On Within-Defense Variability and Defenses in Male Federal Offenders

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Abstract

There were two purposes to the current set of studies. The first was to test the validity of the Adaptiveness of Defenses Scale (ADS), a new measure developed to assess variability within ego defense mechanisms. Study 1 addressed the validity of the ADS with a sample of 104 male undergraduates. The ADS was hypothesized to account for significant unique variance on dependent measures (the PAI, ECR, and final grade in introductory psychology) beyond that accounted for by the Defense-Q. Regression analyses showed that a different pattern emerged. The Defense-Q and ADS accounted for different aspects of the dependent variables, with the Defense-Q predicting PAI Somatization scale scores and the ADS predicting ECR avoidance scale scores. Study 2 addressed the validity of the ADS with a sample of 64 male federal inmates. The ADS was hypothesized to account for significant unique variance on dependent measures (the BPI, PCL-R, and PAS) beyond that accounted for by the Defense-Q. As with Study 1, the two measures tended to predict different aspects of the dependent measures. The Defense-Q predicted immature defense factor scores on the BPI as well as BPI total score, and it predicted affective instability factor scores on the PAS, as well as PAS total score. Conversely, the ADS predicted PCL-R total and Factor 1 scores. The relation between the Defense-Q ADP similarity score and the PCL-R interpersonal facet was significantly positive, while the relation between the ADS total score and this facet was significantly negative. The results of Studies 1 and 2 suggest that the ADS captures an aspect of defensive functioning different from that measured by the Defense-Q, likely related to interpersonal functioning. Study 3 examined the relation between defenses (measured by the Defense-Q and ADS) and correctional variables (offense history,

institutional incidents, institutional charges, urinalysis outcomes, and correctional

program outcomes), as well as examined Aboriginal and non-Aboriginal differences.

The differences between Aboriginal and non-Aboriginal inmates tended to show that

non-Aboriginal inmates were older and had more aggressive criminal histories as well as

higher PCL-R total and Factor 1 scores. They also tended to have more problematic

institutional adjustments, likely because of their higher levels of psychopathy. The

Defense-Q was significantly related to general offence history for Aboriginal inmates and

the ADS was significantly related to violence history for non-Aboriginal inmates, but

other significant relations were sparse. The results of the current series of studies

provides preliminary support for the idea that individual defenses have their own ranges

of adaptiveness, as the ADS scores male undergraduates and male inmates were

significantly different for the same defenses. Given the pattern of the relations of the

ADS to the dependent variables, it appears that the ADS is sensitive to interpersonal

functioning.

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Finally, I would like to thank Lord Cthulhu for not rising from the inky depths of R'lyeh. When the stars are right and you do arise, dread lord, may I be eaten first?

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List of Abbreviations

ADP	Adaptiveness of Defenses Profile
ADS	Adaptiveness of Defenses Scale
ASPD	Antisocial Personality Disorder
APA	American Psychiatric Association
BPD	Borderline Personality Disorder
BPI	Borderline Personality Inventory
DMM	Defense Mechanism Manual
DMRS	Defense Mechanism Rating Scales
DSM	Diagnostic and Statistical Manual for Mental Disorders
DSM-III	Diagnostic and Statistical Manual for Mental Disorders, 3rd Edition
DSM-IV-TR	Diagnostic and Statistical Manual for Mental Disorders, 4th Edition Text Revision
DSQ	Defense Style Questionnaire
ECR	Experiences in Close Relationships inventory
EDMM	Ego Defense Mechanisms Manual
GAP	General Aggressor Profile
HOI	History of Offending Index
HPD	Histrionic Personality Disorder
LDS	Lerner Defense Scales
NPD	Narcissistic Personality Disorder
OP	Other program
PAI	Personality Assessment Inventory
PAS	Propensity for Abusiveness Scale
PCL-R	Psychopathy Checklist-Revised
RDS	Rorschach Defense Scales
SAP	Substance use program
TAO	Turning against others
TAS	Turning against self
VOP	Violent offender program

On Within-Defense Variability and Defenses in Male Federal Offenders

Introduction

Sigmund Freud's first publication on ego defenses was in 1894, in "The neuro-psychoses of defense". He identified a phenomenon by which the ego defends itself against threatening impulses or wishes (i.e., anxiety) through distorting the experience of reality (Freud, 1894/1962). Freud hypothesized that the mechanism of repression was at the core of defensive processes. Threatening impulses or defensive processes were relegated to the unconscious by the ego, where they could not bother the individual consciously. He later said that repression that it "is the cornerstone on which the whole structure of psychoanalysis rests" (Freud, 1914/1957, p. 16). Freud (1894/1962) suggested that the repressed threatening thoughts and feelings found expression through indirect means, resulting in symptoms. He believed that defenses were not directly observable to the individual (as this would involve such tasks as discussing something that one has forgotten), but that their presence may be inferred by observers. In 1992,

 Vaillant summarized Freud's criteria for defenses: (1) they are a major means of managing instinct and affect; (2) they are unconscious; (3) they are discrete (from each other); (4) although associated with psychopathology, they are dynamic and reversible; and (5) they vary in terms of their adaptiveness.

Anna Freud (1936) extended her father's work with the classic text *The Ego and the Mechanisms of Defense*. Until about the 1960s, most of the literature on this topic was theoretical rather than empirical, in part because the technology for assessment of defenses was lacking (Perry & Ianni, 1998). Despite this, the concept of defenses has had an impact in psychology across theoretical boundaries and conceptualizations of a broad

range of psychological health. Adaptive constructs such as hardiness (Kobassa, Madini & Kahn, 1982), self-deception and emotional coping (Lazarus & Folkman, 1984), or illusions (Taylor, 1989) match more adaptive defenses. Moreover, cognitive behavioural treatments target cognitive distortions (e.g., see Marshall, Anderson & Fernandez, 1999) and include terms taken directly from defense mechanism theory such as denial and rationalization. The *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (DSM-IV-TR; American Psychiatric Association, APA, 2000) includes a proposed axis of defensive functioning ranging from psychotic defenses to adaptive defenses. In addition, defenses have made their way into common language through terms such as "being in denial", "being repressed", and the like.

Developments in defense theory since S. Freud have added functions to the construct of defenses such as maintaining object relations and a sense of self to our understanding of defense mechanisms (e.g., Baumeister, Dale, & Sommer, 1998; Cramer, 1998; Vaillant, 1976, 1992b). When defenses are used inflexibly (i.e., without taking context into consideration), they limit an individual's ability to interact with the world adaptively and can cause problems (Vaillant, 1992a). This is especially the case with immature defenses such as acting out, which by definition include problematic behaviour.

Defenses and Psychopathology

Defense mechanisms have been conceptually related to psychopathology since S. Freud (1894/1959) first began writing about them. Subsequent research has found evidence to support his hypothesis. For example, there are clear associations between defenses and psychopathology such as depression (e.g., Bond & Perry, 2004; Corruble,

Bronnic, Fallisard, & Hardy, 2007; da Silva Magalhaes, Pinheiro, Faria, Osorio, da Silva, & Botella, 2007; Flett, Besser, & Hewitt, 2005; Kwon & Lemon, 2000; Kwon & Olson, 2007) anxiety disorders (e.g., Bond & Perry, 2004; Chavez-Leon, del Carmen Lara Munoz, & Uribe, 2006; Muris & Merckelbach, 1996), and personality disorders (e.g., Blais, Conboy, Norman, & Wilcox, 1996; Cramer, 1999; Devens & Erickson, 1998; Johnson, Bornstein, & Krukonis, 1992, Lingiardi, Lonati, Delucchi, Fossati, Vanzulli, & Maffei, 1999; Paris, Zweig-Frank, Bond, & Guzder, 1996; Sinha & Watson, 1999, 2004).

It is to this latter category of psychopathology that defenses are most obviously related, as when certain defenses are used inflexibly that their use becomes pathological. Wilhelm Reich (1933) joined the concepts of personality and defense with the concept of character armour. However, while both defense mechanisms and character armour serve to mitigate anxiety, Reich's concept of armour is more totalistic than defense mechanisms, which are discrete phenomena.

Stating the relation between defenses and personality pathology directly, Vaillant (1992c) conceptualized personality disorders more as constellations of immature or maladaptive defenses than as entities in their own right. As well, Kernberg's (1986) description of borderline personality organization, which is an umbrella concept under which he conceptualized personality disorders, is composed of three elements: Identity diffusion, intact reality testing, and the use of immature or maladaptive defenses. Kernberg identified the defensive structure in neurotic (i.e., healthy) personalities as being organized around the defense of repression and other adaptive defenses, and the defensive structure in borderline personalities as being organized around the defense of

splitting. Psychotic personality organization differs from borderline organization in Kernberg's conceptualization only in that reality testing is impaired in a psychotic organization and relatively intact in personalities organized at a borderline level. Likely because of the theoretical and empirical link between defense use and personality, most of the research studying defenses and psychopathology examines the relation between defenses and personality pathology.

The clearest association between defensive functioning and personality pathology appears to be among disorders grouped in Cluster B in the DSM-IV (APA, 2000).   This group is comprised of the so-called dramatic/erratic personality disorders: Antisocial, Borderline, Histrionic, and Narcissistic. Arguably, the more dramatic personality disorders are Antisocial Personality Disorder (ASPD) and Borderline Personality Disorder (BPD). The diagnostic criteria for these disorders, based on *DSM-IV-TR* (APA, 2000) are presented in Table 1a and Table 1b along with defenses that I believe could theoretically be associated with the specific criteria.

Assessing Defenses

There are three generally accepted methods for the assessment of defenses: Self-report methods (e.g., the Defense Style Questionnaire, DSQ; Bond, Gardner, Christian & Sigal, 1983; Bond, 1992), observer report methods (e.g., the Defense-Q, Davidson & MacGregor, 1996), and projective methods (e.g., the Lerner Defense Scales for the Rorschach, Lerner & Lerner, 1980). Self-report measures involve having examinees complete paper-and-pencil questionnaires. Observer report measures involve having trained raters observe examinees and interpret the defenses in their behaviour and

responses. Observer report assessments require a trained rater observing an individual either via videotaped interviews or manuscripts (or both) and assessing defenses based on a manual, and projective assessments of defenses involve interpreting examinees' responses to projective stimuli.

Vaillant (1998) identified six difficulties with respect to defenses and their assessment. The first is that they are "tarred with the brush of psychoanalysis" (p. 1148), and so currently dismissed by many because they are associated with an orientation that is currently out of favour among researchers. The second problem is that inter-rater reliability is poor with observer report methods. The third difficulty is that the convergent validity between self-report methods is poor. The fourth problem is that definitions of defenses are "vague, overlapping, and ambiguous" (p. 1149). The fifth problem is that defenses are conceptualized as responses to psychic threat on the one hand (i.e., they are dynamic, or states), and stable personality characteristic on the other (i.e., they are static, or traits). The final problem Vaillant described is the question whether defenses represent conscious vs. unconscious processes.

The current set of studies does not address the origins of defenses; defenses have psychoanalytic origins. It uses the Defense-Q (Davidson & MacGregor, 1996), the authors of which describe as an observer-report method with inter-rater reliability that equals or surpasses the reliability of other observer-report methods (p. 635). The problem of definitions is partially addressed by using the Defense-Q manual (MacGregor, Olson, Presniak & Davidson, 2003), which provides operational definitions for defenses including information that can be used to discriminate between defenses (although there is still inter-researcher disagreement with respect to definitions; Vaillant, 1998). The

current research does not address the issues of state vs. trait and conscious vs. unconscious, although the Defense-Q manual describes defenses as unconscious. These are theoretical issues unrelated to the current thesis.

The current research seeks to address an issue related to the conceptualization of defenses. That is, different researchers agree that the use of some defenses in adults is pathological, the use of other defenses is unrelated to pathology or health, and the use of still others is related to healthy functioning (e.g., MacGregor, 2001; Vaillant, 1976), but agreement over which defenses belong in which category (healthy, intermediate, unhealthy) is limited.

This is a limitation of the Defense-Q. The Adaptive Defense Profile (ADP) is a theoretical profile of the defenses characteristic and uncharacteristic of a healthy personality. It is presented in Appendix 1. There is some disagreement between the defenses identified as adaptive in this profile and other hierarchies. Additionally, while the Defense-Q can be used to identify which defenses are characteristic or uncharacteristic for an individual, cannot be used to describe well or how poorly these defenses are used. A new method of assessing defenses, the Adaptiveness of Defenses Scale (ADS) was developed to assess variability at the level of individual defenses. This scale is presented in Appendix 2. The ADS broadens the concept of individual defenses and hopefully addresses the issue of vague definitions by defining individual defenses as functioning along a continuum of relative adaptiveness.

Studies One and Two assess the reliability and validity of the ADS with a sample of male undergraduate students and a sample of male federally sentenced offenders respectively. Students are a nonclinical population. Personality disorders, especially

ASPD and BPD, are over-represented among offenders (Blackburn & Coid, 1999). Thus, Studies One and Two examine the relation between defense use and psychopathology in relatively healthy and unhealthy samples, respectively. Study Three uses the same sample as Study Two, but divides it by ethnicity (Aboriginal and non-Aboriginal). Instead of examining the relation between defenses and psychopathology, Study Three examines the relation between defense mechanisms, offense history, and institutional adjustment. A second goal of Study Three is to investigate differences between Aboriginal and non-Aboriginal inmates with respect to these correctional variables.

Study One:

Validation of the Adaptiveness of Defenses Scale (ADS) with a Male Undergraduate

Sample

Introduction

Defense mechanisms are difficult to measure, with research suffering from

limited reliability and validity (Vaillant, 1998; Cramer, 1991). These issues seem always

to have been problematic; Sigmund Freud himself abandoned the topic of defenses for

about 30 years in part because of difficulties associated with the concepts and their

identification (Vaillant, 1998). Subsequent researchers starting with Anna Freud had

difficulty establishing enough consensus about defenses for meaningful empirical

research to be possible (Vaillant, 1998). Brenner (1981) suggested that the concept of

ego defenses be abandoned and subsumed under ego functioning. Despite Brenner's

suggestion, however, the topic was not abandoned, and in fact much progress has been

made despite difficulties.

Problems in the Organization of Ego Defenses

Although there are difficulties associated with research on defense mechanisms,

the concept of defenses has proved a useful model for describing personality and

psychopathology. One of the more robust findings in this research area is the hierarchical

nature of defenses (e.g., American Psychological Association, APA, 2000; Bond,

Gardiner, Christian & Sigal, 1983; Cramer, 1991; MacGregor, 2000; Perry & Kardos,

1995; Vaillant, 1976). That is, some defenses are generally found to be associated with

psychopathology (i.e., maladaptive or immature defense) and some are generally found to

be associated with psychological health (i.e., adaptive or mature defenses), with some unrelated to psychological health (i.e., neurotic or intermediate defenses).

While the robustness of the findings that defenses can be conceptualized according to a hierarchy is promising, there are problems. Different researchers organize defenses in slightly different hierarchies, in part due to differing definitions of defenses. I created Tables 1.1 to1.3 to show how maladaptive, neurotic, and adaptive defenses respectively are organized and described by S. Freud (in Vaillant, 1992), Bond, et al. (1983), Cramer (1991), Perry and Cooper (1989), Vaillant (1992), and MacGregor (2000). As can be seen, the different theorists' classifications, while similar, include clear differences. Also, some researchers use qualifiers when naming defenses (i.e., primitive, autistic, delusional, psychotic, schizoid), while other researchers use these defenses without the qualifier and place them at different adaptive levels. For example, schizoid fantasy is at the maladaptive level according to Vaillant (1976), but MacGregor identified fantasy as a defense characteristic of psychological health. Primitive idealization is described as a maladaptive defense by Bond, et al. (1983), but MacGregor identified idealization as a defense characteristic of psychological health. Also, MacGregor and Vaillant listed psychotic denial as a defense uncharacteristic of psychological health or a maladaptive defense, respectively, but Cramer and Freud (as described in Vaillant, 1992) provided no adjective for denial at the maladaptive level. Furthermore, MacGregor listed neurotic denial as defense characteristic of psychological health, whereas Perry and Cooper suggested that neurotic denial is a maladaptive defense. It seems likely that the different researchers may be conceptualizing the same defenses at different levels (e.g., adaptive use of fantasy vs. maladaptive use of fantasy).

It should be noted that not all researchers use three levels of functioning to describe defense hierarchies. Bond, et al. (1983) described four defensive styles identified through factor analysis, while Perry and Cooper (1989) described seven levels of defensive functioning. Some researchers use different language to describe differences within their hierarchies. Cramer (1991) described defenses as emerging developmentally; Freud (as described in Vaillant, 1992) conceptualized different defenses as being associated with psychotic, neurotic and mature psychological functioning; MacGregor (2000) developed a defensive profile that was theoretically reflective of healthy psychological functioning (and so the defenses are considered characteristic, uncharacteristic, or neither characteristic nor uncharacteristic of healthy functioning). This means Tables 1.1 to1.3 are admittedly somewhat procrustean, but not significantly, as it appears that the hierarchies within them are designed to describe similar phenomena. The next section describes different researchers' hierarchies of defenses.

Different Defense Hierarchies

Vaillant (1992) stated that Freud conceptualized some defenses as more related to psychosis (see Table 1.1). He stated that Freud saw certain other defenses as related to neurosis (see Table 1.2). Finally, Vaillant stated that Freud conceptualized some defenses as reflective of psychological maturity (see Table 1.3).

Bond, et al. (1983) described four levels of defensive style derived by factor analysis with psychiatric patients and non-patients using a self-report inventory. Style one (maladaptive) was placed in Table 1.1 because it is explicitly described as maladaptive. Styles two and three (image-distorting and self-sacrificing) were placed in Table 1.2

because Bond (1992) stated they are "intermediate in maturity" (p. 211). Bond, et al.'s style four (adaptive) was placed in Table 1.3 because it is explicitly described as adaptive.

Cramer's (1991) research focuses on measuring three defenses rather than comprising a system. These are described as emerging developmentally. She found denial to be the first to emerge, so this was placed in Table 1.1. The one she found to be the next to emerge (projection) was placed in Table 1.2, and she found identification to be the last to emerge, so this was placed in Table 1.3. Cramer's system is the most unusual of those presented, as it includes the least number of defenses but then describes seven levels within each defense. Her system also uses a projective method for assessment (examinees provide stories when presented six cards from the Thematic Apperception Test). Within defense descriptions seem to be hierarchically organized from least adaptive to most adaptive. Also, they sometimes suggest defenses considered discrete by other researchers (e.g., Vaillant, 1992a), but sometimes they simply describe behaviour Cramer conceptualizes as characteristic of the use of that defense.

