.

Analysis of variance

Table 4 reports on the variation in criminal thinking styles between offenders with DPD traits and those without. The results indicate significant differences for all individual thinking styles and composite factor scales. The only thinking style that did not produce a significant difference between the groups is Sentimentality. This subscale refers to behavioural justification of criminal actions (Walters, 2006). The insignificant difference of this thinking style might indicate that offenders in general do not feel the need to justify their behaviour. Additionally, it could indicate that offenders, irrespective of the presence of DPD, maintain a general disregard for the feelings of others.

Table 4: Variance of criminal thinking amongst individuals with and without DPD

Subscales	DPD		Non-DPD		<i>t</i>	<i>p</i>	<i>d</i>
	M	SD	M	SD			
MO	17.64	4.29	15.22	4.45	5.69	0.00	0.17
CO	18.75	3.39	17.19	3.71	4.23	0.00	0.13
EN	17.44	4.48	15.18	4.62	5.10	0.00	0.16
PO	17.69	4.19	15.22	4.58	5.77	0.00	0.17
SN	19.93	4.97	19.15	4.85	1.65	0.10	
SO	17.13	4.68	15.72	4.96	3.01	0.00	0.09
CI	19.29	3.97	17.46	4.47	4.41	0.00	0.14
DS	18.21	4.34	15.93	4.84	5.07	0.00	0.18
CUR	29.89	6.94	25.28	7.18	6.72	0.00	0.47
HIS	26.31	7.19	22.51	7.43	5.35	0.00	0.36
PRB	23.77	5.52	20.87	5.89	5.22	0.00	0.31
HOS	18.96	5.83	17.10	5.51	3.40	0.00	0.09
AST	21.70	6.15	18.50	6.26	5.32	0.00	0.29
DNH	26.47	5.80	25.07	6.07	2.41	0.02*	0.21
P	93.75	23.47	80.63	23.94	5.70	0.00	1.17
R	103.05	20.26	90.97	21.30	5.97	0.00	1.24

* $p \leq 0.05$

To determine the magnitude of significant differences, effect sizes were calculated. Cohen (1988) indicates the method and guidelines to consider when determining effect sizes and recommends $d=0.2$ to be interpreted as a small effect, $d=0.5$ as a medium effect, and $d=0.8$ as a large effect. The vast majority of differences indicated small effect sizes, which implies that the differences, although significant, are of little practical value.

The variation in criminal thinking styles among ASPD individuals and those not meeting the criteria for the disorder is presented in Table 5. Similar to the DPD results and those of other studies (Walters, 2009; Walters & Knight, 2010), significant differences in thinking styles were evident between the two groups. Once again, only the Sentimentality subscale indicated an insignificant difference.

Table 5: Variance in criminal thinking amongst those with and without ASPD

Subscales	ASPD		Non-ASPD		<i>t</i>	<i>p</i>	<i>d</i>
	M	SD	M	SD			
MO	18.09	4.15	15.48	4.53	3.99	0.00	0.19
CO	19.84	3.95	17.43	3.74	5.04	0.00	0.20
EN	18.77	4.60	15.57	4.53	5.56	0.00	0.23
PO	18.32	4.27	15.82	4.54	4.39	0.00	0.17
SN	20.09	5.30	19.35	4.83	1.20	0.23	
SO	19.05	4.44	15.73	4.79	5.53	0.00	0.23
CI	20.12	4.12	17.83	4.30	4.23	0.00	0.17
DS	19.48	4.24	16.34	4.70	5.35	0.00	0.25
CUR	32.63	7.04	26.07	7.01	7.37	0.00	0.67
HIS	29.32	6.52	23.01	7.31	6.92	0.00	0.60
PRB	25.55	5.62	21.35	5.72	5.80	0.00	0.45
HOS	21.01	5.77	17.23	5.49	5.39	0.00	0.19
AST	24.36	5.53	18.89	6.18	7.10	0.00	0.50
DNH	25.84	6.05	25.61	5.99	0.30	0.76	
P	103.41	21.96	82.49	23.58	7.07	0.00	1.87
R	110.63	20.67	92.96	20.66	6.74	0.00	1.82

Interestingly, an insignificant difference was reported between the two groups for the factor scale Denial of Harm. Coinciding with the Sentimentality subscale, high scores on the Denial of Harm scale indicate the minimisation of harm done to others and a general rationalisation of criminal behaviour (Walters, 2006). Large effect sizes were evident for the Proactive and Reactive composite scales, which stresses the meaningfulness of the significant differences found between the groups. Moderate practical applicability of significant differences was found for current and historical criminal thinking patterns, as well as the Problem Avoidance and Self-Assertion/Deception factorial scales, while the eight thinking styles in general produced small effect sizes.

Table 6 reports on the differences in criminal thinking scores between non-psychopaths, and individuals representing low psychopathy, moderate psychopathy, and high psychopathy scores.

Table 6: PPI-R multiple analysis of variance

Subscales	Non-psychopaths		60-69		70-79		≥80		p
	M	SD	M	SD	M	SD	M	SD	
MO	16.12	4.33	14.96	3.48	16.87	4.88	17.36	5.31	ns*
CO	17.67	3.85	17.29	3.04	18.20	3.27	19.15	4.30	ns*
EN	15.99	4.57	15.25	3.05	16.62	4.76	17.55	5.59	ns*
PO	15.98	4.50	15.29	3.46	17.02	3.99	18.15	5.42	ns*
SN	19.40	4.76	16.92	3.74	19.84	4.45	21.73	5.98	ns*
SO	16.28	4.76	14.29	3.75	16.98	4.75	17.76	5.65	ns*
CI	18.14	4.25	17.83	2.90	18.60	4.20	19.00	4.98	ns*
DS	16.76	4.66	15.25	3.66	17.49	4.63	18.27	5.27	ns*
CUR	26.95	6.90	25.50	5.07	27.36	7.29	29.85	8.98	ns*
HIS	24.00	7.17	21.33	6.42	24.98	7.33	25.94	8.33	ns*
PRB	21.89	5.66	21.21	4.68	22.24	5.29	23.30	6.72	ns*
HOS	17.47	5.41	16.75	4.74	19.20	5.50	21.03	7.00	ns*
AST	19.69	6.15	17.96	5.95	20.78	6.06	21.36	6.96	ns*
DNH	25.66	5.82	24.54	5.09	26.25	5.74	27.15	7.52	ns*
P	85.52	23.47	78.77	19.87	89.39	23.79	93.08	28.46	ns*
R	95.12	20.43	91.90	15.53	97.12	19.46	103.11	26.23	ns*