Perry and Cooper's (1989) Defense Mechanism Rating Scale (DMRS) includes seven hierarchical categories instead of the three provided in Tables 1.1 to 1.3. Perry and Ianni (1998) stated that levels 1 to 4 can be conceptualized as immature, levels 5 and 6 as neurotic and level 7 as mature using Vaillant's terminology. Consequently, I have placed the four least adaptive groupings in Table 1.1, despite the fact that the Minor Image-distorting defenses seem out of place in this table (they are conceptualized as neurotic in other hierarchies). I placed the next two groupings in Table 1.2, and the last one in Table 1.3. The defenses described in Perry and Cooper's DMRS, and their hierarchical

organization (Perry & Kardos, 1994) had a significant influence on how the APA conceptualized defenses for the proposed Axis VI: Defensive Functioning Scale.

Vaillant (1976) described his hierarchy of defenses using immature, neurotic, and mature, and so his groupings were retained in Tables 1 to 3 respectively. His 1971 theoretical hierarchy included another level less mature than immature including the defenses of psychotic denial, delusional projection, and distortion. However, the base rates of these defenses were too low for him to include them in his 1976 hierarchy. They are included in Table 1.1 for the purposes of this review.

MacGregor's (2000) theoretically adaptive defensive profile (ADP) includes eight defenses considered uncharacteristic of a healthy personality. These were placed in Table 1.1. The ADP includes nine defenses considered to be neither characteristic nor uncharacteristic of a healthy personality, and these were included in Table 1.2. The remaining eight defenses are considered to be characteristic of a healthy personality, and are included in Table 1.3.

Some hierarchies use different language to describe similar defenses. For example, omnipotence and grandiosity are considered to reflect the same mechanism. The current description also ignores adjectives such as psychotic, primitive, autistic, and collapses Perry and Cooper's (1989) splitting (of self or of objects) into one defense. This is to make the point that defenses with adjectives often seem to suggest that individual defenses have a range of functioning. For example, neurotic denial and psychotic denial both refer to the defense of denial but at different levels of adaptiveness. Autistic fantasy and fantasy describe different levels of fantasy. Primitive idealization and idealization describe different levels of idealization. Consequently, the defenses of

denial (psychotic and neurotic) fantasy (autistic, schizoid, or unmodified) and idealization (primitive or unmodified) are represented more than one table.

The Question of Within-Defense Variability

Differences similar to those apparent in the empirical literature also exist in the theoretical literature. For example, Kernberg (1984) discusses primitive idealization, and primitive projection, presumably contrasted with less primitive uses of the same defenses. One conclusion that could be drawn from these different conceptualizations is that part of the disagreement between different researchers and theorists exists because when they discuss a defense, they disagree at which level the defense is being used (i.e., within-defense variability may be overlooked by these researchers). There has been limited research into this area; most studies focus on *which* defenses are being used; relatively few focus on *how well* defenses are being used.

Bar-On (1985) examined the defense of denial and found that, with respect to stressful life events, *what* is being denied (vulnerability vs. responsibility) and *when* it is being denied predicted survival after myocardial infarction. Bar-On stated, "at different stages of the [myocardial infarction], different kinds of denial become 'adaptive'" (p. 156). This is strong evidence for the dynamic nature of defenses, at least for the defense of denial, but this aspect of defenses is not typically part of their measurement.

Different Assessments and Within-Defense Variability

There is empirical support for Cramer's system (e.g., Cramer, 1991; Cramer; 1999), including support for identifying within-defense variance, but as described earlier

this hierarchy of defenses is unusual within the literature because of its limited number of defenses. Additionally, some of the subtypes within each defense have been described as other defenses by other researchers (e.g., Vaillant, 1992a). A more comprehensive, less unusual assessment system is preferable for assessing within-defense variability.

The Defense Style Questionnaire (DSQ, Bond, et al., 1983) is a self-report measure of the derivatives of defenses. The authors assert that defenses, being relatively unconscious, complicate self-report methodology, but their derivatives may be accessed through self-report. Items are scored on a 9-point Likert scale, which may reflect the degree of match between an item and an individual, but may also reflect intensity of defense use (i.e., within-defense variance). Changes in responses with this measure have been used to estimate changes in defense functioning. Bond and colleagues have reported on changes in defense style through therapy (e.g., Bond, 2004; Bond & Perry, 2004). However, changes in self-report ratings are a crude measure of change in defensive functioning. For example, the defenses may still used, but in ways that are not reflected in the (static) questionnaire items. Consequently, the DSQ is likely not an ideal measure to assess within-defense variance.

Perry and colleagues have also attempted to assess within-defense changes using the DMRS (e.g., Despland, De Roten, Despars, Stigler, & Perry, 2001; Drapeau, De Roten, Perry, & Despland, 2003; Perry, 2001; Perry & Perry, 2004). As with the DSQ, changes within defenses are not measured very sensitively. With the DMRS the relative frequency of individual defenses is compared to the use of other defenses, so changes in defenses are only measured in terms of relative frequency of use, not adaptiveness of use.

While the DMRS is an observer rated method of assessing defenses (and so likely superior to the DSQ), its ability to assess within-defense variability seems limited.

One method of assessing defenses not included in Tables 1 to 3 is the Rorschach test. There are two main methods for assessing defenses using this instrument, the Lerner Defense Scales (LDS; Lerner & Lerner, 1980) and the Rorschach Defense Scale (RDS; Cooper, Perry & Arnow, 1988). The LDS includes within-defense variance with its scoring system (e.g., denial has five levels). However, this method requires the Rorschach test and only assesses the five defense mechanisms associated with Borderline Personality Organization described by Kernberg (1975). Furthermore, it has been criticized for only using human responses for scoring purposes (Cooper, et al., 1988), which may miss defensive manifestations in examinees who tend not to use many human responses (e.g., schizophrenics, Cooper, et al., 1988). The RDS includes nonhuman responses, but, while it assesses more than five defenses, it does not include mature defenses. A scoring system that includes the assessment of a wide range of defenses is preferable to one that does not when investigating within-defense variability.

Jacobson, Beardslee, Hauser, Noam, Powers, Houlihan, and Rider (1986) developed the Ego Defense Mechanisms Manual (EDMM). This observer report instrument describes 12 defenses (acting out, altruism, asceticism, avoidance, denial, displacement, intellectualization, projection, rationalization, repression, suppression, and turning against the self) using a five point ordinal rating scale, where lower scores describe less successful use of a defense and higher scores describe more successful use of that defense. It is presented in Vaillant (1992) as an appendix. The EDMM addresses within-defense variability by describing different levels for each defense. However,

some limitations of this instrument include the relatively low number of defenses assessed, as well as a tying together of frequency of use and effectiveness of use (e.g., for rationalization, a 1 is defined as "use of false justifications of ideas or behaviours are rare," and a 5 is defined as "the subject attempts to 'explain' (away) virtually all irrational behaviours and foibles and is preoccupied with justifying himself or herself." (pp. 275-276).) Another limitation is that this instrument was designed to assess defenses in adolescents, and so has somewhat limited utility when used with adults because it misses defenses characteristic of maturity (i.e., mature defenses). The defenses considered to be more characteristic of adolescence were deliberately chosen for this measure, and more adult (i.e., mature) defenses are not as well represented.

While a strength of the EDMM is that improvements (e.g., due to therapy) could be assessed using this instrument, it seems that the instrument itself could be improved (as described above). It seems that, while the EDMM was an attempt to address within-defense variability, it was only partially successful as a generally useful tool. The goal, however, seems important enough to continue pursuing, perhaps with a new instrument.

The Adaptiveness of Defenses Scale (ADS) as a Supplement to the Defense-Q

Building on the previous argument that defenses have internal variability, a measure of the adaptiveness of defense use should provide additional information (i.e., if the individual uses primarily neurotic level defenses, does he or she use them at a level that is more or less adaptive than another individual?). The Adaptiveness of Defenses Scale (ADS) is an attempt to describe within-defense variability based on defenses that have been identified as characteristic according to the Defense-Q.

The ADS is designed to measure changes in terms of social/occupational consequences of defense use as well as in terms of degree of psychological distortion involved. This should allow for more information to be assessed in terms of how an individual uses the defenses characteristic of him or her. This instrument is described in more detail below and its manual is provided in Appendix 2.

The Present Study

The present study is a preliminary investigation of the reliability and validity of the ADS. The use of defenses in a sample of male undergraduate students was assessed using the Defense-Q and the ADS, and scores were related to psychopathology as measured by the Personality Assessment Inventory (PAI; Morey, 1991), relationship functioning (the Experiences in Close Relationships inventory; ECR; Brennan, Clark, & Shaver, 1998), and academic performance in introductory psychology.

Because the relative functioning of individual defenses should add unique information over and above simply knowing which defenses are characteristic of an individual, it was hypothesized that the ADS would demonstrate incremental validity by accounting for unique variance over and above the ADP similarity score on outcome measures related to psychological and social functioning (as measured by PAI and ECR scales), and academic performance in introductory psychology students.

Methods

Participants

Participants were undergraduate students in an introductory psychology class at a university in Western Canada. They took part in a number of studies for partial class credit, including participating in videotaped interviews for the assessment of defenses and filling out self-report inventories. Data were selected from a previously existing database from the Health and Personality Psychology laboratory at the University of Saskatchewan. Males were selected in order to be able to compare scores between samples in this study and subsequent studies investigating defense use in adult male federally sentenced prison inmates. Participants were selected if they had filled out the ECR and the PAI. One hundred four participants met the selection criteria. Twenty-seven were from 2000, 45 were from 2003, and 30 were from 2004. Age for two of the participants was not included in the dataset. The mean age for the 102 remaining participants was 19.79 years, SD=2.28, and age ranged from 17 to 30. Participants were overwhelmingly Caucasian but data on ethnicity were not gathered for the present study.

The students' mean final course grade was 76.25%, SD 14.91 with a range of 38% to 104% (partial course credit was given for taking part in research so grades greater than 100% were possible).

Of the 104 participants identified to take part in the study, 88 interviews were still available and of sufficient quality to be coded. Of the 88 interviews that were available for coding, all three coders coded 66. Some coders knew some participants and so could not code their data, and one of the original coders quit the study and some data were lost as she could not be reached.

Measures

The Defense-Q

The Defense-Q (Davidson & MacGregor, 1996) is a Q-sort method of assessing defenses. A Q-sort is an measure in which cards representing variables of interest (in this case, defense mechanisms) are sorted according to a distribution ranging from least characteristic to most characteristic, it can be self-report or observer report. The Defense-Q is an observer-report Q-sort.

There are seven categories into which to place cards with the Defense-Q (from left to right): Category One is for the defense assessed as *least characteristic* of the individual. Category Two is for the two defenses assessed as *quite uncharacteristic* of the individual. Category Three is for the five defenses assessed as *somewhat uncharacteristic* of the individual. Category Four is for the nine defenses assessed as *neither characteristic nor uncharacteristic* of the individual. Category Five is for the five defenses assessed as *somewhat characteristic* of the individual. Category Six is for the two defenses assessed as *quite characteristic* of the individual. Category Seven is for the defense assessed as *most characteristic* of the individual. Thus, the distribution of cards approximates a normal distribution.

See Appendix 3 for an example of a Defense-Q profile, the Adaptive Defense Profile (ADP; MacGregor, 2000). MacGregor had 8 psychodynamic psychologists rank the defenses of the Defense-Q to describe a theoretically adaptive personality. Their individual theoretical profiles were compared to the mean profile of their rankings with a mean correlation was 0.91 (assessed as per Block, 1978, see below).

Raters using the Defense-Q are trained in the use of the Defense-Q manual (MacGregor, Olson, Presniak & Davidson, 2003) to interpret examinee responses to

interview questions from videotaped interviews (e.g., the Expanded Structured Interview, ESI; Hall, Davidson, MacGregor, & MacLean, 1998) to make their assessments. The manual includes operationalizations of the defenses used with this measure, as well as guidelines for differentiating between defenses that sometimes present similarly (e.g., intellectualization and rationalization).

The Defense-Q includes the following defenses: Sublimation, reaction formation, displacement, dissociation, isolation, splitting, regression, devaluation, humour, identification with the aggressor, turning against self, projection, pseudoaltruism, acting out, rationalization, intellectualization, fantasy, psychotic denial, undoing, passive aggression, repression, neurotic denial, grandiosity, turning against other, and idealization.

It should be noted that Defense-Q profiles are ipsative data. That is, they cannot be compared to a normative sample in the same way that normed personality measures can. Rather, Defense-Q profiles can be compared to other profiles, for example the mean profile for a group or a theoretical profile. Previous Defense-Q research (Davidson, MacGregor, Johnson, Woody, & Chaplin, 2004; MacGregor, 2000; MacGregor, Davidson, Barksdale, Black, & MacLean, 2003; MacGregor, Davidson, Rowan, Barksdale, & MacLean, 2003; MacGregor & Olson, 2005; Olson, 2008; Presniak, 2008), compared participant profiles with the ADP described above, and provided support for the validity of this profile.

Comparisons between profiles are made by summing the squared differences in the rankings between the examinees' profiles and the criterion profile (e.g., a mean profile or a theoretical profile such as the ADP). For example, if one coder rated

isolation of affect as quite characteristic (ranked 6) and another rated it as somewhat

uncharacteristic (ranked 3), this defense would have a value of 9 (three ranks different,

squared). This process is then done for all 25 defenses in the Q-sort and the squares are

summed. This sum is then divided by the standard deviation of the Q-sort (88 for the

Defense-Q) and the dividend subtracted from 1 (as per Block, 1978) producing a

correlation coefficient called a similarity score. The ADP similarity score is used in all

previous validity studies with the Defense-Q. Because error is a problem in the

assessment of defenses, all coders typically code as many participants as possible and

their mean rankings for each defense are used in each examinee's profile.

Davidson and MacGregor (1996) used Cronbach's alpha to measure inter-rater

reliability and found that the overall consistency for individual defenses was $\alpha= 0.69$,

which they noted is higher than that of other observer-report methods. It should be noted

that more recent research using the Defense-Q (e.g., Olson, 2008; Presniak, 2008) used

Intraclass Correlation Coefficients (ICCs) to measure inter-rater reliability.

The Adaptiveness of Defenses Scale (ADS)

The ADS is a scale designed to measure within-defense variability of defenses

identified as characteristic using the Defense-Q. With the Defense-Q, one defense is

identified as most characteristic for an individual, two are identified as quite

characteristic, and five are identified as somewhat characteristic. Thus, this measure

identifies eight defenses as characteristic for an individual. The ADS is then used to rate

these eight defenses using two five-point ordinal rating scales (1=lowest functioning,

5=highest functioning) on dimensions of social/occupational functioning and

psychological distortion. Assessing the adaptiveness of defenses identified as neither characteristic nor uncharacteristic, or defenses identified as uncharacteristic for an individual provides essentially meaningless information that would be exceedingly difficult to code. The two ADS scale scores are added to create a total functioning score. As the Defense-Q includes eight defenses as characteristic and the range of scores is one to five, the minimum possible score for either dimension is eight and the maximum is 40, for a total score range of 16-80. Anchors are provided for ratings of one (low), three (medium), and five (high), with ratings of two and four being low-moderate and moderate-high, respectively.

The ADS provides different information than the Defense-Q. When a profile is compared with the ADP, an ADP similarity score is generated (as described above). This similarity score describes how similar a given profile is to a theoretically adaptive profile. In a sense, it is a measure of *which* defenses are being used by an individual. The ADS does not measure which defenses are being used; it measures *how adaptively* the defenses identified as characteristic are being used.

For example, if an individual's Defense-Q profile included sublimation, pseudoaltruism, turning against the self, isolation, idealization, splitting, fantasy, and rationalization as characteristic defenses, the ADS would be used to rate the adaptiveness with which these defenses are used. Each defense would be scored according to its social/occupational adaptiveness and its psychological adaptiveness. Appendix 3 provides an example of how the ADS would be used with the above defenses.

Experiences in Close Relationships inventory (ECR)

The ECR (Brennan, Clark, & Shaver, 1998) is a 36-item self-report inventory assessing attachment style in adolescents and adults. It uses a seven-point Likert scale. This instrument is the product of extensive factor analytic research exploring dimensions of interpersonal fearfulness and anxiety. It has two factors: Avoidance (α=0.94) and Anxiety (α=0.91). There are four attachment styles (secure, dismissive, fearful, and preoccupied) described on the web page providing psychometric information for the ECR (Brennan, Clark, & Shaver, 1998). However, Brennan (personal communication, November, 2008) stated that these attachment styles should not be used as they only worked with the standardization sample, and, in any case, subsequent research has found these styles not to be taxonomic. Thus, while the webpage provides information for scoring four attachment styles, only the factor scores for anxiety and avoidance were used.

Shaver and Fraley (2000) reported in their review of self-report measures of adult attachment styles that instruments for assessing attachment that are based on multi-item dimensional measures have demonstrated the best precision and validity, and explicitly recommend the ECR as the best self-report measure in this area. Experiences of Close Relationships inventory scores were taken as measures of interpersonal functioning for the current study.

The Personality Assessment Inventory (PAI)

The PAI (Morey, 1991) is a widely used measure of adult psychopathology. It is a 344-item self-report inventory that includes 22 non-overlapping scales: Four are validity scales (inconsistent responding, infrequent responding, positive impression

management and negative impression management); 11 are clinical scales (somatization, anxiety, anxiety-related disorders, depression, mania, paranoia, schizophrenia, borderline personality, antisocial personality, alcohol use, and drug use); five are treatment scales (aggression, suicidality, stress, nonsupport, and treatment rejection); and two interpersonal scales (dominance and warmth). Personality Assessment Inventory scale scores were taken as measures of psychological functioning.

The PAI has been used in defense mechanism research in the past. MacGregor and Olson (2005) used PAI scores to divide participants into psychologically healthy and unhealthy groups and compared the defenses of both groups using the Defense-Q. Participant health was identified using T-scores on clinical scales described in Morey (1991) as pathological. MacGregor and Olson categorized participants as psychologically healthy if they had no clinical elevations in their PAI profiles.

Olson (2008) used PAI scores to identify depressed and anxious participants in order to determine whether knowledge about defenses can help differentiate these disorders. He identified participants as depressed if their depression scale score was pathological according to Morey and their anxiety scale scores were not, and he identified participants as anxious if their anxiety scale scores were pathological according to Morey but their depression score was not. There are currently no published studies examining the relation between individual PAI scale scores and defense mechanisms.

Course grade

The grades of participants were for introductory psychology class only. A 5% bonus was available for taking part in research. Course grade was taken as a measure of occupational functioning as the sample was composed of students.

Procedures

Participants took part in a short semi-structured videotaped interview (ESI; Hall, et al. 1998) and these interviews were used to rate defense mechanisms. Missing videotapes and variable tape quality (e.g., due to age) resulted in data being lost. Consequently, of the 104 identified participants, 88 interviews were coded for defenses.

Coders were trained according to the usual method for the Defense-Q (e.g., see Davidson & MacGregor, 1996; Olson, 2008; Presniak, 2008). They were provided with a Defense-Q Manual (MacGregor, Olson, Presniak, & Davidson, 2003) and they took part in weekly meetings during which cases were assessed with the Defense-Q and defenses discussed in order to minimize the development of idiosyncratic interpretations of defenses (i.e., "coder drift"). Coders were trained for 2 years before beginning to code data for this study.

Self-report measures

The ECR and PAI were completed online.

The ECR factors of anxiety and avoidance were used rather than the total score, and all PAI scales and subscales aside from validity scales were included in the analysis. PAI profiles with validity scale scores beyond the cutoffs identified by Morey (1991) were not included in the analysis, leaving a PAI sample ranging between 99 and 101.

Statistical Analyses

The syntax used in analyzing the Defense-Q was able to rate data missing listwise, but data missing listwise were not coded with the ADS. This made the N for the Defense-Q 88 and the N for the ADS 66.

Defense-Q profiles for each participant were calculated by taking the mean score for each defense for three or two coders. Participants' mean Defense-Q profiles were then compared to the ADP (MacGregor, 2000) as described above using syntax for the Statistical Package for the Social Sciences (SPSS) from the University of Saskatchewan Health and Personality Psychology Laboratory. This syntax was used in previous studies using the Defense-Q (MacGregor, 2000; MacGregor & Olson, 2003; Olson, 2008; Presniak, 2008) and based on Block's (1978) method for Q-analysis described above. Reliability statistics are presented in Appendix 4.

In the regression analyses, the mean scores for individual defenses were used to create mean Defense-Q profiles. The ADP similarity scores were calculated using these mean profiles and these are the data used as predictors in the subsequent regression models.

The mean of the coders' ADS total scores were used for each participant in the regression analyses. Reliabilities for the ADS are presented in Appendix 4.

Hierarchical multiple regressions were conducted addressing the relations between the measures of defenses and the dependent variables (PAI, ECR and final grade in course) using ADP similarity scores in the first step, and ADP similarity scores and total ADS scores in the second step as independent variables.

When examining the relation between defenses and psychopathology, dependent variables included all 18 PAI scales. Scales for which defenses accounted for a significant amount of variance were re-analyzed using subscales as criterion variables. When examining the relation between defenses and social functioning, dependent variables included both ECR scales, and the relation between defenses and academic performance using final grade in introductory psychology as the dependent variable.

Results

Defense-Q Means

The mean scores and standard deviations for individual defenses in the Defense-Q are presented in Table 1.4. The highest mean score was for rationalization (5.43, SD 0.75) and the lowest mean score was for psychotic denial (1.35, SD 0.36).

Reliabilities for individual defenses and the ADP similarity score are presented in Appendix 4.

ADS Means

The mean social/occupational functioning scores and standard deviations for individual defenses are presented in Table 1.5. The highest mean score was for the defense humour (4.58, SD 0.54) and the lowest mean score was for the defense isolation of affect (3.58, SD, 0.58). The mean total social/occupational functioning score was 32.17 (SD 2.12).

The mean psychological functioning scores and standard deviations for individual defenses are presented in Table 1.5. The highest mean psychological functioning score

was for the defense pseudoaltruism (4.70, SD 0.47) and the lowest mean score was for

the defense isolation of affect (3.64 SD 0.56). The mean total psychological functioning

score was 32.12 (SD 2.25).

The mean total ADS scores and standard deviations for individual defenses are

presented in Table 1.5. The highest mean total functioning score was for the defense

humour (9.26, SD 0.89) and the lowest mean total functioning score was for the defense

isolation of affect (7.22, SD 1.00). The mean total functioning score was 64.29 (SD

4.22).

Reliabilities for individual defenses and the ADP similarity score are presented in

Appendix 4.

The relation between the ADS total score and the Defense-Q ADP similarity score

was examined using Pearson's product moment correlation. The correlation between

these measures was positive and statistically significant, $r = 0.66$, $p < 0.001$ (N=66).

Defense Q, ADS, and Attachment Style

Defense-Q ADP similarity scores and ADS total scores were entered into

hierarchical regression models with ECR avoidance and anxiety scores as dependent

variables. The hypothesis was that the ADS total scores would account for significant

unique variance on the ECR factors beyond that which is accounted for by the ADP

similarity score. Results of this analysis are presented in Table 1.6. Defense-Q similarity

scores accounted for 4% of the variance on avoidance scale scores, which was not a

statistically significant proportion of the variance. However, when ADS total scores were

added to the model, it accounted for an additional 12%, which was a statistically

significant contribution.

Neither Defense-Q similarity score nor ADS total score accounted for a

significant amount of the variance in ECR anxiety scores.

Defense-Q, ADS, and Psychopathology

Defense-Q ADP similarity scores and ADS total scores were put into hierarchical

regression models with 18 PAI scales and subscales as dependent variables. Selected

results of this analysis are presented in Table 1.7. The only PAI scale score predicted by

the Defense-Q similarity score was the somatization scale, accounting for 8% of the

variance. The ADS total score did not account for any significant unique variance among

PAI scale scores. Appendix 5 provides a table of the regressions for these scales.

The subscales of the somatization scale were entered into similar regression

models to determine which somatization factors were predicted by defense use. Neither

Defense-Q similarity score nor ADS total score accounted for significant variance of the

conversion subscale. Defense-Q similarity scores accounted for 8% of the variance of

both the somatic complaints subscale and the health concerns subscale, while ADS total

scores did not account for any unique variance on these subscales.

Defense-Q, ADS, and Final Grade in Course

Defense-Q ADP similarity scores and ADS total scores were entered into

hierarchical regression models with final grade in introductory psychology as the

dependent variable. The hypothesis was that adding ADS total scores would account for

significant unique variance on final course grade beyond that which is accounted for by ADP similarity scores. Results are presented in Table 1.8. Neither Defense-Q similarity score nor ADS total score accounted for a significant amount of the variance in students' final grade in the course.

Discussion

Defenses

Male undergraduate students had fairly healthy defense profiles based on their mean similarities to the ADP. The eight most characteristic defenses were (in descending order): rationalization, neurotic denial, grandiosity, devaluation, sublimation, intellectualization, passive aggression, and reaction formation. The range of characteristic defenses includes adaptive defenses (e.g., sublimation, rationalization), neurotic defenses (e.g., reaction formation, intellectualization), and maladaptive defenses (e.g., passive aggression, devaluation).

The finding that some more adaptive defenses were characteristic of the sample may be explained by the fact that in general the sample was relatively high-functioning (e.g., admitted to university). The finding that some less adaptive defenses are also characteristic of the sample may be explained in part by the characteristics of the sample (males in late adolescence and early adulthood), as adaptiveness or maturity of defenses is positively correlated related with age (Cramer, 1991; Vaillant, 1992, 1993) and the sample is fairly young. With respect to less adaptive defenses, one must bear in mind the sex and developmental status of the majority of the sample.

McWilliams (1994) describes externalizing defenses (i.e., defenses with external objects as their target, such as devaluation and passive-aggression) as less adaptive than internalizing defenses (i.e., defenses that have internal objects as their targets, such as sublimation and intellectualization). Externalizing defenses have been found to be more characteristic of males than females (Sugarman, Sheldon & Roth, 1975) and males tend to use less adaptive defenses than females, at least outside the context of intimate relationships (Bullitt & Farber, 2002). Additionally, less adaptive defenses are negatively correlated with age (Cramer, 1991; Vaillant, 1992a, 1993), and the sample is late adolescent/early adult males. Late adolescence is the tail end of a transition period from childhood to adulthood, and so some less mature defenses may be expected with this age group. Thus, while it appears that the presence of some maladaptive or immature defenses is consistent with the age and sex of the sample, the current data show that the sample is also in general fairly high functioning and uses adaptive as well as less adaptive defenses.

The ADS scores of the sample were quite high, suggesting that the participants used their characteristic defenses in fairly adaptive ways. As this is the first time the ADS has been used, there are no norms for comparison. However, the total score means for most defenses were above eight (with a range of two to 10), indicating that, unless the coders did not use the full range of the scale, most defenses were being used at the higher end of the spectrum described by the ADS and a number of defenses were frequently used at the most adaptive level.

The high positive correlation between the ADS total score and the Defense-Q ADP similarity score suggests that there is something common between using adaptive

defenses and using defenses adaptively. Recall that the Defense-Q provides a profile describing which defenses are characteristic or uncharacteristic for an individual. Similarity scores such as the ADP similarity score describe the relation between an individual's Defense-Q profile and another profile. With the ADP, the similarity score describes how closely an individual's Defense-Q profile approximates a theoretically adaptive profile. In other words, it describes the degree to which adaptive defenses are characteristic of an individual. The ADS also describes adaptiveness of defenses, but instead of looking at *which* defenses are used (adaptive defenses or less adaptive defenses), it describes *how well* defenses are used. These are related, but different, concepts. The strong positive correlation between the ADP similarity score and the ADS total score suggests that both measures capture some aspect related to positive psychological functioning, as is demonstrated by their differential prediction of ECR and PAI scores.

Defenses and ECR Scale Scores

The hypothesis that the ADS would account for unique variance among ECR scale scores beyond Defense-Q ADP similarity scores was supported for the avoidance scale, but not the anxiety scale. The negative relation between ADS total score and intimacy avoidance suggests that the appropriateness with which defenses are used is negatively related to undergraduate males' avoidance of intimacy in romantic relationships. That is, for the current sample, it does not seem to matter which defenses are being used, their less adaptive use is related to "pulling away" from or blocking intimacy.

An example of less adaptive use of the adaptive defense sublimation could be avoiding relationship closeness by working too much, being "too busy" volunteering or with other activities to allow for intimacy. An example of less adaptive use with the neurotic defense reaction formation could be turning positive feelings in the relationship into negative feelings, and blocking closeness that way. Finally, an example of less adaptive use of the defense of devaluation could include frequently devaluing the partner in ways that damage the relationship, thus creating distance.

Defenses and PAI Scale Scores

The hypothesis that the ADS would account for unique variance among PAI scale scores beyond Defense-Q ADP similarity scores was not supported. In fact, the assumption on which this hypothesis rested, that Defense-Q ADP similarity scores would account for significant variance among PAI scale scores was not met, aside from the Somatization scale and two of its three subscales. The fact that different methods of data collection were used likely decreased the correlation (Campbell & Fiske, 1959), as did the fact that the nonclinical status of the sample restricted the range.

There is a growing body of literature demonstrating the relation between defenses and psychopathology (e.g., see the general introduction), including studies with nonclinical samples (e.g., Sinha & Watson, 1999). However, much of this research uses self-report measures of defenses (e.g., the Defense Style Questionnaire, DSQ; Bond, 1992; Bond, et al., 1983), which have demonstrated limited convergent validity with observer-report measures of defenses (Vaillant, 1998). Studies using observer-report methods to identify relations between defenses and psychopathology tend to use

pathological samples (e.g., Blais, et al., 1996; Lingiardi et al., 1999). These samples likely use a wider range of defenses including more maladaptive defenses than nonclinical samples such as the one in the present study.

Defenses and Final Grade in Course

The hypothesis that the ADS would account for unique variance in final grade in introductory psychology beyond Defense-Q ADP similarity scores was not supported. As with the previous hypotheses, the assumption that the Defense-Q similarity score would predict final grade in course was not met. Adding the ADS to the model did not increase the variance accounted for significantly. It seems that academic performance, at least at the level of introductory psychology, is independent of defense mechanism use in males as was measured in this study.

Including this variable was an unsuccessful attempt to measure occupational functioning (the database from which data were extracted did not include measures of occupational functioning.) If one is to use academic performance as a measure of occupational functioning in students, then overall grade point average (GPA) would likely have been a better measure than performance in a single class likely at the beginning of a university career. Overall GPA would provide a mean score and therefore be a more stable estimate of academic performance. However, this was unavailable, and the students were in an introductory psychology class and many would have had no overall GPA when they took part in the study.

Conclusions

The central hypothesis of the current study, that the ADS would account for additional unique variance beyond the Defense-Q ADP similarity score, was partially met. However, it appears that the ADP similarity score and the ADS accounted for variance on the dependent variables differentially. That is, while information about *which* defenses are used predicted PAI Somatization scale and subscale scores, information about *how well* defenses are used predicted avoidance of intimacy in romantic relationships. The difference may be due to the fact that ADP similarity scores describe the degree to which specific defenses are present regardless of context, whereas the ADS focuses on how defenses manifest in context (e.g., in relationships). Future research should clarify this issue.

Limitations

One limitation of the present study is that the sample was a convenience sample. Participants were selected if they met specific criteria, but the criteria set from which to select participants was limited to data being collected in the Health and Personality psychology laboratory at a university. Consequently, the generalizability of the sample beyond young, male, Western Canadian, relatively healthy university students is not known. However, the descriptive data make theoretical sense; the defenses found to be characteristic of the sample as a whole seem to describe young males (e.g., Bullitt & Farber, 2002; Sugarman, et al. 1975; Vaillant, 1977), and it is hoped that research with other populations would yield similarly consistent findings.

Additionally, defense mechanism research, when it is not longitudinal or focused on developmental issues, tends to focus on pathological populations. It is difficult to

make links between defenses and psychopathology when examining the defense use of a

nonclinical sample, and the current findings reflect this difficulty.

Future directions

Future research should examine the ADS with more pathological populations.

The next two studies of this program of research investigate defense use in a sample of

incarcerated male offenders serving federal (i.e., at least two year) sentences. An inmate

sample should have higher rates of personality pathology (APA, 2000, Blackburn &

Coid, 1999) and so be more appropriate for the investigation of defenses and

psychopathology than the current student sample. Additionally, the current student

sample will be used as a comparison group for the Defense-Q and ADS as it is

presumably psychologically healthier.

With respect to research using psychologically healthy samples, measures of

defense use and psychological health (e.g., emotional intelligence) are warranted.

Defenses at the adaptive level should be negatively associated with psychopathology, but

also positively associated with indicators of psychological health. Research

demonstrating the relation between adaptive defenses and measures of adaptive

functioning is warranted to test this theory, and healthy samples would be needed as they

are more likely to use adaptive defenses.

Finally, the current sample was exclusively male. The ADS should be studied

with female and mixed samples in order to further test its validity.

Study Two:

Validation of the Adaptiveness of Defenses Scale with an Inmate Sample

Introduction

Defenses have been hierarchically organized according to their adaptiveness by numerous researchers (e.g., APA, 2000; Bond, Gardiner, Christian & Sigal, 1983; Cramer, 1991; MacGregor, 2001; Perry & Cooper, 1989; Vaillant, 1971, 1976).   It seems reasonable to assume that the use of less adaptive defenses would be associated with greater psychopathology because the use of these defenses is by definition problematic. In fact, the association between defensive functioning and psychological health was observed in Freud's (1894/1959) initial paper discussing defenses, entitled "The neuro-psychoses of Defense".   Vaillant (1992b) argued that Freud saw some defenses as associated with psychosis, some with neurosis, and some with adaptive functioning. Vaillant's (1971) own initial theoretical hierarchical classification of defenses listed four categories: Narcissistic, immature, neurotic, and mature. The defenses described as narcissistic were thought to be the least adaptive, and included psychotic distortion and psychotic denial. As their names suggest, these defenses were thought to distort reality so severely that adults who primarily use these defenses are effectively psychotic. Vaillant's (1976) validation study of this theoretical hierarchy found the base rates for narcissistic defenses to be so low that he rarely discusses them in later research, but the immature, neurotic and mature defenses have high enough base rates to support studies of the relation between defenses and psychopathology, and have been discussed by other researchers (e.g., see Study One).

Other researchers have also associated defense mechanisms with psychopathology. Kernberg (1986) theorized that personality pathology is characterized in part by "primitive" defenses such as projective identification, splitting, primitive denial, idealization and devaluation. His use of the term primitive suggests in the context of defenses an implicit assumption that defenses are hierarchically organized or exist on some sort of continuum.   The following review describes numerous studies that have found immature defenses to be associated with personality disorders. Findings will be discussed in terms of personality disorders grouped as "Cluster B", also called the "dramatic/erratic" group (Antisocial, Borderline, Histrionic, Narcissistic; APA, 2000). These disorders are the most dramatic and will be part of the focus of the present study. Observer-report studies will be discussed first, followed by self-report studies.

Personality Psychopathology and Observer Report Measures of Defenses

Vaillant (1994) suggested that "Cluster A" personality disorders (Paranoid, Schizoid, and Schizotypal) are associated with the defenses of projection and schizoid fantasy. He suggested that "Cluster B" personality disorders are associated with the defenses of acting out, splitting, devaluation, and dissociation, and he suggested that the "Cluster C" personality disorders (Avoidant, Dependent, and Obsessive-Compulsive) are associated with the defenses of passive-aggression and hypochondriasis.

To find empirical support for this theory, Vaillant (1994) interviewed 369 men identified by the Gluecks (Glueck & Glueck, 1968) and used as a control group for a well-known investigation of juvenile delinquency among inner-city youth. This sample was part of a longitudinal study. At age 47 years, participants were interviewed for

approximately two hours and diagnosed with personality disorders if they met diagnostic

criteria (personality disorders were rated independently of defense mechanisms). No

participants were diagnosed as having BPD or HPD. Interview vignettes describing how

the participants behaved at times of adversity were excerpted and rated; each vignette

was labeled with one of 15 defenses. Vaillant found NPD most associated with the

defense dissociation, and ASPD most associated with the defense acting out.

As is suggested in the description "erratic/dramatic", individuals with Cluster B

disorders often behave in inconsistent and extreme ways. Lingiardi, et al. (1999) used the

Defense Mechanism Rating Scale (DMRS, Perry & Cooper, 1989; Perry, 1990) to

examine the relation between personality pathology and defenses, and found that Cluster

B personality disorders were associated with lower level defenses than the other *DSM*

personality disorder clusters. These researchers found that the defense of acting out was

associated with all Cluster B personality disorders. In addition, ASPD was associated

with the defense of intellectualization, and Histrionic Personality Disorder (HPD) was

associated with omnipotence, devaluation, idealization, splitting self and others, and help-

rejecting complaining. The authors comment that sample size limited the power of their

analyses, but note that significant and expected findings emerged despite this.