* >0.05

Results for the multivariate analysis of variance revealed an insignificant Hotelling's Trace statistic, which implies that the groups do not differ significantly in their criminal thinking styles. To determine whether non-psychopaths differ in their criminal thinking from psychopaths in general, the three groups representing the different levels of psychopathy were merged and the analysis was repeated. Results from the additional analysis confirmed the initial findings and no significant differences between the groups' criminal thinking were evident.

These results contradict findings from previous studies (e.g., Blackburn, 2006; Magyar et al., 2009; Walters & Mandell, 2007), which report at least some association between psychopaths and criminal thinking. The absence of significant differences in criminal thinking between psychopaths and non-psychopaths could once again be indicative of differing expressions of the disorder across cultures. Interpretation of the current study's results should, however, take into account that the psychometric properties of the PICTS have not been validated in the South African context.

The interpretation of the eight thinking styles is built on the premise that three or less thinking styles are easier to manage than all eight. Walters (2006) therefore suggests the identification of the top three scales in terms of *T*-score elevation. The selected scales would reveal the thinking styles most probable to influence the respondents' behaviour. Although no significant differences were evident between the mean scores of the various psychopathy groups, the process of identifying the most prominent individual criminal thinking styles could aid in the understanding of offenders in South Africa. The interpretation of elevated thinking styles would therefore place more focus on ASPD, DPD and the general sample.

Through a process of averaging the highest scores and comparing them to the average score of the remaining scales with *T*-scores above 50, a

differentiated (difference ≥ 5) or undifferentiated (difference < 5) profile emerges. Undifferentiated profiles could be reevaluated with a two-scale or singular scale elevation, however, should the profile stay undifferentiated, interpretation should proceed with caution.

The ASPD and non-ASPD groups showed a singular scale elevation in Power Orientation. The DPD group showed a three-scale elevation, with the highest score for Power Orientation, followed by Entitlement and Mollification. The total sample of offenders also revealed a two-scale elevation, with the highest score in Power Orientation followed by Entitlement. Power Orientation implies a craving for power and control. Walters (2006) suggests that when an individual with this thinking style loses control over the environment, they are likely to engage in a power thrust, putting others down to feel better about themselves. Elevated scores in the Power Orientation subscale could be indicative of the prison context the respondents are residing in. Protruding a sense of power or actual portrayal of power within the prison setting is crucial for social standing.

The elevated scores for Entitlement among all groups are disturbing. Entitlement implies "a sense of ownership, privilege and uniqueness, used by the individual to grant him or herself permission to violate the laws of society and the rights of others" (Walters, 2006, p. 44). There is also a misconception of wants and needs. Contrary to the current findings, other studies have indicated a strong association between psychopathy, in particular, and a sense of entitlement, encouraging the notion that psychopaths' belief systems are thought to encompass such biases as entitlement and the need to manipulate others (Blackburn, 2006; Magyar et al., 2009). Self-centred attitudes and beliefs are also likely to hinder suggestions of change, thereby impacting negatively on treatment and rehabilitation (Chambers, Eccleston, Day, Ward & Howells, 2008). A sense of entitlement could also be associated with South Africa's socio-political

history. The transformation from an oppressive government to democratic rule brought several promises of a better life. However, transformation is a long process, and almost 20 years later, poverty, unemployment and a lack of basic resources are still evident. Underlying feelings of contempt and frustration could also contribute to feelings of entitlement concerning criminal behaviour.

The scores obtained in the factor, content and special scales are intended to supplement the scores acquired from the thinking style and composite scales. Contrary to a study by Magyar et al. (2009), who found that the factor scale Self-Assertion/Deception was the strongest predictor of psychopathy, none of the current groups representing psychopathy revealed elevated scores on this factor scale. Both ASPD and DPD groups, however, did score relatively high on the Self Assertion/Deception factor scale, indicating a tendency to achieve one's goals regardless of who gets hurt in the process, as well as displaying a propensity to rationalise or justify their criminal actions. Unsurprisingly, this factor scale also correlates highly with Entitlement and Superoptimism.

Conclusion

The results of this study indicate a general tendency for individuals meeting the diagnostic criteria for ASPD and DPD respectively to engage in higher levels of criminal thinking than those without traits associated with the disorders. This implies that ASPD and DPD disordered individuals are more likely to maintain a criminal lifestyle and possibly recidivate if adequate intervention fails. An unexpected result is the insignificant differences in criminal thinking scores between non-psychopaths and individuals representing the various degrees of psychopathy. This finding warrants further exploration of the manifestation of cognitions and personality traits associated with psychopathologies in South Africa. The two most salient

thinking styles among all offenders in the current sample, Power Orientation and Entitlement, provide a starting point for further research in the understanding of cognitive factors contributing to criminal behaviour.

The limitations of the study mainly revolve around the psychometric properties of the instruments used (refer to Article 1 for a more ample depiction of the PPI-R validation). The internal consistency of the PICTS subscales only revealed moderate reliability, which causes concern about the interpretation and validation of items. The content validity of some items is also questionable, e.g., including concepts which are largely excluded from the sample's frame of reference, such as hippies; or incorporating English jargon which might be foreign to the sample. Although great effort was put into assuring the translators' contextual comprehension of concepts, the possibility of mistranslation cannot be excluded. Additionally, some less developed languages might not incorporate certain concepts, which leads to elaborate explanations of the concept from the translator's subjective interpretation, and thereby contributing to the possible jeopardisation of validity.