Cramer (1999) conducted a prototype matching study to assess the personality

features associated with the Cluster B personality disorders. Participant's personalities

were compared to prototypes for the disorders of interest, and their defenses assessed. To

assess defenses, Cramer used the Defense Mechanism Manual (DMM, Cramer, 1991),

which assesses three defenses: denial, projection, and identification. The DMM describes

its three defenses according to different levels of maturity, and the theory behind the

instrument is that denial is less mature than projection, which is less mature than identification (Cramer, 1991). Cramer hypothesized that there is as a developmental continuum along which cluster B personality disorders fall, with Borderline Personality Disorder (BPD) being the most immature and HPD being the least immature. Cramer's findings suggested that all of the Cluster B personality disorders were associated with immature defenses, and that none of these disorders was associated with mature defenses. She also found evidence that there was a developmental continuum along which the disorders fell, but HPD did not end up being the least immature. Findings showed that BPD, ASPD, Narcissistic Personality Disorder (NPD), and HPD were all significantly related to the defense of denial, and that ASPD, HPD, NPD personality disorders (but not BPD) were significantly related to the defense of projection. None of the personality disorders was related to the highest level defense, identification. The hypothesis that BPD was the least mature of the Cluster B disorders and associated with the least mature defenses was partially supported, in that BPD was not associated with any defenses more mature than denial.

Blaise, et al. (1996) investigated the relation between personality disorder and defensive functioning and found significant correlations between personality disorders and different levels of defensive organization. Their participants were clinicians at a conference who had various theoretical orientations. Participants were asked to rate patients from their own practice using individual descriptive criteria for personality disorders listed in *DSM-IV* (APA, 1994); individual personality disorders were not named. Defenses were rated using the definitions given in the Defensive Functioning Scale of *DSM-IV*; the names for individual defenses were not used. Results showed that,

with the Cluster B disorders, ASPD was significantly associated with disavowal level defenses (i.e., denial, rationalization and projection); BPD was significantly associated with major image-distortion level defenses (i.e., autistic fantasy, projective identification, and splitting); NPD was significantly associated with minor image-distorting level defenses (i.e., idealization, devaluation, omnipotence); and HPD was significantly associated with major image distorting and disavowal level defenses. Personality disorders from the other clusters were also related to specific defensive levels, but are not presented here because the focus of the present research is primarily on the relation between defenses and Cluster B personality disorders.

Personality Psychopathology and Self-Report Measures of Defenses

Sinha and Watson (1999) used the 40-item Defense Style Questionnaire (DSQ-40, Andrews, Singh & Bond, 1993) to predict personality disorder traits in a nonclinical sample of university students. Personality disorder traits from 11 personality disorders were assessed using the Coolidge Axis II Inventory (CATI; Coolidge, 1984), the Millon Clinical Multiaxial Inventory-II (MCMI-II; Millon, 1987), and the Minnesota Multiphasic Personality Inventory personality disorder scales (MMPI-PD; Morey, Waugh & Blashfield, 1985). The authors found that the maladaptive defensive style was significantly associated with most personality disorders. One curious exception was that Schizoid personality disorder was associated with the mature defensive style according to the DSQ-40.

In a later study, Sinha and Watson (2004) examined the relative contribution of the 20 defenses assessed by the DSQ-40 as discriminating variables in predicting

membership in personality disorder clusters. Again, the participants were not from a clinical population. The researchers used discriminant function analysis to examine whether defenses could help discriminate between personality disorders. Personality disorders were grouped using *DSM*'s Cluster A, B, and C, the CATI, and Millon's (1981) detached, dependent, independent and ambivalent clusters. Findings provided empirical support for both *DSM*'s and Millon's classification systems for personality disorders, and were consistent with Vaillant's (1994) findings (mentioned above).

Devens and Erickson (1998) also used the 40-item Defense Style Questionnaire (DSQ-40) to examine the relation between defense style and personality disorder. They administered the DSQ-40 and Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II; First, Gibbon, Spitzer, Williams, & Benjamin, 1997) to hospital inpatients and found that the immature defense style accounted for 54% of the variance in BPD after controlling for other personality disorders. In a regression examining the variance accounted for by individual DSQ-40 defenses, the authors found that only the defenses of displacement and acting out accounted for unique significant variance with respect to BPD.

Johnson, Bornstein and Krukonis (1992) used the 88-item Defense Style Questionnaire (Bond, Gardiner, Christian & Sigal, 1983) to examine whether defense styles predicted personality disorder symptomatology in undergraduate students. They used the Personality Diagnostic Questionnaire-4 (PDQ-4; Hyler, 1997) to assess personality disorder symptoms. The authors found that maladaptive and image-distorting defenses were positively associated with the composite index of the PDQ-4. Maladaptive defenses were significantly positively correlated with HPD, Avoidant Personality

Disorder, Passive-aggressive Personality Disorder, Obsessive compulsive Personality

Disorder, Self-defeating Personality Disorder, NPD, Schizotypal Personality Disorder,

Paranoid Personality Disorder, BPD, and Sadistic Personality Disorders. Image-

distorting defenses were significantly positively correlated with Passive-aggressive

Personality Disorder, NPD, Schizotypal Personality Disorder, ASPD, and Sadistic

Personality Disorders. The DSQ adaptive defensive style was significantly negatively

associated with the PDQ-4 composite index, as well as HPD, Passive-aggressive

Personality Disorder, Dependent Personality Disorder, and Sadistic Personality Disorder.

The authors found that each of the 14 PDQ-4 scales demonstrated a unique pattern of

associations with the DSQ defense styles.

Paris, Zweig-Frank, Bond, and Guzder (1996) compared male outpatients with

and without BPD with respect to defense styles, hostility, and psychological risk factors.

Their findings indicated that diagnosis was the strongest predictor of scores on the DSQ's

lower-level defense factors, with patients with BPD having higher scores than non-

patients without this disorder. Also, patients with BPD had higher ratings on the total

score of the Buss-Durkee Guilt-Hostility Inventory (Buss & Durkee, 1957), and higher

scores on the subscales of resentment, irritability, suspicion, verbal assault and indirect

than the comparison group.

Conclusions: Defenses and Personality Psychopathology

Vaillant (1992c) suggested that the *DSM* classifications for personality disorders

basically reflect constellations of immature defenses, and the research described above

provides support for this argument. At the same time, research has not reliably shown

that specific personality disorders can be predicted by the use of particular defenses or groups of defenses. Instead, a fairly reliable finding is that less mature or adaptive defenses are generally associated with personality pathology.

The above studies indicate support for an association between generally less mature or adaptive defenses and personality disorders, especially Cluster B personality disorders. Examining populations with a high rate of Cluster B personality disorder would shed light on the manifestations and consequences of less mature defenses. One such population is incarcerated offenders.

Personality Disorders in Offenders

Although the construct of the pathologically antisocial personality has been known for close to 200 years (Werlinder, 1978), the construct of ASPD first appeared in the *DSM-III* (APA, 1980). Personality disorders were not included in earlier versions of this manual. A common criticism of the *DSM* criteria set for ASPD is that it is somewhat tautological. For example, in the most recent version, *DSM-IV-TR,* meeting one of the criteria for ASPD involves failing to conform to social norms by repeatedly performing acts that are grounds for arrest (APA, 2000). The question becomes whether criminal behaviour is a symptom or a consequence of ASPD, but regardless, inmate populations are marked by high rates of ASPD. The following is a review of literature describing prevalence of personality pathology among inmates. The review is limited in that studies of specific offender populations (e.g., sex offenders, adolescents, female offenders) were not included because specific offender populations are not of interest to the present study.

Rotter, Way, Steinbacher, Sawyer and Smith (2002) conducted a review of studies examining the prevalence of personality pathology among inmates, citing 12 studies from 1978 to 1999. They commented that the literature is limited by a narrow focus on ASPD (present/absent), the fact that studies take place in different settings (e.g., jails and prisons), the fact that studies focus on different populations (e.g., male, female, presentence detainees, and convicted inmates) and using different methodologies (e.g., some use clinical interviews and some use structured interviews to determine diagnosis). Perhaps because of the methodological differences in the studies, Rotter et al. found a wide range of prevalence rates for ASPD, ranging from 11% to 78% in sentenced males. No study in their review examined the prevalence of BPD in sentenced males.

Hare (1983) presented the incidence and reliability of the *DSM-III* criteria for ASPD. He had two raters assess 246 Canadian inmates from both provincial and federal prisons and found that 33.3% of provincially-sentenced inmates were diagnosed with ASPD by both coders; 41.5% of federally-sentenced inmates were diagnosed with this disorder. Overall rates of ASPD were 39% from both raters and 50% from at least one rater. Hare argued that the diagnosis of ASPD would be useful for the classification of inmates.

The high incidence of antisociality among offenders appears to hold with young offenders as well. Lader, Singleton and Meltzer (2003) found the rates of any personality disorder among male young offenders in the UK to be 84% for those remanded and 88% for those sentenced. Antisocial Personality Disorder was the common personality disorder diagnosis, despite the fact that the some participants were too young for such a diagnosis (the sample was aged 16-20 years). Of the sub-sample of the study that had a

clinical interview, 76% of male remand and 81% of male sentenced young offenders were diagnosed with this disorder.

Brinded, Mulder, Stevens, Fairley, and Malcolm (1999) conducted an epidemiological study of personality disorders in Christchurch, New Zealand using the ASPD items of the Structured Clinical Interview for DSM-III Personality Disorders (SCID-II, Spitzer, Williams, Gibbon & First, 1987). These authors found rates of Antisocial Personality Disorder to be 71% for both sentenced and remanded males. A further 11% of sentenced males and 8% of remanded males would have met the criteria for this disorder if they had had histories of Conduct Disorder. Among personality disorders common to inmates, Antisocial Personality Disorder stands out.

In addition to using *DSM* diagnoses for personality pathology, Brinded et al. (1999) also administered the Four A's, an instrument measuring four factors of personality disorder: asthenic (avoidant/dependent), anakastic (obsessive compulsive), asocial (social indifference, oddness), and antisocial (impulsive, sociopathic, which is a different construct than ASPD). They found that 18% of sentenced males and 27% of remanded males met the criteria for asthenic personality; 12% of sentenced males and 11% of remanded males met the criteria for anakastic personality; 20% of sentenced males and 16% of remanded males met the criteria for asocial personality; and 32% of sentenced males and 38% of remanded males met the criteria for antisocial personality with this measure. It seems that, even when the more criminal criteria are removed, antisociality is a characteristic pathology among inmates.

Blackburn and Coid (1999) conducted a cluster analysis of the personality profiles (as assessed by the SCID-II) of 164 violent offenders in maximum security hospitals and

special units in prisons in the UK, and found five personality disorder clusters: (1)

Antisocial-Narcissistic, (2) Paranoid-Antisocial, (3) Borderline-Antisocial-Passive-

Aggressive, (4) Borderline, and (5) Compulsive-Borderline. These findings indicate that

the dominant personality disorder traits with this population have antisocial and

borderline tendencies. This study found other personality disorders common among

offenders. Findings appear to suggest that self-entitled hostility (e.g., antisociality,

passive-aggression, paranoia) mixed with impulsivity (e.g., antisociality, borderline-ness)

are characteristic of offenders.

Bland, Newman, Dyck, and Orn (1990) examined the prevalence of psychiatric

disorders (including personality disorders) and suicide among provincially incarcerated

inmates in a western Canadian city. The authors compared data from 180 inmates with

that of 1 006 males from the community, matched for age and age distribution for the

time of data collection. They found a lifetime prevalence rate among inmates of 56.7%

for ASPD, and comment that this is almost seven times that of the general population.

Data for other personality disorders was not provided. Bland, et al. note that the lifetime

prevalence rates for almost every disorder they measured are higher among inmates than

among participants from the general population, suggesting that the incarcerated

population is psychologically less healthy than the general population. These findings

suggest that, generally, inmates suffer more psychopathology than the general population.

Arboleda-Florez, Love, Fick, O'Brien, Hashman, and Aderibigbe (1995)

examined the epidemiology of mental illness in a remand population in a western

Canadian city. Remanded populations are heterogeneous, including individuals to be

held briefly (e.g., a few hours); individuals awaiting trial; or individuals with very short

sentences (e.g., a few days or weeks). Abram (1989) commented that remand centres contain a more heterogeneous population of inmates than prisons or correctional centres, and may have higher rates of psychopathology than prisons because they include detainees who are to be assessed for fitness to stand trial or criminal responsibility. Arboleda-Florez, et al. reviewed studies examining the prevalence of a variety of psychological disorders and found rates of personality disorder (sometimes exclusively ASPD) ranging from 16% to 57%. Their own findings of a sample of 1 151 detainees found that the rate of personality disorder in individuals sentenced to federal sentences (i.e., two years or more) was 14%, and 5.3% of the total admissions met the criteria for a personality disorder as assessed using the SCID-II and Psychopathy Checklist-Revised (PCL-R, Hare, 1991). This is much lower than prevalence in prisons (Hare, 1983). The authors suggest this may be in part due to the use of the PCL-R to identify antisocial personality, as this instrument has more restrictive criteria than those used to classify ASPD using the *Diagnostic and Statistical Manual-III-R* (*DSM-III-R*, American Psychiatric Association, APA, 1987), on which the SCID-II diagnoses are based.

McCann, Ball, and Ivanoff (2000) used the SCID-II to assess personality disorder in a sample of forensic mental health patients and found that 50% of the inmates at the Colorado Mental Health Institute at Pueblo had either ASPD or BPD as measured by the SCID-II, with 40% of inmates having both diagnoses. Thus, it appears that ASPD and BPD are common among both inmates and forensic psychiatric patients.

Motiuk and Porporino (1991) used the Diagnostic Structured Interview (DIS; Robins & Helzer, 1985) to assess the prevalence, nature, and severity of *DSM-III* mental disorders among male federal inmates in Canadian penitentiaries (including treatment

centres) from all regions. They interviewed 2 185 inmates. The lifetime prevalence rate

for ASPD was 74.9%; with drug use problems prevalence was 52.9% and alcohol use

problems had a 69.8% prevalence rate. The authors found the rates to be stable across

regions within Canada. Motiuk and Porporino's findings showed higher rates of ASPD

among federal inmates than most of the other studies' samples, which is consistent with

the notion that more severe antisociality (e.g., assaults, robberies, etc.) is generally

involved with longer (i.e., federal) sentences.

Based on previous research and *DSM* criteria, offenders, who have higher rates of

Cluster B disorders than the general population, should have high rates of defenses

consistent with these disorders. The immature nature of many of these defenses would

cause cruder distortions in the experience of reality than more mature defenses, and likely

contribute to interpersonal difficulties, including criminal behaviour.

The Present Study

The current study was an extension of Study One. Study One examined the

validity of the ADS by relating ADS total scores to scores on the Personality Assessment

Inventory (PAI; Morey, 1991) and the Experiences in Close Relationships inventory

(ECR, Brennan, Clark, & Shaver, 1998). A limitation of Study One was that

undergraduate students are relatively healthy psychologically, and this restricted their

scores on measures of psychopathology and attachment dysfunction.

The present study examined the relation between defenses, personality pathology,

and relationship dysfunction in a sample of federally incarcerated inmates from western

Canadian penitentiaries. Personality disorders of interest were psychopathy (as assessed

by the Psychopathy Checklist-Revised; PCL-R; Hare, 1991, 2003) and BPD (as assessed by the Borderline Personality Inventory; BPI; Leichsenring, 1999), as the rates for these disorders are relatively high among inmates. Relationship dysfunction was assessed using the Propensity for Abusiveness Scale (PAS; Dutton, 1995).

Because the use of immature defenses has been found to be related to psychopathology, it was hypothesized that ADP similarity scores would be negatively related to PCL-R, BPI, and PAS scores, and account for unique variance on these criterion variables and their factors in multiple regression analyses. It was further hypothesized that ADS total scores would also be negatively related to these criterion variables and account for unique variance beyond ADP similarity scores on these variables.

Methods

Participants

Participants were incarcerated male federal inmates from correctional facilities in the prairie region of Canada. They were recruited from treatment groups (e.g., substance abuse treatment, violence prevention programs, etc.) and posters placed in common areas. Ethnically, 22 were non-Aboriginal (i.e., Caucasian), 42 were Aboriginal (including Métis and Inuit), and three were unknown (e.g., files reported both Aboriginal and non-Aboriginal status). Five additional participants were used for training coders. The mean age for the total sample was 31.97 years, SD 9.61.

Aboriginal participants were younger than non-Aboriginal participants. The mean age for Aboriginal participants was 29.19 years, SD 8.13, and the mean age for non-Aboriginal participants was 37.36 years, SD 9.36, $t(62)= 3.56$, $p>0.001$.

Non-Aboriginal participants were more psychopathic than Aboriginal participants. The mean PCL-R score for Aboriginal participants was 21.62, SD 6.67, and the mean for non-Aboriginal participants was significantly higher at 24.03, 6.74, $t(62)=3.00$, $p<0.01$. The mean PCL-R Factor 1 (interpersonal/affective factor) score for Aboriginal participants was 6.47, SD 3.31, and the mean PCL-R Factor 1 score for non-Aboriginal participants was significantly higher at 9.18, SD 3.66, $t(62)= 2.83$, $p<0.01$.

There were no other significant differences between Aboriginal and non-Aboriginal inmates with respect to these criterion measures. Study Three will examine differences between Aboriginal and non-Aboriginal participants with respect to other variables (e.g., criminal history, institutional behaviour, program outcomes).

Measures

Defenses

The Defense-Q and ADS are described in Study One. Because the Expanded Structured Interview (Hall, Davidson, MacGregor & McLean, 1998) does not reflect the lives of inmates, I developed a semi-structured interview for the current study based on an interview Vaillant (1977) used with 47 year-old males as part of his longitudinal research on defenses and supplemented with my own experience with inmates. It is presented in Appendix 6.

The interview for consisted of four sections. The first section included questions about life in prison and interactions with other inmates and correctional staff. The second section included questions about work outside of prison and interactions with co-workers and supervisors. The third section included questions about family life, including relationships with parents, spouses (if any) and children (if any). The final section included general questions about coping. In general, participants took between 20 and 60 minutes to complete the interview, as compared with the 12-15 minutes the ESI usually takes.

Psychopathy Checklist-Revised (PCL-R)

The PCL-R (Hare, 1991, 2003) was included as a measure of psychopathy. The *DSM-IV-TR* describes ASPD and psychopathy as synonymous, although this is a controversial point as the PCL-R construct includes a significant interpersonal and affective component whereas the *DSM* construct does not (Hare, Hart, & Harpur, 1991). Arguably, this makes psychopathy as measured by the PCL-R a more extreme variant of ASPD (Skeem, Kerr, Johansson, Andershed, Kerr & Louden, 2007).

The PCL-R is the most widely used measure of criminal psychopathy in forensic settings. It is a 20-item checklist with a 3-point rating system (0, 1, 2) for a minimum possible score of zero and a maximum possible score of 40. Hare (1991) uses a score of 30 as a diagnostic cutoff for psychopathic personality.