The normative information for the PICTS was collected from American offender samples, which differ extensively from South African participants in terms of cultural heritage, ethnicity, and respective national histories which influence all aspects of personhood. Thus, until further exploration of criminal cognitions verify the theoretical underpinnings of criminal thinking styles in the South African context, as well as determining valid psychometric properties for the instrument, the current results should only be viewed as a starting point for further research.

The abovementioned difficulties encountered through this research process emphasise the need for developing culture-specific standardised assessment measures. Further exploration of the possible roles

intrapersonal contributors play in criminal behaviour should be investigated and extended to include other vulnerable groups, such as female and youth offenders.

Reference List

- Babiak, P., & Hare, R. D. (2006). *Snakes in suits: when psychopaths go to work*. New York, NY: Harper Collins Publishers Inc.
- Bader, S. M. (2007). *Antisocial thinking as a dynamic risk factor in rapists and child molesters* (Unpublished doctoral dissertation). University of Nebraska, Nebraska.
- Blackburn, R. (2006). Other theoretical models of psychopathy. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 35-57). New York, NY: Guilford.
- Bulten, E., Nijman, H., & Van der Staak, C. (2009). Measuring criminal thinking styles: The construct validity and utility of the PICTS in a Dutch prison sample. *Legal and Criminological Psychology*, 14, 35-49.
- Chambers, J. C., Eccleston, L., Day, A., Ward, T., & Howells, K. (2008). Treatment readiness in violent offenders: the influence of cognitive factors on engagement in violence programs. *Aggression and Violent Behavior*, 13, 276-284.
- Gendreau, P., Little, T., & Goggin, C. (1996). A meta-analysis of predictors of adult recidivism: What works! *Criminology*, 34, 401-433.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Gonsalves, V. M., Scalora, M. J., & Huss, M. T. (2009). Prediction of recidivism using the Psychopathy Checklist – Revised and the Psychological Inventory of Criminal Thinking Styles within a forensic sample. *Criminal Justice and Behavior*, 36, 741-755.
- Hare, R. D. (1991). *The Hare Psychopathy Checklist-Revised*. Canada: Multi-Health Systems.
- Hare, R. D. (2003). *The Hare Psychopathy Checklist-Revised* (PCL-R; 2nd ed.). Ontario: Multi-Health Systems.

Lilienfeld, S. O., & Fowler, K. A. (2007). The Self-Report Assessment of Psychopathy. In C. J. Patrick. *Handbook of Psychopathy* (pp. 102- 132). New York: Guilford Press.

Lilienfeld, S. O., & Widows, M. R. (2005). *Professional manual for the Psychopathic Personality Inventory–Revised*. Florida: Psychological Assessment Resources.

Louw, A. (2007). Crime and perceptions after a decade of democracy. *Social Indicators Research*, 81, 235-255.

Lykken, D. T. (1995). *The antisocial personalities*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Magyar, M., Carr, W. A., Rosenfeld, B., & Rotter, M. (2009). An exploration of the relationship between criminal cognitions and psychopathy in a civil psychiatric sample. *International Journal of Offender Therapy and Comparative Criminology*. Advance online publication. doi: 10.1177/0306624X09344105

Marcus, D. K., John, S. L., & Edens, J. F. (2004). A taxometric analysis of psychopathic personality. *Journal of Abnormal Psychology*, 113(4), 626-635.

Marcus, D. K., Lilienfeld, S. O., Edens, J. F., & Poythress, N. G. (2006). Is antisocial personality disorder continuous or categorical? A taxometric analysis. *Psychological Medicine*, 36, 1571-1581.

Ottosson, H., Bodlund, O., Ekselius, L., Lindström, E., Von Knorring, L., Kullgren, G., & Söderberg, S. (1995). The DSM-IV and ICD-10 Personality Questionnaire (DIP-Q): Construction and preliminary validation. *Nordic Journal of Psychiatry*, 49, 285-291.

Sharp, B. D. (2000). *Changing criminal thinking: A treatment program*. Lanham, MD: American Correctional Association.

South African Police Service (2010). *Annual Report*. Retrieved from www.saps.gov.za

- Uzieblo, K., Verschuere, B., Van den Bussche, E., & Crombez, G. (2010). The Validity of the Psychopathic Personality Inventory–Revised in a Community Sample. *Assessment*, 17(3) 334-346.
- Walters, G. D. (1990). *The criminal lifestyle: Patterns of serious criminal conduct*. Newbury Park, CA: Sage.
- Walters, G. D. (2006). *The Psychological Inventory of Criminal Thinking Styles (PICTS) Professional Manual*. Allentown: Center for Lifestyle Studies.
- Walters, G. D. (2008). Self-Report Measures of Psychopathy, Antisocial Personality, and Criminal Lifestyle: Testing and Validating a Two-Dimensional Model. *Criminal Justice and Behavior*, 35, 1459-1483.
- Walters, G. D. (2009). Effect of a longer versus shorter test-release interval on recidivism prediction with the Psychological Inventory of Criminal Thinking Styles (PICTS). *International Journal of Offender Therapy and Comparative Criminology*, 53(6), 665-678.
- Walters, G. D., & Knight, R. A. (2010). Antisocial personality disorder with and without antecedent childhood conduct disorder: does it make a difference? *Journal of Personality Disorders*, 24(2), 258-271.
- Walters, G. D., & Mandell, W. (2007). Incremental validity of the Psychological Inventory of Criminal Thinking Styles and Psychopathy Checklist: Screening Version in predicting disciplinary adjustment. *Law and Human Behavior*, 31, 141-157.
- Walters, G. D., & White, T. W. (1990). The thinking criminal: a cognitive model of lifestyle criminality. *Women Lawyers Journal*, 2, 4-12.
- Zhang, L. (2002). Measuring thinking styles in addition to measuring personality traits? *Personality and Individual Differences*, 33, 445-458.