Harpur, Hare and Hakstian (1989) found the PCL to have a two-factor structure, with Factor 1 labeled Interpersonal/Affective, and Factor 2 labeled Social Deviancy. While subsequent researchers have found a three factor structure by omitting the crime-

focused items (Cooke, Michie, Hart & Clark, 2004), the most recent technical manual for

this measure (Hare 2003) includes two factors, but describes two facets for each factor

corresponding to Cooke, et al.'s three factors and a facet called antisocial lifestyle.

Factor 1 is composed of an interpersonal facet and an affective facet, and Factor 2 is

composed of a social deviancy facet and an antisocial lifestyle facet. The items

composing the PCL-R, and their factor and facet loadings, are listed in Appendix 7. The

validity and reliability of the PCL-R are well established (e.g., Hare, 1991, 2003).

Gacono (1990) examined defense use in offenders and rated their antisociality

using the Psychopathy Checklist (PCL, Hare, 1980). He used the Lerner system (Lerner

& Lerner, 1980) and Cooper and Arnow's (1986) criteria to assess defenses in the

Rorschach protocols of 33 inmates and found that moderate and severe psychopaths both

used borderline level defenses. Helfgott (2004) discussed borderline level defenses with

respect to understanding psychopaths identified using the PCL-R more comprehensively.

Although she used actual interviews with psychopathic inmates to illustrate her points,

hers was not an empirical study. Both of these studies examined defenses using

Rorschach protocols and focused on borderline level (i.e., maladaptive) defenses. The

present study uses the Defense-Q, which includes adaptive as well as maladaptive

defenses.

The Borderline Personality Inventory (BPI)

The BPI (Leichsenring, 1999) was included as a measure of borderline

personality. It is a 53-item true/false self-report measure designed to measure borderline

personality. Leichsenring states that the content domain was developed with Kernberg's

(1984) concept of borderline personality organization (i.e., identity diffusion, primitive defenses, and relatively intact reality testing). Factor analysis identified four main factors: primitive defenses, identity diffusion, fear of closeness, and impaired reality testing. The 20 most discriminating items comprise a scale labeled the Cut-20; scores of 10 or higher are considered to be diagnostic for BPD with this scale. Reliability in Leichsenring's study was good, with alpha for the total score equal to 0.91. Alphas ranged from 0.68 (impaired reality testing) to 0.85 (Cut-20) at the factor and scale level. Sensitivity ranged between 0.85-0.89 and specificity ranged from 0.78-0.89 when comparing borderline patients with non-patient and patient samples. Items comprising the BPI, as well as their factors, are presented in Appendix 8.

The Propensity for Abusiveness Scale (PAS)

The PAS was included as a measure of propensity toward severe relationship problems. Dutton (1995) developed the PAS to identify propensity for abusiveness in court- and self-referred male batterers. He administered a number of instruments theorized to tap constructs related to intimate partner violence and correlated the items from these instruments with victim/spouses' scores on the Psychological Maltreatment of Women Inventory (PMWI, Tolman, 1988). The 29 items with the highest correlations to the PMWI were taken from the following measures: The Borderline Personality Organization (BPO, Oldham, Clarkin, Applebaum, Carr, Kernberg, Lotterman, & Haas, 1985), the Multidimensional Anger Inventory (MAI, Siegel, 1986), the Trauma Symptoms Checklist-33 (Briere & Runtz, 1989), and a Swedish scale called the Egna Minnen Betraffande Uppfostran (Recollections of Early Childrearing, EMBU, Perris,

Jacobsson, Lindstrom, von Knorring, & Perris, 1980). Factor analysis yielded three

factors, Factor 1 was called recalled negative parental treatment, Factor 2 was called

affective instability, and Factor Three was called trauma symptoms. The items and

factors comprising the PAS are presented in Appendix 8.

In a discriminant function analysis, Dutton (1995) found that using scores above

one standard deviation from the mean on the PMWI scales of dominance/isolation and

emotional abuse, the PAS correctly identified 80.0% of batterers based on

dominance/isolation and 84.4% of batterers based on emotional abuse.

Procedures

Participants completed self-report measures prior to taking part in the video-taped

interview required for assessment of their defenses. The researcher was in the room with

the participants, and available to answer questions. However, despite this, some

responses were omitted for all instruments. Due to administrative difficulties, 10

participants were not given the BPI or PAS. Incomplete questionnaires further reduced

sample size. The N for the BPI total score was 50, N for Cut-20 was 53, for factor three

(impaired reality testing) it was 54. For the rest of the BPI factors, N=55. The N for the

PAS total score was 41, most of which appears to be due to difficulty responding to items

on Factor 1 (recollections of parental maltreatment), the N for which is 44. The N for

Factor 2 (affective instability) was 54, and for factor three (trauma symptoms) it was 55.

The PCL-R was rated by the researcher, who had been trained in PCL-R

assessment by a certified trainer on two occasions. For practical reasons, the PCL-R was

rated using file data. Wong (1988) found that file-only ratings of the PCL were about as

valid and reliable as file-and-interview ratings. He used Pearson's correlations for file only and file and interview ratings of 56 PCLs. The correlation for file only to be 0.74 and the correlation for file and interview was 0.81, which Wong noted were not significantly different.

One participant was not rated because of insufficient information. Some items could not be coded for some participants and were omitted. Item seven (shallow affect) was omitted for two participants, item nine (parasitic lifestyle) was omitted for seven participants, item 11 (sexual promiscuity) was omitted in most of the ratings (i.e., only 24 participants were coded with this item). Item 12 (early behavioural problems) was omitted in eight cases, item 13 (lack of realistic long-term goals) was omitted in three cases, and item 17 (many short-term marital relationships) was omitted in four cases. Scores were pro-rated if items were missing; no case had more than 4 missing items.

Defense mechanisms were rated with both the Defense-Q and the ADS by three trained undergraduate coders as in Study One.

Statistical Analyses

Means and reliabilities were calculated for the measures of defenses.

Hierarchical multiple regressions were conducted addressing the relation between defenses and the dependent variables using the Defense-Q ADP similarity score in the first step, and second ADS total scores in the second step as independent variables. Dependent variables were the total and factor scores for the BPI, PCL-R, and PAS.

Results

Defense-Q Means

The mean scores and standard deviations for individual defenses in the Defense-Q are presented in Table 2.1. The highest mean score was for acting out (5.44, SD 0.92) and the lowest mean score was for psychotic denial (2.37, SD 0.90).

Reliability among the three coders for coding individual defenses in the Defense-Q was assessed using intraclass correlation coefficients (ICC); the results are presented in Appendix 9.

ADS Means

The mean total ADS scores and standard deviations for individual defenses are presented in Table 2.2. The highest mean total functioning score was for the defense humour (7.08, SD 1.48) and the lowest mean total functioning score was for the defense acting out (3.74, SD 1.10). The total mean score was 41.51 (SD 4.74).

The mean social/occupational functioning scores and standard deviations for individual defenses are presented in Table 2.2. The highest mean score was for the defense humour (3.60, SD 0.91) and the lowest mean score was for the defense acting out (1.80, SD 0.57). The mean social/occupational functioning score was 20.90 (SD 2.55).

The mean psychological functioning scores and standard deviations for individual defenses are presented in Table 2.2. The highest mean psychological functioning score was for the defense humour (3.48, SD 0.66) and the lowest mean score was for the defense acting out (2.00, SD 0.56). The psychological functioning scale mean was 20.57 (SD 2.27)

Reliability among the three coders for coding individual defenses with the ADS was assessed using ICC and the results for the social/occupational functioning, psychological functioning, and total scores are presented in Appendix 9.

The correlation between the mean Defense-Q ADP similarity score and the ADS total score was 0.65, $p<0.001$.

Defense Q, ADS, and Borderline Personality

Defense-Q ADP similarity scores and ADS total scores were put into hierarchical regression models with BPI factor and total scores as the criterion variables. Step one was the Defense-Q ADP similarity score, and step two had both the ADP similarity score and ADS total score in the model. The results of this analysis are presented in Table 2.3.

Defense-Q ADP similarity scores alone accounted for 10% of unique variance with respect to BPI total scores, and adding ADS total scores to the model did not account for any significant variance beyond this. Neither step accounted for unique variance with respect to scores on the BPI factor of identity diffusion. Defense-Q ADP similarity scores alone accounted for 14% of the variance on the BPI factor of primitive defenses, adding ADS total scores did not account for any unique variance beyond this. Neither step accounted for a significant amount of variance on the BPI factors of intact reality testing, fear of fusion, or the empirically derived cut-20 factor.

These findings support the validity of the Defense-Q ADP similarity score as a measure of defenses separate from the ADS. That is, the BPI primitive defenses scale measures the presence of maladaptive defenses, and the ADP similarity score describes the degree to which adaptive defenses are characteristic. In this sense, the Defense-Q

ADP similarity score diverges from the ADS, which is concerned with how well defenses are being used, not which defenses are being used.

Defense-Q, ADS, and Psychopathy

Defense-Q ADP similarity scores and ADS total scores were put into hierarchical regression models with PCL-R factor and total scores as dependent variables. The results of this analysis are presented in Table 2.4.

Defense-Q ADP similarity scores alone did not account for a significant amount of the PCL-R total score's variance, but adding ADS total scores to the model accounted for 8% of the variance, which was statistically significant.

Defense-Q ADP similarity scores alone did not account for any unique variance with respect to PCL-R Factor 1 scores, but adding ADS total scores to the model accounted for 11% of the variance, which was significant.

Defense-Q ADP similarity scores alone did not account for a significant amount of variance with respect to facet one scores, but adding ADS total scores to the model accounted for 15% of the variance, which was statistically significant and relations of both the ADP similarity score and the ADS were significant, although in opposite directions; the ADP similarity score was positively related to interpersonal facet scores, whereas the ADS was negatively related.

Defense-Q ADP similarity scores alone did not account for a significant amount of variance with respect to PCL-R facet two scores, but adding ADS total scores to the model accounted for 15% of the variance, which was statistically significant. Neither step accounted for a significant amount of variance within PCL-R Factor 2 or its facets.

Thus, 8% of the PCL-R total score variance accounted for by the ADS can be traced to facets 1 and 2.

Defense-Q, ADS, and Propensity for Abusiveness

Defense-Q ADP similarity scores and ADS total scores were put into hierarchical regression models with PAS factor and total scores as dependent variables. The results of this analysis are presented in Table 2.5.

Defense-Q ADP similarity scores accounted for 18% of the variance of PAS total scores, which was statistically significant. Adding step two to the model did not increase the amount of variance accounted for significantly. Defense-Q ADP similarity scores and ADS total scores were put into hierarchical regression models with PAS factor and total scores as the dependent variables and the Defense-Q and ADS scores entered in a hierarchical model as above. Neither step one nor step two accounted for a significant amount of the variance of PAS Factor 1 scores. Defense-Q ADP similarity scores accounted for 16% of the variance of PAS Factor 2 scores, which was statistically significant. Adding step two to this model did not increase the variance accounted for, but the model remained statistically significant. Neither step one nor step two accounted for a significant amount of variance with respect to PAS factor three scores.

Comparing Students and Inmates Using the Defense-Q and ADS

To examine differences between inmates and students, the Defense-Q and ADS scores of the present sample were compared with the Defense-Q and ADS scores from the student sample from Study One. Mean differences for both measures were examined

using independent samples T-tests. For some calculations, the assumption of

homogeneity of variance failed. The Welch-Satterthwaite solution was used in these

cases, resulting in different degrees of freedom that are not whole numbers. As the

current investigations are exploratory, the decision was made not to apply Bonferroni

corrections to the analyses. While this increases the chance for Type I errors, it also

decreases the chance for Type II errors (Howell, 2002); it was preferable to find a

difference incorrectly than to miss a real difference between the samples at this point in

the research. The data should be interpreted as preliminary and future research can test

the reliability of the current findings (e.g., Allchin, 2002).

Table 2.6 describes means and differences using Defense-Q rankings for students

and inmates. Students had significantly higher scores than inmates on the defenses of

sublimation, reaction formation, humour, turning against self, pseudoaltruism, fantasy,

and idealization. Inmates had significantly higher scores than students on the defenses of

isolation, splitting, identification with the aggressor, projection, acting out, psychotic

denial, passive aggression, and turning against others. There were no significant

differences between students and inmates on the defenses of displacement, dissociation,

regression, devaluation, rationalization, intellectualization, undoing, repression, neurotic

denial, and grandiosity.

There were statistically significant differences between students and inmates for

all ADS scores (i.e., at the level of individual defenses and at the scale level) except for

psychotic denial, as this defense was not identified as being characteristic for any of the

students. Students' ADS scores were significantly higher than inmates', all $p<0.001$. For

the social/occupational, psychological, and overall total scale scores see Tables 2.7-2.9

respectively.

Discussion

Defense-Q

Until the present study, the Defense-Q had not been used with a prisoner sample.

The present study applied the Defense-Q to a sample for which dramatic and erratic

personality disorders, in particular, ASPD and BPD, are more characteristic than the

general public (APA, 2000).   As shown in Table 2.1, the eight defenses identified as

most characteristic for this sample with the Defense-Q are (in descending order): acting

out, rationalization, neurotic denial, grandiosity, passive aggression, devaluation, turning

against others, and intellectualization. The mean inmate profile is presented in Appendix

10.

In terms of adaptiveness, the defenses characteristic of inmates are at immature or

neurotic levels (aside from, perhaps, rationalization and neurotic denial, but see below).

This combination of defenses describes individuals who engage in impulsive destructive

behaviour and have a tendency to make excuses for and/or deny the seriousness of

problems. Together with the rest of the defenses identified as characteristic, the mean

profile for this sample describes individuals who feel unrealistically entitled, express their

anger or contempt both directly as well as indirectly, tend to blame others for problems,

put others down when upset, and who use generalized or abstract (and possibly evasive)

reasoning rather than dealing with their problems. These findings make intuitive sense

when one considers that they describe a sample of federal inmates, all of whom have

engaged in serious antisocial behaviour and most of whom are career criminals.

ADS

The mean scores for the ADS scales shown in Table 2.2 were fairly low, although

the ADS does not yet have norms for comparison (but see below). The current scores

describe defense use at the moderate to low end of functioning (especially with the

defense of acting out), indicating that inmates generally do not appear to use their

defenses in adaptive ways. These will be described below, in the section comparing

student and inmate use of defenses.

The relatively high correlation between the Defense-Q ADP similarity score and

the ADS total functioning scale score was similar to the correlation between these

variables in Study One, suggesting some stability of the constructs across populations.

Defense-Q in Students and Inmates

There are interesting similarities and differences between the student sample of

the previous study and the inmate sample of the current study with respect to their

Defense-Q profiles. There were nine defenses for which no significant differences in

terms of mean ranking were observed, displacement, dissociation, regression,

devaluation, rationalization, intellectualization, undoing, repression, neurotic denial, and

grandiosity. Not all of the defenses for which Defense-Q rankings were similar are

characteristic of both groups. Displacement, dissociation, and repression had mean

scores below 4, indicating they are equally *un*characteristic for both samples. The

present findings indicate that both male students and male inmates devalue others under stress; both make excuses and try to avoid their emotions when managing difficulty; both try to "take back" or reverse threatening information (or express difficult or threatening impulses symbolically); both deny action, affect, intent, or consequences when faced with problems; and both have an unrealistically high opinion of themselves when under pressure. In general, these six characteristic defenses are neurotic (rationalization, intellectualization, undoing, neurotic denial, and grandiosity) or maladaptive (devaluation). The next section discusses how students and inmates use their common defenses differently.

ADS in Students and Inmates

The fact that all defenses rated with the ADS were identified as being significantly more adaptive in students than inmates speaks to some construct validity with this instrument. When examining defenses the two samples have in common, the ADS ratings help differentiate the samples. For example, where students' characteristic use of rationalization generally serves to "smooth over" minor problems (e.g., small problems at work), inmates' rationalizations facilitate antisocial behaviour (e.g., justifying violence). Where students' characteristic use of neurotic denial helps them to minimize or ignore minor affect or problems (e.g., denying being irritated by a romantic partner), inmates' use of neurotic denial serves to maintain a dysfunctional status quo (e.g., denying the consequences of their substance addiction). Student characteristic use of grandiosity typically presents as slightly inflated self-confidence, but inmate use of grandiosity typically presents as a more dominating or self-entitled interpersonal style.

Student characteristic use of passive aggression typically is more indirect and includes less aggression than when inmates use this defense.   The objects of student devaluations are typically more distant and the devaluations less damaging (e.g., describing a professor as "stupid" to a colleague after class); inmates tend to make more severe devaluations of people closer to them or in less socially acceptable situations (e.g., calling a spouse or superior a "fucking idiot" to his or her face). Student use of characteristic intellectualization appears to occur in response to less severe affect when compared to inmate intellectualizations. For example, students may intellectualize feelings about an inconvenient university policy that creates a class conflict for them, whereas inmates may intellectualize about their feelings regarding judicial policy that has contributed to their status as incarcerated offenders. Regression in students tends also to be briefer than in inmates, and involves less dramatic behaviour. Finally, when students use undoing, their behaviour tends to be less obtrusive than inmate undoing patterns.

Defenses, Personality Pathology, and Relationship Dysfunction

 Defenses and the BPI

  The Defense-Q ADP similarity score predicted BPI total scores, but ADS total scores did not account for any additional variance. Most of the variance accounted for with respect to total scores appears to be due to the BPI factor immature defenses. The finding that the Defense-Q (an observer-report method of measuring defenses) predicted scores on the primitive defenses factor of the BPI (a self-report questionnaire) supports the convergent validity of both measures, as does the fact that the relation between them was found despite method variance (Campbell & Fiske, 1959). The current findings also

support the discriminant validity of the Defense-Q, as this measure was related to the BPI's primitive defenses factor and total score and not to the other BPI factors.

The current findings support the theory that BPD is associated with immature defenses, but not the hypothesis that poor use of defenses (as measured by the ADS) would provide more precise information about the relation between defenses and BPD than the Defense-Q ADP similarity score alone.

In retrospect, the hypothesis that the ADS would account for variance beyond that accounted for by the Defense-Q ADP similarity score with respect to all BPI scores appears flawed. Instead of adding additional information about *which* defenses are being used (i.e., what the ADP similarity score describes) the ADS measures a different aspect of defensive functioning, specifically about the *quality* of the use of defenses; it is related to how defenses are used rather than *which* defenses are used. The BPI does not measure *how well* defenses are used; it only measures the presence of certain maladaptive defenses.