The predictive value of psychopathic traits and criminal thinking styles in the recidivistic behaviour of offenders in South Africa

Abstract	1
Introduction	1
Risk assessment and recidivism	3
Psychopathic traits, criminal thinking styles, and the prediction of recidivistic behaviour	4
Methodology	6
<i>Participants and procedure</i>	6
<i>Measures</i>	7
<i>Administration of questionnaires</i>	8
<i>Statistical analysis</i>	9
Results and discussion	9
<i>Logistic regression analyses</i>	11
Conclusion	15
Reference list	17

Tables

Table 1: Demographic characteristics	10
Table 2: Variables, logistic coefficients, Wald statistics and odds ratios	13

The predictive value of psychopathic traits and criminal thinking styles in the recidivistic behaviour of offenders in South Africa

Abstract

Psychopathy and criminal thinking styles have both been associated with the recidivistic behaviour of offenders. This study attempted to determine whether the presence of psychopathic traits and criminal thinking styles are able to predict the likelihood of recidivism among offenders in South Africa. The Psychopathic Personality Inventory – Revised (PPI-R) and the Psychological Inventory of Criminal Thinking Styles (PICTS) were administered to a sample of 500 maximum security male prisoners representing first offenders and re-offenders. Findings of a binary logistic regression analysis indicates that only the Social Influence subscale of the PPI-R significantly predicted the possibility group membership, while none of the criminal thinking styles produced significant results.

Introduction

A severe lack of data concerning recidivism in South Africa often leads to extremely high estimates regarding the rate of re-offence, some of which range from 60% to 94% (Bruyns & Nieuwenhuizen, 2003; see Cilliers & Smit, 2007; Pelsier, 2007). The few scientific studies, one of which incorporated 2001 statistics, and the other a yet to be published study produced by the Department of Correctional Services (DCS), report relatively modest re-offence rates of less than 30% (Shabangu, 2006;

personal interview with the DCS Director of Risk Management, 2010). Even though discrepancies are evident in the incidence of recidivistic behaviour of offenders in South Africa, the necessity to consider potential recidivism with regard to treatment needs and parole hearings compel correctional institutions to implement methods for predicting the probability of re-offence.

Individual risk factors, such as psychopathic traits and criminal thinking styles, have been strongly associated with the prediction of violence and recidivism among international offenders (e.g., Gonsalves, Scalora & Huss, 2009; Laurell & Daderman, 2005; Salekin, 2008; Walters, 2010). In general, personality disordered individuals have been found to display an increased risk for recidivism (Coid, Hickey, Kahtan, Zhang & Yang, 2007; Grann, Danesh & Fazel, 2008). Psychopathy, in particular, has been singled out as being significantly associated with committing more violent crimes than non-psychopathic offenders, as well as with a significant increase in recidivistic behaviour (Babiak & Hare, 2006; Bartol & Bartol, 2008; Laurell & Daderman, 2005; Porter, Ten Brinke & Wilson, 2009; Salekin, 2008). The supplementary inclusion of these individual factors in risk assessment is only evident in the vast minority of criminal justice systems and the value of their inclusion has yet to be recognised by the developing world (Cooke, 1997; Cooke, Michie, Hart & Clark, 2005; Sullivan & Kosson, 2007).

In order to replicate findings of international studies and possibly promote the inclusion of contributory psychopathic traits and criminal thinking in the assessment of risk for re-offence, the current study aims to determine the predictive value of these constructs with regard to recidivism among offenders in South Africa.

Risk assessment and recidivism

The rates of offenders' recidivistic behaviour are said to vary considerably among different countries, with a general fluctuation between 5% and 40% (Palermo, 2009). The varied rates could be attributed to discrepancies in defining recidivism, using different methodologies and measuring throughout inconsistent intervals of re-incarceration. Examples include studies such as Langan and Levin (2002), who state that more than one in three American offenders is reconvicted within two years after release, while Bulten, Vissers and Oei (2008) report that approximately 75% of Dutch ex-prisoners commit another registered crime within eight years. Discrepancies such as these with regard to different time frames limit the cross-national and inter-study comparisons of recidivism rates.

The assessment of risk and accompanying prediction of recidivism enables stakeholders in the criminal justice system to determine the probability of offenders' repeated criminal conduct, which in turn, could enable the implementation of relevant intervention methods (Walters, 2009). The two most important contributory aspects of risk assessment throughout literature include static and dynamic factors. Static risk factors represent stable and unchanging characteristics, such as the age of first arrest or criminal history, while dynamic risk factors represent characteristics amenable to treatment, including substance abuse or criminal thinking styles (Palermo, 2009; Walters, 2010). The presence of certain static and dynamic risk factors impacts significantly on the prediction of recidivistic behaviour.

The current practice in South Africa is to assess offenders for determination of immediate risk, safety and vulnerability on admittance to prison. Within three weeks of incarceration, a more holistic assessment ensues, where the individual's life history, static and dynamic risk factors and criminogenic needs are considered to determine a personalised treatment plan (personal

interview with the DCS Director of Risk Profile Management, 2010). Regrettably, the Department of Correctional Services' policy to combat recidivism and enhance rehabilitation through needs-based correctional sentence plans has not been realised (DCS, 2009). In their annual report, the DCS states that 12 551 sentenced offenders have sentence plans. This figure only represents approximately 11% of sentenced offenders in South Africa. It could therefore possibly be assumed that the lack of personalised sentence or treatment plans for the majority of offenders decreases the probability of rehabilitation, while simultaneously increasing the risk for re-offence. This statement alone stresses the urgency to apply policies and include scientific measures to aid the criminal justice system in the determination of parole outcomes.

Psychopathic traits, criminal thinking styles and the prediction of recidivistic behaviour

Along with antisocial supports and static factors, such as criminal, educational and employment history, antisocial personality traits and thinking styles rank under the top five predictors of offender recidivism (Gendreau, Little & Goggin, 1996). Measures of antisocial traits, such as psychopathy, have also been found to correlate higher with recidivism than single predictors (Zamble & Quinsey, 1997).

The Psychopathy Checklist–Revised (PCL-R; Hare, 1991; 2003) is well established as a predictor of recidivism in literature (Gonsalves et al., 2009). Unsurprisingly, the PCL-R is also the measure most often used when studying psychopathy and recidivism. Several studies have, however, reported that the predictive utility of the PCL-R is attributable to its behavioural component, which consist of traits that are not specific to psychopathic personality characteristics (e.g., Gonsalves et al., 2009; Walters, 2003). Authors such as Skeem and Cooke (2010) acknowledge

the important contribution the PCL-R has made in psychopathy research, but simultaneously warn against the use of measures intended to assess psychopathy as instruments to assess recidivism risk. The authors rightfully imply that psychopathy, although associated with recidivism risk, portrays but one aspect of risk, and assessment should not merely rely on the presence of psychopathy to determine offenders' risk to recidivate. Another warning heeded by Skeem and Cooke is for researchers not to confuse the construct of psychopathy with the PCL-R, which is, along with other measuring instruments, intended to assess the presence of psychopathic traits, and is not necessarily synonymous with the concept of psychopathy.

Concerning the role of cognitions in recidivistic behaviour, several studies have indicated a significant association between criminal thinking styles and the prediction of recidivism (see Walters, 2005; 2010). The identification of thinking styles contributing to lifestyle criminality could aid the timely application of intervention strategies. One of the cardinal assumptions of the criminal lifestyle approach is that a change in criminal thinking precedes a change in criminal behaviour (Walters, 1990). Unsurprisingly, cognitive-based interventions have been found to reduce criminal thinking and inhibit criminal behaviour (Andrews, Bonta & Hoge, 1990; Walters, 2006). Researchers focusing on the role of cognition amongst offenders have emphasised the importance of including the assessment of antisocial cognitions in the prediction of recidivism (Andrews, Bonta & Wormith, 2006). Others have suggested the inclusion of a measure of criminal cognition to augment psychopathy measures, such as the PCL-R, in the prediction of recidivistic behaviour (Gonsalves et al., 2009).

Methodology

Participants and procedure

In order to ensure that the rights of participants were not infringed on, permission for the current study was granted by two ethical committees representing the Department of Psychology and the Faculty of Humanities at the University of the Free State. Furthermore, an independent review of the current study's proposal was conducted by the Department of Correctional Services' research department. A non-experimental quantitative research approach was employed to acquire data at Mangaung Correctional Centre (MCC), a maximum security prison located near Bloemfontein housing approximately 3 000 male offenders. A randomised sample of 500 offenders representing various ethnicities and types of crime was selected through the MCC database. The selected offenders were summoned to the visitation hall in groups of 30 where they were informed of the purpose of the study and given the option of participating or returning to their relevant units or work activities. A few offenders opted not to participate in the study, largely because of work responsibilities. This resulted in a response rate of 88%. After the briefing, willing participants were asked to sign a consent form, thereby agreeing to take part in the study and granting permission for use of the information.

A detailed depiction of the sample's biographical information will be presented with the results of the study.

Measures

The following self-report measures were used in this study:

1) A self-compiled biographical questionnaire to determine age, ethnicity, education levels and other relevant data.

2) *The Psychopathic Personality Inventory – Revised* (PPI-R; Lilienfeld & Widows, 2005). The PPI-R is a self-report inventory designed as an alternative measure to identify a continuum of psychopathic traits and attitudes. Although the use of self-report measures to identify psychopathic or antisocial traits has been criticised in the past, the trend seems to be on the increase. The main reasons behind the augmented use of self-report measures are the reduced financial and time constraints, and the assessment of response styles through validity scales rather than the possible subjectivity found in assessment through interviews (Lilienfeld & Fowler, 2007).

The PPI-R consists of 154 items, eight content scales, Machiavellian Egocentricity (ME), Rebellious Nonconformity (RN), Blame Externalisation (BE), Carefree Nonplanfulness (CN), Social Influence (SOI), Fearlessness (F), Stress Immunity (STI), and Coldheartedness (C); four validity scales, including Deviant Responding (DR), Virtuous Responding (VR), and two Inconsistent Responding (IR-15; IR-40) scales. The DR and VR scales are used to identify faking bad and faking good responses respectively, whereas the IR scales eliminate careless or random responses. The items are answered using a 4-point Likert-type scale (1 = *false*, 2 = *mostly false*, 3 = *mostly true*, and 4 = *true*). Construct, convergent, discriminant and external validity have been found satisfactory and Cronbach alpha coefficients ranged from 0.71 to 0.84 and 0.91 in an American prison sample and a Belgian community sample respectively (Lilienfeld & Widows, 2005; Uzieblo, Verschuere, Van den Bussche & Crombez, 2010).

3) *The Psychological Inventory of Criminal Thinking Styles* (PICTS; Walters, 2006) is an 80-item questionnaire that assesses eight thinking

styles related to maintaining a criminal lifestyle, including Mollification (Mo), Cutoff (Co), Entitlement (En), Power Orientation (Po), Sentimentality scale (Sn), Superoptimism (So), Cognitive Indolence (Ci), and Discontinuity (Ds). Additionally, the measure consists of four factor scales, Problem Avoidance (PRB), Interpersonal Hostility (HOS), Self-Assertion/Deception (AST) and Denial of Harm (DNH), two general content scales, Current Criminal Thinking (CUR) and Historical Criminal Thinking (HIS), two composite scales, Proactive Criminal Thinking (P) and Reactive Criminal Thinking (R), and one special scale, Fear of Change (FOC). The PICTS also comprises of three validity scales, the revised Confusion scale (Cf-r), the revised Defensiveness scale (Df-r) and the number of omitted items. The questionnaire is often used for assessing the risk for recidivism in offenders. Test-retest measure of reliability indicated reliability scores ranging from 0.72 to 0.85 in an American prison sample. Concurrent, predictive, and construct validity have been proven satisfactory.

No South African studies could be found to corroborate the psychometric properties of the PPI-R and PICTS.

Administration of the questionnaires

The Mangaung Correctional Centre houses a variety of different cultures and ethnicities. Administering the measures brought forward challenges such as language and comprehension difficulties. Of the 11 official languages in South Africa, English is the one common denominator. It was therefore opted that translators would assist with the correct interpretation of the questions as well as to contextually explain the use of English jargon such as “daredevil”, which was not understood by a number of the participants. Participants were divided into smaller groups (1 to 5), according to their home language, and were appointed a translator of the same language.