Defenses and the PCL-R

Psychopathy Checklist-Revised total scores were predicted when the ADS was added to the regression model with the Defense-Q ADP similarity score, but ADP similarity scores did not predict PCL-R total scores on their own. It appears that the maladaptive use of defenses predicts psychopathic personalities. This is important, as previous research examining defenses and psychopathy (e.g., Gacono, 1990) has tended to focus on the assessment of immature defenses and psychopathy, and the current study included defenses at all levels. Psychopathic glibness could be related to the use of

rationalization (e.g., psychopaths "always have an answer for something"). Superficial

charm could be related to neurotic denial and humour. According to the ADP, these are

defenses characteristic of healthy personalities, but they could also be part of the

psychopathic defensive repertoire. The current findings support this.

When one considers that the ADP similarity score is concerned with *which*

defenses are used, and the ADS total score is concerned with *how well* defenses are used,

the relations between these measures to PCL-R scores becomes intriguing. The present

findings suggest that it is not *which* defenses that are used that are important with respect

to psychopathy, but rather *how* they are used that matters, at least with respect to the

interpersonal and affective facets of psychopathy. This makes sense when one considers

that psychopaths may use a wide range of defenses maladaptively.

The finding that ADP similarity scores were positively related to PCL-R

interpersonal facet scores when put into the regression model with ADS scores

emphasizes this. For example, inconsistent use of sublimation may be used in

combination with highly distorted grandiosity to present a prosocial image that a

psychopathic personality could use as a mask to gain trust before exploiting others.

Rationalization may be used psychopathically to justify criminal behaviour (e.g., "they

have insurance"); neurotic denial may be used psychopathically to deny obvious

problems such as drug addiction or the extent of harm to one's victims (e.g., "yeah, I

stabbed him, but he'll be fine"). Lower level isolation of affect, a less adaptive defense,

could explain the psychopathic affective deficit in secondary psychopaths, whose

psychopathy is theorized to develop out of trauma rather than to be constitutional

(Karpman, 1941). The point is that even mature or intermediate defenses, if used poorly,

could be expressions of psychopathy. The current finding that the combination of more adaptive defenses and defenses used less adaptively predicts psychopathic interpersonal variables supports this.

Defenses and the PAS

Defense-Q ADP similarity scores predicted PAS total scores, with most of this variance coming from the affective instability factor. ADS total scores did not contribute to the model. This pattern is quite similar to the regression equations with the BPI. Interestingly, although the items on this PAS factor include items from the Borderline Personality Organization scale (Oldham, Clarkin, Applebaum, Carr, Kernberg, Lotterman & Haas, 1985), these items appear to tap identity diffusion and affective lability rather than immature defenses. As with the BPI factor primitive defenses, the PAS factor affective instability does not concern itself with *how* defenses are being used as much as it is concerned with specific behaviours or attitudes. Thus, in retrospect it makes sense that the ADS would not necessarily predict PAS scores. The Defense-Q ADP similarity score demonstrated good convergent validity in these findings, as primitive defense use is related to affective instability (e.g., Vaillant, 1976). It also demonstrated good divergent validity, as the type of trauma symptoms captured by the PAS and the memories of parental behaviour factor are not directly related to defense mechanism use.

Conclusions

As with Study One, the central hypothesis that the ADS would account for additional unique variance beyond the Defense-Q ADP similarity score was partially met.

Also as with Study One, an important pattern emerged. As discussed above, it appears that with respect to the BPI and PAS, *which* defenses are used predicts scores on the primitive defenses and affective instability factors, and with respect to the PCL-R, *how well* defenses are used predicts Factor 1 (interpersonal/affective) of psychopathy. Primitive defenses and affective instability are more closely related to specific defenses than how defenses are used, whereas interpersonal exploitativeness and affective deficiency are more related to how defenses are used. These findings extend those of Study One, and provide more evidence that the ADS may be sensitive to the interpersonal aspect of defenses.

Limitations

More obvious limitations of the current research include the typical problems associated with observer-report studies of defenses. In other words, limited inter-rater reliability is a problem that has not yet been successfully addressed in this field. As well, the administrative difficulty in ensuring that participants completed all items of their self-report questionnaires limited the sample size with the BPI and PAS, and reduced statistical power to the extent that some nonsignificant findings may be questioned.

Self-selection of participants is an issue when conducting some research and it was an issue in the current study. As the participants were inmates, they were in a vulnerable position and the ethics of conducting research with vulnerable populations played a role in the collection of data. Possibly due to their status as prisoners, participants may have felt compelled to take part in the study or respond in certain ways, although the relatively low response rates during recruitment and the relatively high

scores on the self-report measures suggest that positive response biases were not a significant issue in this study. The context of the data collection may have influenced responses. Finally, because the sample self-selected, the degree to which it is representative of the inmate population is unknown.

One limitation related to the coding of defenses is that coders did not have access to the participants' institutional files or criminal histories. One of the criteria of the PCL-R is pathological lying. It would have been useful for coders to have corroborating or refuting information to compare with interview data when assessing the defenses of the current sample.

Future directions

The present study examined the relation between personality disorder, relationship functioning, and defenses in a sample of federally incarcerated male inmates. Additionally, the validity of the ADS was extended by applying it to a more pathological sample than Study One, and the defensive functioning of male undergraduates and male federal inmates was compared. The finding that inmates and undergraduates had numerous defenses in common, but that they differed on how they used them supports the hypothesis behind the conception of the ADS, namely that each defense has a range in which it functions.

In future studies of the defenses of inmates, raters should have access to the institutional files and criminal histories of the participants in order to provide corroborating or refuting evidence to the data provided in the interviews. Defenses such as passive aggression, acting out, grandiosity, rationalization, and denial could be

identified more reliably if raters have access to more information than just participant interviews.

The literature describing the relation between defenses and Cluster B personality disorders indicates that some disorders (e.g., psychopathy, BPD) have defenses in common (e.g., acting out). Differences may lie in how the defense manifests in the context of these disorders. For example, while psychopathy is characterized by externalized acting out (e.g., fighting, stealing), BPD is characterized by both internalized and externalized acting out (e.g., fighting, self-harm). The internal/external/borderline difference has been found by Shedler and Westen (2007). More immediately to the present study, Presniak (2008) investigated differences in the defenses associated with ASPD and BPD using the Defense-Q. She found externalizing defenses (e.g., turning against others) to be associated with ASPD, whereas internalizing defenses (e.g., turning against the self) was associated with BPD. Future research may help identify internal/ external/ borderline (i.e., both internal and external) differences within defense use, which would refine our understanding of different, but often comorbid, personality disorders. To that end, different measures of within-defense variability could be developed. For example, one could measure whether the object of a defense such as acting out is characteristically internal or external, self or other, or both.

With respect to the topic of defenses and inmates, which has already been described as a relatively neglected area of defense mechanism research given the likely association between criminals and less mature defenses, future research should examine the relation between defenses and criminal histories and institutional behaviour. Beyko and Wong (2005) comment that the very behaviours that are likely to result in an

inmate's being excluded or discharged from a treatment program (e.g., rules violations, or acting out) are the behaviours that reflect a need for treatment. Greater knowledge of defenses common to inmates could help alert treatment program staff to potential difficulties and inform program development so that programs could take more problematic behaviours into account. If behaviour symptomatic of immature defenses is seen as such rather than as inmates deliberately causing problems, then immature defenses could become treatment targets and hopefully increase program effectiveness. Study Three explores the relation between defenses and correctional variables such as offense history and institutional misconduct, and program success using the same sample as the present study.

Study Three:

Defenses and Aboriginal and non-Aboriginal Offenders

Introduction

Despite their crimes, most offenders do not describe themselves as "bad" people. Occasionally the crimes they have committed violate their own standards (e.g., a "solid" high status inmate who commits a sexual assault, which reclassifies him as a "skinner" with low status among inmates). The variables most closely associated with continued criminal behaviour, called the "Central Eight" (Andrews & Bonta, 2003) include (1) antisocial attitudes, (2) antisocial associates, (3) a history of antisocial behaviour, (4) antisocial personality pattern, (5) problematic circumstances at home (familial or marital), (6) problematic circumstances at school or work, (7) problematic leisure circumstances, and (8) substance abuse. Four of the eight include "antisocial" (i.e., violating the rights or property of others), and the remaining four reflect a dysfunctional life pattern. Quina and Brown (2007) presented a number of studies suggesting that antisociality is sometimes a consequence of trauma. In other words, the antisocial elements of the Central Eight may be related to the problematic lives and substance use common among offenders. If antisociality can be one way of coping, then how do offenders cope with it, and with other problems in their lives?

Research on how offenders deal with the psychological impact their crimes have on them has been influenced by Sykes and Matza (1957), who proposed that delinquent youths use "techniques of neutralization" to lessen the emotional impact or cognitive dissonance their crimes may produce. As a concept, techniques of neutralization are similar to defense mechanisms; they decrease difficult affect or dissonance. However,

techniques of neutralization are specific to the disharmony created when individuals who see themselves as good people commit crimes they would otherwise not endorse.

Sykes and Matza (1957) identified five techniques of neutralization, the names of which are relatively self-explanatory. These are listed in Table 3.1. The frequency of use for techniques of neutralization depends on the frequency with which an individual violates rules he or she has internalized, as well as the degree of internalization of these rules. That is, if committing crimes creates no dissonance for an individual, there is no need for techniques of neutralization. In the over 50 years since their introduction, techniques of neutralization have also been used to explain how adult criminals deal with having violated rules they would normally endorse. Maruna and Copes (2004) reviewed the history of neutralization theory and commented on its limitations as a criminological theory despite the fact that it is seen by many criminologists as the "last word on cognition and criminal behaviour" (p. 1). A psychological theory, such as defense mechanisms from psychodynamic psychology, is a better place to start the study of mental processes and criminal behaviour.

One limitation of techniques of neutralization is that they are limited to the criminal context; they only speak to how an individual deals with dissonance emerging from his or her having committed crimes. Defense mechanisms may be a more useful way to understand criminals and their coping. Because defense mechanisms are part of an individual's general psychological functioning, knowledge of an individual's ego defenses has a much broader application than knowledge of his or her techniques of neutralization. Furthermore, knowledge of an individual's techniques of neutralization does not provide more information than knowledge of his or her ego defenses. Denial of

responsibility, denial of injury, and denial of the victim can all be analogous to the

defense mechanisms of turning against others, rationalization, intellectualization, and/or

(neurotic) denial (individually or in combination), and condemning the condemners can

be analogous to intellectualization, projection, and/or identification with the aggressor

(again, individually or in combination).

Another limitation of the explanatory utility of techniques of neutralization is that

they emerge from cognitive dissonance resulting from criminal activity. Unlike

techniques of neutralization, defense mechanisms can explain criminal behaviour as an

expression of psychological conflict. Defenses distort internal (e.g., grandiosity) or

external (e.g., splitting) reality in order to manage conflict arising from internal or

external sources. Regardless of the reason for the conflict, the combination of the

defenses devaluation and acting out may produce callously violent behaviour and the

defense of identification (with antisocial individuals or values) may produce attitudes

supportive of violence.

A final limitation of neutralization theory is that its measurement has not been a

focus of research in the same way that defense mechanism theory has. In fact, Ball

(1966), who developed the most widely used measure of neutralization (a self-report

questionnaire), argued that neutralization theory is not comprehensive enough to

constitute a theory itself, but rather could be incorporated into other criminological

theories. Andrews and Bonta (2003) subsume neutralization theory in two of the Central

Eight (criminal attitudes and criminal personality). As the above paragraphs show,

neutralization theory could certainly be incorporated into psychological theory.

Neutralization theory may be a closer "fit" to defense mechanism theory than to Andrews

and Bonta's psychology of criminal conduct, as defense mechanism theory specifically addresses the distortions one uses to come to terms with dissonance. At any rate, the empirical support for neutralization theory is not as solid as the support for defense mechanisms.

Defense mechanisms are a more broadly applicable and more psychologically specific construct than techniques of neutralization because they speak to more specific distortions within a larger context. Also, whereas techniques of neutralization explain how an offender resolves the dissonance resulting from criminal activity, defenses may help explain the original motivation for the criminal behaviour. Finally, techniques of neutralization have not been subject to measurement in the same way that defenses have, so the technology for measuring them lags behind defense mechanism research. Thus, in order to gain a broad understanding of how offenders deal with ego threats (such as cognitive dissonance), defense mechanisms are a better measure than techniques of neutralization.

Another source describing how offenders distort their experience of reality is Yochelson and Samenow's (1977) three-volume classic text *The Criminal Personality*. This text comprehensively described the personality characteristics common among offenders. The authors suggested that a personality type drives chronic criminal behaviour. Yochelson and Samenow detailed the thinking patterns, automatic thinking, and distortions of this personality. These authors described many thinking errors in the criminal personality, drawn from extensive clinical experience and research. The descriptions of each are rich, but at times unclear, and a detailed description of the descriptions of individual thinking errors is beyond the scope of this research. The

authors' language avoided discussion of the unconscious processes that are assumed to underlie defense mechanisms.

Gacono and Meloy (1988) suggested that both conscious and unconscious processing can describe the same behaviour and that knowledge of both levels of processing adds to the clinical understanding of a person. Their description of the unconscious underpinnings of Yochelson and Samenow's (1977) conscious cognitive-behavioural styles is reproduced includes defenses associated with each of Yochelson and Samenow's descriptors. Gacono and Meloy (1988) also argued that the defenses splitting, denial, dissociation, and suppression are the unconscious processes underlying behaviour Yochelson and Samenow (1977) identified as "shut off" (where the offender excludes parts of himself that conflict with his grandiose self-perceptions), "corrosion" (where the offender corrodes arguments against acting criminally), and "cut off" (where the offender cuts off emotional responses such as fear).

Cognitive distortions such as denial and rationalization have been theoretically linked to how offenders commit or cope with having committed their crimes, and are an established element in offender treatment, especially sex offender treatment (e.g., Marshall, Anderson & Fernandez, 1999). However, there are some problems with cognitive distortions. The first is that denial and rationalization were first considered to be defense mechanisms (and so motivated unconscious processes are assumed). The second is that denial and rationalization are common responses when people are confronted with very bad news (e.g., "say it isn't so!", "maybe [it's not so bad because…]"), the third is the same problem as that with Sykes and Matza's (1957), in that in the context of offenders, cognitive distortion theory largely focuses on how

offenders cope with having committed crimes and do not address broader psychological functioning. The final problem is that theoretically, cognitive distortions do not address motivation. Logically, cognitive distortions aimed at reducing the anxiety associated with having committed an offense are better thought of as defense mechanisms because there is a defensive purpose to them.

The above-mentioned theories basically describe the ways in which offenders deal with the dissonance that arises from committing crimes they otherwise find immoral, or describe the cognitive patterns or distortions typical of criminals. Defense mechanisms differ from these theories in part because with defense mechanisms there is an assumption of unconscious motivation. In the case of offenders, the use of certain defenses may result in antisocial behaviour as the individual reacts to elements in reality perceived as hostile (e.g., in the case of projection) or deserving of punishment (e.g., in the case of turning against others). However, few researchers have examined defenses in the context of offenders, and when they have, the research has been be theoretical or anecdotal, rather than the product of quantitative research, or it had methodological flaws that limit the conclusions one can draw from it.

Offenders and Defenses

Bateman (1996) noted that some offenders are unable to offer explanations for their crimes (i.e., their motivations may be unconscious); they describe themselves as feeling at the mercy of emotions they experience as frightening, and their actions can be interpreted as attempts to reduce tension (i.e., the actions may be ego defensive). The

methods offenders sometimes use when dealing with distress are consistent with immature defenses (e.g., severe acting out).

Consistent with the finding that personality disorders are overrepresented in offender populations, Bateman (1996) stated that the presence of immature and psychotic defenses is pervasive with the criminal population. Unfortunately, he offered no empirical data to support this. Instead, he detailed the use of immature defenses such as splitting, projection and projective identification among offenders, offering vignettes to illustrate his points. He also detailed the use of some neurotic level defenses within the same population, providing examples of the defenses of reaction formation and identification with the aggressor, along with vignettes for illustration.

Gacono (1990) examined the object relations and defenses in male federal inmates in the United States using Rorschach protocols. His sample was divided into high and moderate psychopathy scores using the Psychopathy Checklist (Hare, 1980). Gacono found a prevalence of splitting, projective identification, and devaluation, with no significant differences between groups. The use of splitting, projective identification, and devaluation is consistent with a borderline personality organization (Kernberg, 1986), and Gacono's finding these defenses as characteristic of ASPD suggests that ASPD has a borderline structure consistent with Kernberg's (1986) theory.

Gacono, Meloy, and Berg (1992) used Rorschach protocol analyses to investigate the defensive functioning of Antisocial, Borderline, and Narcissistic Personality Disordered (NPD) patients. The ASPD sample was incarcerated offenders, and this sample was subdivided into high and low psychopathy using the Psychopathy Checklist. Narcissistic and BPD participants had higher scores for idealization than the ASPD

samples, but otherwise there were no significant between-group differences with respect to defenses in this study. The conclusion was that all three disorders are organized at a borderline level. One technical difficulty with replicating Gacono and colleagues' research is that assessing defenses using Rorschach protocols requires a great deal of coder training, and this is often not feasible. Another limitation is that the system for scoring defenses using the Rorschach (e.g., Lerner & Lerner, 1980) is limited to borderline level defenses and so there may be a ceiling effect to the adaptiveness of defenses used by inmates when defenses are measured using these scoring systems.

In the only published study I could find examining the defenses of offenders and using a non-projective observer-report method of assessing defenses, Drapeau, Beretta, de Roten, Koerner, and Despland (2008) compared the defensive functioning of pedophilic sex offenders with the defenses of a group of mental health outpatients. These researchers found that pedophiles had a significantly lower level of overall defensive functioning as measured by the Defense Mechanism Rating Scale (DMRS; Perry, 1990). Analysis revealed that pedophiles used fewer obsessional-level defenses (e.g., isolation, intellectualization, and undoing), but more major image-distorting defenses (splitting of self or other images, projective identification) and action level defenses (e.g., acting out, passive aggression, and help-rejecting complaining). At the level of individual defenses, pedophiles used more dissociation, displacement, denial, autistic fantasy, splitting of object, projective identification, acting out, and passive-aggression, but less intellectualization and rationalization. The authors describe this as a pilot study and comment that replication with larger samples is warranted. Also, their findings are limited to pedophilic offenders.

Leichsenring, Kunst and Hoyer (2003) examined the construct of BPO, including the presence of immature defenses, among violent offenders. These researchers found evidence for the presence of primitive defenses (i.e., primitive denial, splitting and paranoid projection) among violent offenders using the Borderline Personality Inventory (BPI, Leichsenring, 1999). However, specific defenses are not well discussed in this study, nor are they well articulated with the BPI. Rather, the study supported Kernberg's (1986) assertion that BPO includes primitive defenses, and that some of the symptoms of BPO include antisocial behaviour.