Statistical analysis

SPSS version 18 was employed to analyse the data. The biographical information of the sample will be presented first (Table 1). Logistic regression analyses will be conducted to examine the utility of psychopathic traits and criminal thinking styles in the prediction of group membership with respect to reconviction outcome. The 5% as well as the 1% level of significance will be used in this study.

Results and discussion

Most participants were aged between 36 and 55 years, followed by between 18 to 35 years. Sesotho was the most spoken home language, followed by Afrikaans, Xhosa, Tswana, Zulu, English and Northern Sotho. Less than 10% of the participants had either never received any schooling or had some form of tertiary education, while most had received either some primary or secondary schooling. The diversity of individual crimes was grouped into violent, sexual and economic-related offences.

Table 1: Demographic characteristics

Characteristic	Total sample (N=442)	%
Age		(N=439)
18-35	174	40
36-55	251	57
56+	14	3
Language		(N=439)
Sesotho	152	35
Afrikaans	124	28
Xhosa	66	15
Tswana	50	11
Zulu	31	7
English	11	3
Northern Sotho	5	1
Education		(N=429)
None	28	7
Some primary	195	45
Some secondary	170	40
Tertiary	36	8
Family trouble with law		(N=429)
Father	49	11
Mother	16	4
Brothers	95	22
Sisters	19	4
Times arrested before the age of 16		(N=406)
Never	303	75
Once	49	12
2-4 times	40	10
More than 5 times	14	3
Previous prison terms		(N=437)
None	241	55
1-2	123	28
3-4	39	9
5 and more	34	8
Previous crime classification		(N=163)
Violent/aggressive	53	33
Sexual	22	13
Economic	88	54
Current crime classification		(N=431)
Violent/aggressive	198	46
Sexual	129	30
Economic	104	24
Length of sentence		(N=411)
Less than 10 years	19	5
11-40 years	294	71
More than 40 years	17	4
Life	81	20
Feelings about crime		(N=406)
System failed me	72	18
Circumstances	49	12
Regret	285	70

Sexual crimes are often included in the violent crime category; however, the high rate of sexual crimes in South Africa deserves individual attention. For this reason the sexual crimes and violent crimes are portrayed as separate categories. Violent crimes represented almost half of the sample, while sexual and economic related crimes represented almost a third and a quarter of the sample respectively. Almost half of the total sample indicated that they have served previous prison terms, of which more than half represent economic crimes, one third violent crimes, and just over 10% represented crimes of a sexual nature.

Most of the participants are serving 11 to 40 year sentences, with 20% serving life sentences, and less than 10% serving either more than 40 years or less than 10 years. When participants were asked how they felt about the crimes they committed, almost 20% stated they were failed by the judicial system, while just over 10% blamed environmental factors for their criminal activities. The remaining majority indicated that they regret their actions.

Logistic regression analyses

Logistic regression analyses were conducted, with first offenders and re-offenders representing the criterion variables. To avoid cross-item contamination, the PICTS subscales were separately analysed from the Proactive and Reactive composite scales. The first analysis included the eight subscales of the PPI-R, as well as all eight criminal thinking style subscales from the PICTS. With the second analysis, the PICTS subscales were replaced by the Proactive (P) and Reactive (R) composite scales.

To test the fit of the logistic model against actual outcomes, the Hosmer and Lemeshow Test (H-L) was implemented. Results for the analyses of PPI-R subscales and PICTS subscales indicated an insignificant ($p=0.799$)

statistic, suggesting failure to reject the null hypothesis and indicating an acceptable model fit. A similar insignificant result was obtained when replacing the PICTS subscales with P and R composite scales ($p=0.978$).

The Wald statistics and corresponding significance level for the variables in this logistic regression are shown in Table 2. The values of the logistic regression equation for predicting the dependent variable (first offence/re-offence) from the independent variables are presented under B. The ratio of the logistic coefficient B to its standard error, squared, equals the Wald statistic. The Wald chi-square test tests the null hypothesis that the constant equals 0. If the Wald statistic is significant ($p \leq 0.05$), the parameter is considered significant in the model. Only one scale proved to impact on the prediction of re-offence, the PPI-R's Social Influence scale ($p \leq 0.05$).

The logistic coefficients are regarded as log-odds, which are often difficult to interpret. To counteract problems with interpretation, the coefficients are converted into odds ratios ($\text{Exp}[B]$). The odds ratios are the predicted change in odds for a unit increase in the corresponding independent variable. Odds ratios less than 1 correspond to decreases, while odds ratios more than 1 correspond to increases in odds. The PPI-R Social Influence scale indicated an odds ratio close to 1 (0.96), implying that unit changes in this variables would not affect the dependent variable.

By inverting the odds ratio for Social Influence, it implies that for each one point increase on this scale, the odds are 1.04 that the person will be part of the first offender group. Thus, none of the measured traits associated with psychopathy or criminal thinking styles were able to significantly impact the prediction of recidivistic behaviour.

Table 2: Variables, logistic coefficients, Wald statistics and odds ratios

Variable	B	Wald	Significance	Exp(B)
Machiavellian Egocentricity	0.00	0.08	0.77	0.96
Rebellious Nonconformity	-0.02	0.44	0.51	
Blame Externalisation	0.01	0.13	0.72	
Carefree Nonplanfulness	0.01	0.06	0.81	
Social Influence	-0.04	3.90	0.05*	
Fearlessness	0.01	0.18	0.67	
Stress Immunity	-0.00	0.00	0.97	
Coldheartedness	-0.01	0.09	0.76	
Mollification	0.00	0.01	0.92	
Cutoff	-0.03	0.91	0.34	
Entitlement	0.00	0.01	0.92	
Power Orientation	-0.01	0.16	0.69	
Sentimentality	-0.02	0.45	0.50	
Superoptimism	0.01	0.05	0.82	
Cognitive Indolence	0.01	0.20	0.65	
Discontinuity	-0.00	0.02	0.88	
Proactive	0.00	0.26	0.61	
Reactive	-0.01	2.31	0.13	
Constant	1.61	1.86	0.17	5.01

* ≤0.05

A similar study employing the original PPI (Lilienfeld & Andrews, 1996) indicates contradicting results to the present study. By assessing the criterion validity of the factorial composition of the PPI on an offender sample, Edens, Poythress, Lilienfeld, Patrick and Test (2008) found PPI-I (consisting of Social Potency, Fearlessness, and Stress Immunity subscales) largely unrelated to the prediction of different forms of misconduct. PPI-II, however, consisting of Machiavellian Egocentricity, Carefree Nonplanfulness, Impulsive Nonconformity, and Blame Externalisation, significantly predicted each criterion type. Thus, the findings of Edens et al. (2008) indicate a stronger predictive ability of the PPI subscales representing the impulsive, socially deviant aspects of psychopathy rather than its assessment of the absence of anxiety or presence of manipulative skills.

Contrary to the current lack of significance, several studies have identified certain criminal thinking styles as effective tools in the prediction of recidivism or related behaviours. In two separate offender studies, Walters has identified Power Orientation and Entitlement to predict institutional adjustment, and Cutoff and Discontinuity to predict release outcome (see Walters, 2005). Cutoff and Entitlement were found to successfully predict recidivism among released prisoners in America after controlling for possible influences from covariates (Walters, 2005). Among English prisoners, only Superoptimism discriminated between first offenders and re-offenders (Palmer & Hollin, 2004). Walters (2005) states that, although no single PICTS thinking style notably stands out as a predictor of future behaviour, the three scales which have presented the highest mean effect sizes in different samples are Cutoff, Entitlement, and Discontinuity.

The current findings indicate a strong, although insignificant, relationship between the Reactive composite scale of the PICTS and predicting group membership between first offences and re-offences. Contrary to the more premeditative Proactive cognitions, the Reactive scale refers to a more emotional or retaliatory form of thinking. Other studies have shown the PICTS Proactive and Reactive composite scales to generally predict recidivism at a higher level than that of the thinking styles (see Walters, 2010). Walters, Frederick and Schlauch (2007) correlated criminal arrest histories of male offenders with the Proactive and Reactive composite scales of the PICTS. The P and R scales correlated significantly with proactive aggressive arrests and reactive aggressive arrests respectively when biographical variables were controlled for. The P and R scales also predicted the total number of arrests of the sample.

The PICTS has been assessed in conjunction with the PCL-R to determine whether these instruments could contribute to the prediction of recidivistic behaviour and misconduct. The Proactive and Superoptimism PICTS

subscales, together with PCL-R factor 2, comprising largely of antisocial behaviour indicators, proved significant in the prediction of recidivistic behaviour (Gonsalves et al., 2009).

Conclusion

The findings of this study indicate that none of the PPI-R subscales or the PICTS criminal thinking styles and composite scales is effective in the prediction of possible recidivistic behaviour among this sample of South African offenders. The PPI-R Social Influence scale produced a significant, yet relatively small influence in the prediction of group membership, although the referred group was indicative of first offenders. This finding is therefore not significant in the prediction of recidivistic behaviour.

The following limitations are evident from this study:

Although ample evidence associates psychopathy with violent crime and recidivistic behaviour, it is generally the behavioural aspects of psychopathy that have been found to predict future violence or recidivism. The PPI-R largely focuses on the personality characteristics associated with psychopathy; therefore the insignificant results of the current study are not unexpected. The poor predictive abilities of the PPI-R and PICTS subscales in this study also reinforces the argument that instruments are validated to measure a certain construct and should not be solely relied on to determine other outcomes. It is recommended that further validation of the PPI-R in the South African context should ensue, as well as the validation and possible implementation of additional psychopathy measures to explore the extent of cross-cultural symptomatology and construct validation.

The psychometric properties of the PICTS remains invalidated in the South African context (see Article 4). Results from the current study should

therefore be interpreted with caution and viewed as an exploration of these concepts for additional future investigation.

The inconsistency between estimations and the few available scientific studies concerning recidivistic behaviour in South Africa needs urgent research attention. Studies concerning the identification of static and dynamic risk factors relevant to South African offenders are also needed. Several measures have been identified in international studies to predict institutional maladjustment, violence, and recidivistic behaviour. Only when the magnitude and nature of the problem is brought to attention will it be possible to implement culture-specific risk assessment instruments.

This study excluded factors such as ethnicity, socioeconomic status, gender differences and crime classification, which have all been found to impact on the prediction of violence and recidivism. The inclusion of these factors for a better understanding of the motivation behind recidivistic behaviour in South Africa is recommended.

References

Andrews, D. A., Bonta, J., & Hoge, R. D. (1990). Classification for effective rehabilitation: Rediscovering psychology. *Criminal Justice and Behavior*, 17, 19–52.

Andrews, D. A., Bonta, J., & Wormith, J. S. (2006). The recent past and near future of risk and/or need assessment. *Crime & Delinquency*, 52, 7–27.

Babiak, P., & Hare, R. D. (2006). *Snakes in suits: When psychopaths go to work*. New York: Harper Collins Publishers Inc.

Bartol, C. R., & Bartol, A. M. (2008). *Criminal behavior: A psychosocial approach* (8th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.

Bruyns, H. J., & Nieuwenhuizen, C. (2003). The role of education in the rehabilitation of offenders. *South African Journal of Higher Education*, 17(2), 13-20.

Bulten, E., Vissers, A., & Oei, K. (2008). A theoretical framework for goal-directed care within the prison system. *Mental Health Review Journal*, 13(3), 40-50.

Cilliers, C., & Smit, J. (2007). Offender rehabilitation in the South African correctional system: myth or reality? *Acta Criminologica*, 20(2), 83-101.

Coid, J., Hickey, N., Kahtan, N., Zhang, T., & Yang, M. (2007). Patients discharged from medium secure forensic psychiatry services: Reconvictions and risk factors. *British Journal of Psychiatry*, 190, 223-229.

Cooke, D. J. (1997). Psychopaths: oversexed, overplayed but not over here? *Criminal Behaviour and Mental Health*, 7, 3-11.