Xu, Wang, Xie, and Sun (2002) assessed the defensive styles of young Chinese male violent offenders with the Chinese version of the Defensive Style Questionnaire (Bond, 1992; Bond, Gardiner, Christian & Sigal, 1983) and compared them with male students at a technical school. They found that, although both the offenders and the students typically had an adaptive defensive style, the relative proportions of less adaptive defensive styles were higher in the offender sample than the student sample. The authors interpreted their findings as support for the notion that young male violent offenders have poorer mental health than the control sample. One problem with this study is that the violent offenders were likely not especially violent, having sentences at a re-education centre of less than one year. Another problem is that the levels of aggression in the control sample were unknown. The youthful nature of the sample is also problematic. Immature defenses are symptomatic of youth (and therefore not necessarily pathological with an adolescent population). Therefore, examining defenses in adults, who presumably have had the time to develop more mature defenses, would have been a cleaner methodology. Finally, despite the fact that most research examining

defenses uses self-report methods, using self-report methods to assess unconscious psychological functioning is logically inconsistent.

Based on the above research it appears that offenders have been relatively neglected in the assessment of defenses; the literature is scant. However, consistent descriptions are that offenders use less adaptive defenses. The next section discusses the etiology of two personality disorders most associated with criminal behaviour, ASPD and BPD (Blackburn & Coid, 1999). It should be noted that an individual does not need to meet the criteria for ASPD or BPD to have issues related to these disorders; sub-diagnostic symptoms (e.g., violent irritability, impulsive substance use) are also related to criminal behaviour. The next section describes how immature defenses in adulthood are likely the result of blocks to psychological maturity.

Defenses and a Developmental Trajectory

The theory that defenses emerge along a developmental trajectory is part of the language of the hierarchy of defenses, with its use of terms such as mature and immature. There is also empirical support for the theory. Cramer (1991) described denial as the first defense to emerge, followed by projection and then identification. Her 1991 text provided empirical support for her theory in research with children. However, while other researchers may agree that defenses range in maturity and emerge at different times along the developmental continuum, Cramer's hierarchy is unusual as it only describes three defenses.

Vaillant's decades-long longitudinal studies of three samples (much of which is summarized in Vaillant, 1993, and included samples of healthy males identified when

they were college students, highly intelligent women identified when they were college-aged, and inner-city males identified in their early teenage years) has provided compelling support for the theory that defenses generally develop and mature throughout life unless somehow blocked. His theoretical hierarchy of defenses describes defenses as "immature", "neurotic", and "mature" depending on their adaptiveness. Vaillant (1992c) has also described personality disorders as constellations of immature defenses. Given the assumption that an individual's defenses mature with age unless blocked, personality disorders may emerge out of developmental barriers. The following section discusses the etiology of ASPD and BPD, including the types of developmental barriers associated with these disorders.

Blocks to the Maturation of Defenses: ASPD

In a longitudinal study examining the etiology of ASPD, Patterson, Reid and Dishion (1992) identified male sex, low socioeconomic status, a difficult temperament in infancy, having had antisocial parents, the ongoing presence of stress, and living in an environment where crime is common (including parental modeling of antisocial behaviour) to be related to the development of ASPD. These researchers also found that poor academic performance, peer rejection, and later substance use are also associated with ASPD. In other words, Patterson, et al.'s findings suggest possible genetic influences (as evidenced by parental antisociality and possibly by difficulty temperament) and interpersonal stress from both parents and peers combined with antisocial role-modeling and substance use to be related to the development of ASPD. Other researchers have found variables related to difficult family relationships, such as family stress (Pakiz,

Reinherz, & Giaconia, 1997) and parental rejection and negativity (Loeber &

Stouthamer-Loeber, 1988) to be related to ASPD. It seems that ASPD is related to stress

in close relationships (e.g., with parents) early in life that may interfere with secure

attachment and result in malevolent object relations. The disorder also seems related to

the internalization of antisocial ways of coping with this stress (e.g., identifying with

antisocial role models, substance use).

Consistent with psychodynamic theory that blocks to ego maturity are associated

with immature defenses and by extension personality disorder, ASPD has been associated

with immature defenses such as acting out (Blaise, et al., 1996; Lingiardi, et al., 1999);

denial (Blaise, et al., 1996; Cramer, 1999), rationalization, projection (Blaise, et al., 1996;

Cramer, 1999); and intellectualization (Lingiardi, et al. 1999). Studies using versions of

the Defense Style Questionnaire (DSQ; Bond, 1992; Bond, Gardiner, Christian & Sigal,

1983) have found a relation between ASPD traits and maladaptive defenses (e.g.,

withdrawal, inhibition, passive-aggression, regression, projection, acting out, Paris, et al.,

1996; Sinha & Watson, 1999; 2005), which is consistent with theory.

Blocks to the Maturation of Defenses: BPD

Research on the etiology of Borderline Personality Disorder (BPD) has identified

numerous risk factors including both biological and social predictors (Paris, 1994). Links

(1996) identified a history of developmental or acquired brain injury including at least

two neurological soft signs, and EEG abnormalities. He also found Attention Deficit and

Hyperactivity Disorder as being related to the development of BPD. Having a family

history of Axis I disorder (Loranger, Oldham, & Tulis, 1982) is associated with the

development of BPD. However, this is likely confounded with another risk factor, family instability (Silk, Nigg, Westen, & Lohr, 1997; Bradley, Jenei, & Westen, 2005), as mentally disordered parents are less likely to be able to provide stable homes. A history of childhood sexual abuse is also common among individuals with this disorder (e.g., Herman, Perry, and van der Kolk, 1989, Silk, Lee, Hill, & Lohr, 1996). More recent studies have examined the intercorrelated antecedents of BPD (Bradley, et al., 2005), and it appears that the trauma of childhood sexual abuse, while predictive of the development of BPD, is mediated by family conflict. McLean and Gallop (2003) discussed the traumatic antecedents of BPD and complex Post-Traumatic Stress Disorder, and found that childhood sexual abuse predicted both disorders. Kernberg's (1986) psychodynamic theory suggests that impaired parent-child bonding results in the failure of the child to develop an adequate sense of self, which contributes to a self that is weak and that crumbles under pressure (i.e., has inadequate defenses).

Paris (1996) examined sociocultural factors in the development of BPD and theorized that traditional cultures may buffer some of the biological risk factors associated with the development of the disorder (e.g., impulsivity, affective instability). He argued that individuals in cultures in transition (such as immigrants and possibly cultures suffering the effects of colonization, q.v.) are at increased risk for developing BPD, as internal structures such as social support and cultural characteristics such as rewarding stoicism and punishing individuality (e.g., such as that expressed through impulsivity and affective instability) fail. The failure of sociocultural buffers and the presence of new stressors (such as transition) increase the risk that BPD will develop in individuals at risk for developing this disorder.

It appears that the variables associated with the development of BPD have a stress-diathesis structure, with biological predispositions toward affective instability and impulsivity aggravated by early environmental trauma, especially in the area of relationships with primary caregivers.

As with ASPD, the development of BPD involves childhood trauma that can block ego development and result in the characteristic use of immature defenses. Borderline Personality Disorder has been associated with immature defenses such as acting out (Blaise, et al., 1996; Lingiardi, et al., 1999), denial (Cramer, 1999), autistic fantasy, projective identification, and splitting (Blaise, et al. 1996). Research using the Defense Style Questionnaire has found relations between BPD and maladaptive defense styles (Paris, et al., 1996; Sinha & Watson, 1999, 2005), with displacement and acting out accounting for the majority of the variance in BPD in a study by Devens and Erickson (1996). Thus, empirical investigations of defenses and BPD support the theory that BPD is characterized by the use of immature defenses.

Similarities in the Etiologies of ASPD and BPD

Taken together, it appears that variables predictive of ASPD and BPD include growing up in instability, familial problems including criminality, social difficulties, and childhood abuse. The consequences in terms of the development of defenses appear to be that individuals growing up under these circumstances are at greater risk of failing to develop more mature defenses than individuals not exposed to these traumas, and so their personality functioning is more primitive (i.e., pathological in adults).

Offenders as a population have higher rates of ASPD and BPD than the general population (e.g., APA, 2000; Blackburn & Coid, 1999). The traumatic variables related to the development of these disorders are evident in the social histories of many inmate file reports. Quina and Brown's (2007) text highlights the traumatic origins of some antisocial behaviour. The disproportionately high rates of incarceration among Aboriginal Canadians suggests, all things being equal, that this population is experiencing more traumatic events related to the development of defenses associated with ASPD and BPD than other groups. The next section examines the extent to which variables related to the development of ASPD and BPD exist among Canadian Aboriginal peoples.

Aboriginal Issues and Blocks to the Maturation of Defenses

Growing up among family instability has been linked to the development of ASPD and BPD (Pakiz, et al., 1997; Patterson, et al., 1992; Silk, et al., 1997). Domestic violence, including spousal violence, is an extreme form of family instability. Bopp, Bopp, and Lane (2003) described domestic violence as pervasive enough among Aboriginal women to be considered to be a problem that affects not only individuals, nuclear families, and extended families, but also communities and even Aboriginal nations. These authors noted that causes of Aboriginal domestic violence include intergenerational trauma (including domestic violence) and are to a large extent due to the ongoing effects of colonization. They described domestic violence among Aboriginals as a cause and a result of domestic violence among Aboriginals. Bopp et al. discussed the problem as too widespread to be considered to be an anomaly, but rather

consider it to be part of the experience of everyday life within many Aboriginal communities. They described the rates as "simply astronomical" (p. 27), noting that between 70 to 90 percent of interviewed Aboriginal women in all regions of Canada reported experiencing some form of violence within the past two to three years at the time of their study. The authors note that these rates are much higher than non-Aboriginal communities, and higher than the rates identified by Statistics Canada. The severely high rate of domestic violence in Aboriginal families makes it more difficult for Aboriginal children to develop more mature defenses as they age.

The over-representation of Aboriginals in prisons (Public Safety and Emergency Preparedness Canada, PSEPC, 2007) increases the likelihood that antisocial behaviour would be modeled, both in Aboriginal families and in communities, and so Aboriginal children would be at greater risk for either defensively identifying with antisocial values or being victimized by it in a "dog eat dog" environment.

Aboriginal children who come to the attention of Child and Family Services (CFS) are more likely than non-Aboriginal children involved with CFS to come from single parent families because of allegations of neglect (Blackstock, Trockmé & Bennett, 2004). These authors found that Aboriginal families brought to the attention of CFS are more often led by a single mother under the age of 30 who is poor, and who has difficulties with alcohol, drugs, criminal behaviour, and mental and physical health than non-Aboriginal families. The higher incidence of instability and neglect experienced by Aboriginal children may make it more difficult for them to develop more mature defenses as they age.

Aboriginal children are less likely than non-Aboriginal children to finish high school. For example, the Social Planning Council of Winnipeg (1999) found that 50.3 percent of Aboriginal youth drop out of school annually in that city. McCluskey, Baker, and McCluskey (2005) found that prior to an enrichment and retention program, only one out of 25 Aboriginal youths who left the reserve to finish high school graduated. Poor education may limit opportunities for the maturation of defenses as it is associated with other stressors (e.g., poverty).

Lee (2000) found that 55.5 percent of urban Aboriginal Canadians lived in poverty, and that their rates were consistently higher than non-Aboriginal peoples. In two-thirds of the cities the Aboriginal poverty rate was more than double that of non-Aboriginals. In other cities (e.g., Saskatoon, London) the Aboriginal poverty rate was more than triple that of non-Aboriginals. In Regina the rate was 4.2 times as high as for non-Aboriginals. Lee comments that Aboriginals are marginalized in the marketplace, limiting their employment and therefore earning. He noted that they earn about one third less than non-Aboriginals. Poverty and marginalization may both be barriers to the development of more mature defenses.

Essentially, Aboriginal children appear to be at higher risk than non-Aboriginal children for exposure to environmental variables that may block the development of mature defenses. Given the relation between immature defenses (such as those characteristic of ASPD and BPD) and criminal behaviour, the over-representation of Aboriginals in prisons could be considered to be the symptom of a social catastrophe. Aboriginal offenders will be discussed in the next section.

Aboriginal Offenders

Within Correctional Service Canada (CSC), offenders are classified as Aboriginal based on self-identification. However, the term Aboriginal may be over-inclusive, including all indigenous peoples of Canada, including Métis and Inuit. The problem is that it describes as similar individuals belonging to different (sometimes mutually antagonistic) groups, with different histories, languages, traditions, and customs. Further, the degree of traditional culture internalized by Aboriginal peoples is not equal across individuals or, necessarily, stable within individuals (e.g., see Taylor, 2000; Waldram, 2004).

While perhaps making reference to similarities among cultural groups (e.g., in the same way as the terms Asian, African, or Caucasian do) the term Aboriginal appears to be in part a political designation as well as a racial or cultural one. Some of the consequences of colonization include mixed race offspring who may appear Caucasian but who identify as Aboriginal. Colonization has also contributed to the separation of Aboriginal peoples from their historical language and traditions (e.g., through residential schools), creating cultural variability among individuals who may identify as Aboriginal, even if they identify as members of the same group (e.g., Plains Cree).

Despite differences among Aboriginal inmates, Aboriginal inmates have a number of things in common. The previous section discussing Aboriginal issues and potential blocks to the maturation of defenses did not examine specific groups; the issues complicating the development of mature defenses seem to be relatively global for Aboriginal peoples in Canada. Consequently, one may assume that Aboriginal peoples struggle more than non-Aboriginal peoples with respect to these issues, regardless of

racial appearance or how "traditionally Aboriginal" they are, if only because they have relatives who may be impacted more. Furthermore, Aboriginal inmates differ from non-Aboriginal inmates in a number of important ways that suggest that, despite differences between Aboriginal cultures, as a group Aboriginals differ from non-Aboriginals in Canadian prisons.

The 2007 *Corrections and Conditional Release Statistical Overview Annual Report 2006* (PSEPC, 2007) includes important information about differences between Aboriginal and non-Aboriginal offenders. Aboriginals are disproportionately over-represented in corrections (PSEPC, 2007). Over the past 10 years their numbers have been increasing within the jurisdiction of CSC (Landry & Sinha, 2008). Aboriginal offenders receive parole less frequently than non-Aboriginal offenders, and they serve more of their sentences before being granted parole (PSEPC, 2007). Aboriginal offenders are more often designated medium and maximum security risk than non-Aboriginal offenders (PSEPC, 2007), and designated minimum security risk less often (PSEPC, 2007). More Aboriginal offenders are serving sentences for violent crimes than non-Aboriginal offenders (PSEPC, 2007).

High risk Aboriginal offenders are less likely to complete correctional programming than similar non-Aboriginal offenders (Wormith & Olver, 2002). Bonta, LaPrairie, and Wallace-Capretta (1997) examined 390 Aboriginal probationers in Manitoba and found that Aboriginal offenders were more likely than non-Aboriginal offender to be unemployed and less educated. They were also more likely than non-Aboriginal offenders to have criminal histories, breaches (e.g., of probation), and convictions for violence. Non-Aboriginal and Métis offenders were more likely than

Aboriginal offenders to show significant decreases in criminogenic needs. Perhaps as a consequence of this, Bonta, et al. found that Aboriginal offenders were also 18.1% more likely to reoffend than non-Aboriginals. Hann and Harman (1993) found that rates of recidivism among Aboriginal offenders were 19 percent higher than those of non-Aboriginals.   Aboriginal offenders as a group are also younger than non-Aboriginal offenders. Public Safety and Emergency Preparedness Canada's 2006 annual report indicated that 52.2 percent of Aboriginal inmates were under the age of 30 years compared to 39.9 percent of non-Aboriginal offenders.

Given the statistics mentioned above, there is a surprising dearth of research on Aboriginal offenders in Canada. Wortley (1999) discussed this lack in an article entitled "A northern taboo: Race, crime, and criminal justice in Canada," in which he provided three reasons for it: (1) Crime statistic have poor quality (e.g., because of under-reporting), (2) race is difficult to measure, and (3) race-crime research findings may be used to justify racial discrimination. He countered these positions by stating that, for the first criticism, methodologies other than conviction rates can be used to measure crime (e.g., victimization surveys). For the second criticism, he suggested that self-report could be used, and if this is not satisfactory, justice organization classifications could be used in addition to offender self-report. For the third criticism, he suggested that findings on race-crime research must be presented carefully. Wortley stated that the argument in favour of race-crime research include three points as well: (1) This type of information is necessary to determine whether or not members of different races are treated differently by criminal justice organizations, (2) this type of information can challenge biological explanations of crime, and (3) a ban will not stop the spread of racist ideas.

It is possible to extend Wortley's (1999) argument. Interpreting race-crime statistics with psychosocial theories may help make sense of larger social issues. For example, modern psychodynamic theory suggests that childhood experiences are important to adult personality functioning (e.g., Westen, 1998), and that, unless interfered with, personality tends to develop along a trajectory from immature to mature (Cramer, 1991; Erikson, 1980; Vaillant, 1992), so if an individual characteristically manifests behaviour that is more appropriate to or common in earlier developmental stages (e.g., tantrums, hitting), one should look at his or her psychological development to discover where any barriers to more mature functioning occurred. If a *population* manifests with an over-representation of these symptoms, as seems to be the case with Aboriginal Canadians given their disproportionate over-representation and difficulties within the federal justice system, one could hypothesize that the type of psychological trauma that contributes to psychopathology is happening at the macro level with this population, and that the difficulties Aboriginal Canadians are having are symptomatic of widespread abuse and trauma. Aboriginal Canadians may be over-represented in criminal justice settings because they are more likely than non-Aboriginals to have experienced barriers to ego development.

The Present Study

This introduction has identified two issues. The first is the serious lack of research examining defense mechanisms among offender populations. Given the concentration of individuals who either meet the criteria for or how have symptoms of ASPD and/or BPD in prisons, and the link between these disorders and immature defense

mechanisms, it seems surprising that more research has not been done with correctional populations, and gaps exist in the literature that need to be addressed.

The second issue relates to differences between groups of offenders. As described above, Aboriginal Canadians are at higher risk than non-Aboriginal Canadians for being exposed to variables that increase the likelihood of developing ASPD and/or BPD personality disorder symptoms, and their disproportionate over-representation in correctional settings supports the notion that Aboriginal Canadians are widely traumatized as a people. The defenses characteristic of Aboriginal inmates should be addressed in order to provide information about this marginalized and over-criminalized population.

Consequently, this study seeks to address two main points. The first is an examination of the relation of defenses to correctional variables such as criminal history and institutional adjustment, and the second is to examine differences in defense use between male Aboriginal and non-Aboriginal inmates.