Cooke, D. J., Michie, C., Hart, S. D., & Clark, D. (2005). Assessing psychopathy in the UK: concerns about cross-cultural generisability. *British Journal of Psychiatry*, 186, 335-341.

Department of Correctional Services. (2009). *Annual Report for the 2008/2009 financial year*. Retrieved from <http://www.dcs.gov.za>

Edens, J.F., Poythress, N.G., Lilienfeld, S.O., Patrick, C.J., & Test, A. (2008). Further evidence of the divergent correlates of the Psychopathic Personality Inventory factors: Prediction of institutional misconduct among male prisoners. *Psychological Assessment, 20*(1), 86-91. doi: 10.1037/1040-3590.20.1.86.

Gendreau, P., Little, T., & Goggin, C. (1996). A meta-analysis of the predictors of adult offender recidivism: What works! *Criminology, 34*(4), 575-608.

Gonsalves, V. M., Scalora, M. J., & Huss, M. T. (2009). Prediction of recidivism using the Psychopathy Checklist-Revised and the Psychological Inventory of Criminal Thinking Styles within a forensic sample. *Criminal Justice and Behavior, 36*, 741-756. doi: 10.1177/0093854809335688

Grann, M., Danesh, J., & Fazel, S. (2008). The association between psychiatric diagnosis and violent re-offending in adult offenders in the community. *BMC Psychiatry*. Advanced online publication. doi:10.1186/1471-244X-8-92

Hare, R. D. (1991). *The Hare Psychopathy Checklist-Revised*. Canada: Multi-Health Systems.

Hare, R. D. (2003). *The Hare Psychopathy Checklist-Revised* (PCL-R; 2nd ed.). Ontario: Multi-Health Systems.

Langan, P. A., & Levin, D. J. (2002). *Recidivism of Prisoners Released in 1994* [Bureau of Justice Statistics Special Report]. Washington, DC: U.S. Department of Justice.

Laurell, J., & Daderman, A. M. (2005). Recidivism is related to psychopathy (PCL-R) in a group of men convicted of homicide. *International Journal of Law and Psychiatry, 28*, 255-268.

Lilienfeld, S. O., & Andrews, B. P. (1996). Development and preliminary validation of a self-report measure of psychopathic personality traits in noncriminal populations. *Journal of Personality Assessment, 66*, 488-524.

- Lilienfeld, S. O., & Fowler, K. A. (2007). The Self-Report Assessment of Psychopathy. In C. J. Patrick (Ed.), *Handbook of Psychopathy* (pp. 102-132). New York: Guilford Press.
- Lilienfeld, S. O., & Widows, M. R. (2005). *Professional manual for the Psychopathic Personality Inventory–Revised*. Lutz, FL: Psychological Assessment Resources.
- Palermo, G. B. (2009). Reintegration and recidivism [Editorial]. *International Journal of Offender Therapy and Comparative Criminology*, 53(1), 3-4.
- Palmer, E. J., & Hollin, C. R. (2004). Predicting reconviction using the psychological Inventory of Criminal Thinking Styles with English prisoners. *Legal and Criminological Psychology*, 9, 57-68.
- Pelser, E. (2007). How we really got it wrong: Understanding the failure of crime prevention. *South African Crime Quarterly*, 22, 1-5.
- Porter, S., Ten Brinke, L., & Wilson, K. (2009). Crime profiles and conditional release performance of psychopathic and non-psychopathic sexual offenders. *Legal and Criminological Psychology*, 14, 109-118.
- Salekin, R. T. (2008). Psychopathy and recidivism from mid-adolescence to young adulthood: Cumulating legal problems and limiting life opportunities. *Journal of Abnormal Psychology*, 117(2), 386-395. doi: 10.1037/0021-843X.117.2.386
- Shabangu, K. I. (2006). Prison overcrowding in the South African correctional services: a penological perspective (Unpublished master's dissertation). University of South Africa, Pretoria.
- Skeem, J. L., & Cooke, D. J. (2010). Is Criminal Behavior a Central Component of Psychopathy? Conceptual Directions for Resolving the Debate. *Psychological Assessment*, 22(2), 433-445.
- Sullivan, E. A., & Kosson, D. S. (2007). Ethnic and cultural variations in psychopathy. In C. J. Patrick (Ed.), *Handbook of Psychopathy* (pp. 437-458). New York: The Guilford Press.

- Uzieblo, K., Verschuere, B., Van den Bussche, E., & Crombez, G. (2010). The Validity of the Psychopathic Personality Inventory–Revised in a Community Sample. *Assessment*, 17(3) 334–346.
- Walters, G. D. (1990). *The criminal lifestyle: Patterns of serious criminal conduct*. Newbury Park, CA: Sage.
- Walters, G. D. (2003). Predicting institutional adjustment and recidivism with the Psychopathy Checklist factor scores: A meta-analysis. *Law and Human Behavior*, 27, 541–558.
- Walters, G.D. (2005). Incremental validity of the Psychological Inventory of Criminal Thinking Styles as a predictor of continuous and dichotomous measures of recidivism. *Assessment*, 12, 19-27.
- Walters, G. D. (2006). *The Psychological Inventory of Criminal Thinking Styles (PICTS) Professional Manual*. Allentown: Center for Lifestyle Studies.
- Walters, G. D. (2009). Effect of a longer versus shorter test-release interval on recidivism prediction with the Psychological Inventory of Criminal Thinking Styles (PICTS). *International Journal of Offender Therapy and Comparative Criminology*, 53(6), 665-678.
- Walters, G. D. (2010). Predicting Recidivism with the Psychological Inventory of Criminal Thinking Styles and Level of Service Inventory-Revised: Screening Version. *Law and Human Behavior*. Advanced online publication. doi: 10.1007/s10979-010-9231-7
- Walters, G. D., Frederick, A. A., & Schlauch, C. (2007). Postdicting arrests for proactive and reactive aggression with the PICTS Proactive and Reactive composite scales. *Journal of Interpersonal Violence*, 22, 1415-1430. doi: 10.1177/0886260507305556.
- Zamble, E., & Quinsey, V. L. (1997). *The criminal recidivism process*. UK: Cambridge University Press.