There are several hypotheses for the current study: Aboriginal inmates will have more maladaptive constellations of defenses, and these defenses will be used less adaptively than non-Aboriginal inmates, as measured by the Defense-Q and ADS respectively. Aboriginal inmates will have more severe offence histories than non-Aboriginal inmates, more problematic institutional behaviour (e.g., more institutional misconduct, more positive drug tests, and more guilty verdicts for institutional charges), and less program success than non-Aboriginal inmates. Finally, the ADS will account for unique variance beyond any variance accounted for by the Defense-Q with respect to offence history (total, generally violent, domestically violent, and total violent),

institutional misconduct (e.g., violence against inmates and staff, self-harm), drug testing (e.g., testing for cause, positive findings), and program outcomes (e.g., successful and unsuccessful completion of violence and/or substance abuse treatment programs). These final analyses will not examine ethnic differences, but analyses will be conducted separately for Aboriginal and non-Aboriginal inmates.

Methods

Participants

Participants were the same sample as Study Two. Table 3.2 includes data on age and criminal history. As age and offense history data were significantly skewed, Mann-Whitney U tests were used to compare the groups.

Forty-one Aboriginal inmates' and 20 non-Aboriginal inmates' interviews were useable for rating defense mechanisms. Of these, 40 Aboriginal and 19 non-Aboriginal participants file data were included (data were collected for other research and some participants did not meet the selection criteria for these studies but were included in the present study).

Measures

The Defense-Q

The Defense-Q (Davidson & MacGregor, 1996) is described in Study One. For this study, however, a different theoretical prototype was used. Three forensic psychologists, two of whom identified as psychodynamic in orientation, were provided with a draft of the Defense-Q manual, 2nd edition (MacGregor, Olson, Presniak, &

Davidson, 2003) and asked to create a theoretical defensive profile for a violent career criminal. These raters were asked to create a profile for a chronic offender. They were asked not to consider inmates with a history of sexual violence against children, and exclusively domestic violence when making their defense mechanism profiles. Variables they were asked to consider when creating the defense mechanism profiles included criminal behaviour including violence beginning in childhood or adolescence and continuing unabated into adulthood; limited education (e.g., no high school diploma or GED); likely gang membership (past and/or present); likely problems with polysubstance use; criminal attitudes and peers; and a poor employment history due to difficulty with authority as well as a lack of marketable skills. The mean inter-rater correlation was 0.83 between the three raters' profiles and their mean profile, called the General Aggressor's Profile (GAP). This profile is presented in Appendix 10, and the method of assessing its reliability is described by Block (1978) and was the same statistic used to generate the ADP and GAP similarity scores. Participant profiles were compared to the GAP and GAP similarity scores were used instead of ADP similarity scores (e.g., in Study Two) in the statistical analyses.

After completing the self-report questionnaires, participants took part in a semi-structured videotaped interview as in Study Two.

The Adaptiveness of Defenses Scale (ADS)

The ADS was described in Study One.

The History of Offending Index

The criminal history of participants is a variable of interest to this research. To address this issue, an index of the history of offending was calculated for each participant using the History of Offending Index (HOI), which was developed for this study. The HOI is the dividend of the total time in years an offender has been sentenced divided by his age (in years) minus 12. It describes the number of months sentenced given the ratio of years the individual was eligible to be sentenced to the number of years the individual was eligible to be sentenced (twelve years is the earliest age at which one can be convicted in Canada). History of Offending Index values can be calculated for total time sentenced to incarceration or probation, and also divided into categories (e.g., violent crime, sex crime, property crime, etc.). Essentially, the HOI provides an estimate of the severity of an individual's offense history, either in terms of few but severe sentences or multiple less severe sentences that can be used in calculations.

Sentences often include time to be served concurrently; the HOI does not take this into account. Instead, the HOI considers the total time sentenced for each crime, whether this is concurrent or not. This is to reflect the relative severity of each sentence.

HOI scores can be general or specific. In the present study, offences were categorized according to the descriptors under the item "Criminal Versatility" in the PCL-R manual (Hare, 1991; 2003). The categories are as follows: Theft, Robbery, Drugs, Assault, Murder, Possession of a Weapon, Sex Offences, Driving Offences, Fraud, Escape, Kidnapping, Arson, Obstruct Justice, Crime Against the State, and Miscellaneous (see Appendix X). In addition to Hare's categories, the sub-category "domestic" was added if the victim of a violent crime (Robbery, Assault, Murder, Sex Offences, Kidnapping, or Arson) was the spouse or partner of the offender. Separate

scores could then be calculated for total time sentenced to incarceration, total time sentenced to probation, and total time sentenced to incarceration and probation for different categories (e.g., all prison sentences for general violence could be added together, or all probation sentences for domestic aggression could be added together to form sub-indices). For this study, a total HOI (called "HOI: total", including all offences, with incarceration and probation considered separately) and specific HOI indices were calculated. The specific indices were for general aggression (i.e., called "HOI: general", referring to incarceration for nondomestic violence), domestic aggression (called "HOI: domestic", referring to incarceration for domestic violence), and total aggression (called "HOI: total violence", referring to incarceration for all violent offences).

As an illustration of how the HOI would be applied, two offenders, both sentenced to a total of 4 years incarceration for general (i.e., non-domestic) violence would have different HOI: general scores if one offender were 50 years of age and one were 18 years of age. The 50 year-old would have an HOI: violence score of 4/(50-12) or 0.11, and the 18 year-old would have an HOI: violence score of 4/(18-12) or 0.67. The younger offender is considered to have a more severe history of general aggression, since he has been sentenced to a greater portion of his life to date for general aggression.

Offenders serving indeterminate sentences (those serving life sentences, those labeled Dangerous Offenders) create a problem for the HOI formula, as the numerator effectively becomes unknown. There were 6 inmates serving indeterminate sentences. They were categorized as such and their sentence lengths were considered to be until their first parole eligibility (e.g., one participant was serving a life sentence with no eligibility for 10 years, and this was treated as a 10 year sentence, but the participant was

categorized as "indeterminate"). Dangerous offenders were treated as if they had been

sentenced to a life sentence without parole eligibility for 25 years (e.g., see Olver, 2003).

Correctional variables

Information about inmates' offence histories, program outcome, and institutional

behaviour, was collected using the Offender Management System, Canadian Police

Information Centre (CPIC), and the RADAR portal of the intranet of Correctional

Service Canada. The coding sheet and rules are presented in Appendix 11.

Offense histories were coded for both probation and incarceration, and crimes

were organized according to category, as described above.

Programs of interest included violence treatment programs (including Aboriginal

violence treatment, domestic violence treatment, and sex offender programs), substance

abuse programs (including Aboriginal substance abuse treatment programs), and "other"

programs (i.e., any programs not meeting the criteria for a violence of substance abuse

treatment program). Outcomes were coded as "successful", "unsuccessful", and "other".

"Other" included such events as being assigned to another program prior to completing

the current program, finishing one's sentence, or any other outcome that could not be

described as successful or unsuccessful.

Institutional incidents included violence against another inmate, being victimized

violently by another inmate, or being associated with inmate violence; violence against

staff; victimizing another inmate in an "other" manner, being victimized in an "other"

incident by another inmate, and being associated with an "other incident". "Other"

incidents were any misconduct that did not involve violence (e.g., theft, providing

information about another inmate's activities). Finally, the frequency of incidents of self-harm was calculated.

With respect to institutional charges, the frequency of minor charges was calculated, including outcome (guilty, not guilty, or "other"), as was the number of serious charges and their outcomes.

With respect to drug testing, the number of incidents was calculated, including the reason (with reason, random, or "other"), outcome (positive, negative, or "other"), and the number of refusals to provide a sample.

Procedures

Measures of Defenses

Defenses assessed using the Defense-Q and ADS were assessed as per Study Two. Means and reliabilities were calculated as per Study Two, but the data were analyzed for Aboriginal and non-Aboriginal participants. Differences between Aboriginal and non-Aboriginal participants were examined using independent samples T-tests when the data were normally distributed, and using Mann-Whitney U tests when the data were not normally distributed.

The relation between the GAP similarity score and the ADS total score was assessed using Pearson's product moment correlation for Aboriginal and non-Aboriginal inmates.

The relation between the Defense-Q GAP similarity scores and ADS total scores and offence history and institutional events was examined using regression models (see "correctional variables" for descriptions of these dependent variables). Because the

frequency distributions for the criterion variables of the regression models were significantly skewed, the data were transformed into binary (0 to 1, none/any) form. Defense-Q GAP similarity scores and ADS total scores were put into logistical regression models for Aboriginal and non-Aboriginal inmates, with GAP similarity score as the independent variable in step one and both GAP similarity score and ADS total score as independent variables in step two. General Aggressor Profile similarity scores were transformed into T-scores to increase their range for logistic regressions.

The History of Offending Index

Participants' criminal histories were taken from CPIC. Indices were calculated for total time incarcerated, time incarcerated for general (i.e., not domestic) violence, time incarcerated for domestic violence, and time incarcerated for total violence. Because these data were significantly positively skewed, Mann-Whitney U tests were used to compare Aboriginal and non-Aboriginal inmates.

Correctional variables

Program outcome was assessed using violence prevention programs (successful, unsuccessful, other), substance abuse programs (successful, unsuccessful, other) and "other" programs (i.e., any programs not targeting violence or substance use, with successful, unsuccessful, and other outcomes).

Institutional misconduct was measured as incidents of inmate violence (instigator, victim, associate), staff violence (instigator), "other" incident (i.e., not violence, instigator, victim, or associate), and self-harm.

Institutional charges were measured as number of minor charges (guilty, not guilty, other finding) and serious charges (guilty, not guilty, other finding).

Drug use in prison was assessed using number of urinalyses for reason (cause, random, other), their outcomes (positive, negative, other), and the number of refusals to provide a sample.

Hierarchical regression regressions were also calculated, with the same independent and dependent variables.

Results

Defense-Q and ADS Means for Aboriginal and non-Aboriginal inmates

Defense-Q means

The mean scores for Aboriginal and non-Aboriginal participants' Defense-Q profiles are presented in Table 3.3. The highest-ranked defense for Aboriginals was grandiosity (5.15, S.D. 1.00) and the highest-ranked defense for non-Aboriginals was rationalization (5.54, S.D. 0.72). The lowest-ranked defense for Aboriginals was psychotic denial (2.26, S.D 0.76) and for non-Aboriginals the lowest-ranked defense was also psychotic denial (2.42, S.D. 0.72). T-tests were used to compare means and no statistically significant differences were found between the mean defense rankings for these groups.

GAP similarity scores for Aboriginal and non-Aboriginal inmates were compared using an independent samples T-test. There was no significant difference between these groups, $t(59)= -0.91$, $p>0.05$.

Intraclass Correlation Coefficients were calculated for individual Defense-Q

defenses and the GAP similarity score using a random two-way effects model as per

Shrout and Fleiss (1978). The findings are presented in Appendix 12.

ADS means

Discussion of ADS data suffers from low sample size, as defenses need to be

identified as characteristic using the Defense-Q to be rated with the ADS. Consequently,

some of the following analyses have very low statistical power. Readers are referred to

the appropriate Tables for the sample sizes for the various defenses.

The mean scores for participants' ADS social/occupational scores are presented in

Table 3.4. The highest-ranked defense for Aboriginals was humour (3.79, S.D. 0.78) and

the highest-ranked defense for non-Aboriginals was fantasy (3.57, S.D. 0.45). The

lowest-ranked defense for Aboriginals was acting out (1.76, S.D 0.53), and for non-

Aboriginals the lowest-ranked defense was also acting out (1.94, S.D. 0.68). T-tests were

used to compare means. Non-Aboriginal inmates' use of rationalization and grandiosity

was significantly less adaptive than Aboriginal inmates'. There was a trend toward

significant differences between these groups with the defenses of devaluation and

intellectualization, with these defenses being used less adaptively by non-Aboriginal

participants.

The mean scores for participants' ADS psychological functioning scores are

presented in Table 3.5. The highest-ranked defense for Aboriginals was humour (3.63,

S.D. 0.68) and the highest-ranked defense for non-Aboriginals was for reaction formation

(3.29, S.D. 0.49). The lowest-ranked defense for Aboriginals was for acting out (1.96,

S.D 0.44), and for non-Aboriginals the lowest-ranked defense was for dissociation (2.10, S.D. 0.22). T-tests were used to compare means; non-Aboriginal inmates' use of grandiosity was significantly less adaptive than Aboriginal inmates'. There were trend-level differences with the defenses of devaluation, and intellectualization, with non-Aboriginal inmates' scores being lower than Aboriginal inmates' scores.

The mean scores for participants' ADS total scores are presented in Table 3.6. The highest-ranked defense for Aboriginals was turning against the self (7.10, S.D. 0.55) and the highest-ranked defense for non-Aboriginals was displacement (6.75, S.D. 0.96). The lowest-ranked defense for Aboriginals was acting out (3.66, S.D 0.93), and for non-Aboriginals the lowest-ranked defense was also acting out (4.08, S.D. 1.45). T-tests were used to compare means. Non-Aboriginal inmates' scores on turning against the self, rationalization, and grandiosity were significantly less adaptive than Aboriginal inmates' scores. There was a trend toward significant difference with the defense of intellectualization, with non-Aboriginal inmates' scores being less adaptive than Aboriginal inmates' scores.

The correlation between GAP similarity score and ADS total score was significantly negative, $r= -0.57$, p>0.001 (n= 41). The correlation between GAP similarity score and ADS total score was also significantly negative, $r= -0.45$, $p>0.05$ for non-Aboriginals (n=20).

Intraclass Correlation Coefficients were calculated for individual ADS defenses and scales using a two way random effects model as per Shrout and Fleiss (1978). Results are presented in Appendix 12.

HOI Scores for Aboriginal and non-Aboriginal Inmates

Comparisons between Aboriginal and non-Aboriginal participants with respect to different HOI categories are presented in Table 3.8. HOI scores were strongly positively skewed, and so means are not presented. Mann-Whitney U tests were used to compare the groups. There were no significant differences between Aboriginal and non-Aboriginal participants with respect to HOI scores.

Program Outcome for Aboriginal and non-Aboriginal Inmates

Program outcomes for Aboriginal and non-Aboriginal participants were significantly positively skewed, and so Mann-Whitney U tests were used to compare differences. Findings are presented in Table 3.9. There were no significant differences between groups on program outcomes with respect violence and substance abuse programming, but non-Aboriginal inmates were significantly more likely to have both successful and unsuccessful completions of "other" programs, likely because non-Aboriginals were taking more "other" programming.

Urinalysis Data for Aboriginal and non-Aboriginal Inmates

Results for urinalysis for Aboriginal and non-Aboriginal inmates were strongly positively skewed, and so group differences were compared with Mann-Whitney U tests. The data are presented in Table 3.10. There was a trend suggesting that non-Aboriginal inmates were more likely to be tested for grounds than Aboriginal inmates; replication with a larger sample may find the difference to be statistically significant. There were no differences with respect to other reasons for testing. Non-Aboriginal inmates were

significantly more likely than Aboriginal inmates to have negative and other (i.e., neither positive nor negative) urinalysis findings. There was no significant difference between the groups with respect to refusing to provide a sample.

Institutional Behaviour of Aboriginal and non-Aboriginal Inmates

Rates of institutional misconduct were significantly positively skewed for both Aboriginals and non-Aboriginals, so group differences were tested using Mann-Whitney U tests. Results are presented in Table 3.11. Non-Aboriginal inmates were significantly more likely than Aboriginal inmates to instigate and be a victim of inmate-on-inmate violence. Non-Aboriginal inmates were significantly more likely than Aboriginal inmates to act violently toward staff. Non-Aboriginal inmates had significantly higher rates of instigating other incidents, being the victim of other incidents, and being associated with other incidents. There was a trend suggesting non-Aboriginal inmates' rates of self-harm were higher than Aboriginal inmates' rates; replication with a larger sample may find this difference to be significant.

Types of institutional charge and outcomes for Aboriginal and non-Aboriginal inmates

The number of institutional charges was significantly positively skewed for both non-Aboriginal and Aboriginal inmates, and so Mann-Whitney U tests were used to compare differences between groups. The results are presented in Table 3.12. Non-Aboriginal inmates had significantly higher rates of both being found not guilty and having an outcome of neither guilty nor not guilty of minor charges than Aboriginal

inmates. With respect to serious charges, non-Aboriginal inmates had higher rates of being found guilty, not guilty, and other outcome than Aboriginal inmates.

Regression of HOI on Defenses for Aboriginal and Non-Aboriginal Inmates

Hierarchical multiple regressions were conducted with Defense-Q GAP similarity scores as predictor variables entered in step one and GAP similarity scores and ADS total scores as predictor variables entered in step two. The criterion variables were HOI index scores. Results are presented in Table 3.13.

Aboriginal inmates

General aggressor profile similarity scores significantly positively predicted HOI: total scores, accounting for 12% of the variance of HOI: total scores. Adding ADS total scores to the model decreased the relation to a trend level.

Neither GAP similarity scores nor ADS total scores accounted for a statistically significant amount of variance of HOI: general violence or domestic violence scores.

General aggressor profile similarity scores accounted for no significant variance of HOI: total violence scores, but adding the ADS total score to the model accounted for 9% of the variance, which was a trend suggesting a negative significant relation between the ADS total score and HOI: total violence for male Aboriginal inmates.

Non-Aboriginal inmates

General aggressor profile similarity scores failed to account for a significant amount of the variance of HOI: total scores in step one. Adding ADS total scores to the

model accounted for 26% of the variance, which was statistically significant. The relations between GAP similarity scores, ADS total scores and HOI: total scores were negative for male non-Aboriginal inmates.

General aggressor profile similarity scores failed to account for a significant amount of variance of HOI: general violence scores in step one, but adding ADS total scores to the model accounted for 24% of the variance, which was statistically significant. The GAP similarity score and ADS total score were both negatively related to HOI: general violence for male non-Aboriginal inmates.

Neither GAP similarity score nor ADS total score accounted for significant variance with respect to HOI: domestic violence scores for male non-Aboriginal inmates.

General aggressor profile similarity scores did not account for a statistically significant amount of variance with respect to HOI: total violence scores in step one, but adding ADS total scores to the model accounted for 24% of the variance, which was statistically significant. The GAP similarity score and ADS total score were both negatively related to HOI: total violence scores for male non-Aboriginal inmates.

Regression of Program Outcome on Defenses for Aboriginal and Non-Aboriginal Inmates

The regression of GAP similarity score and ADS total score on variables associated with program outcome involved some transformation of the data. GAP similarity scores were transformed to T-scores to increase their range, and because of a significant positive skew with a median and mode of zero, program outcome frequency counts were transformed into dichotomous present/absent variables. Logistic regression

was applied, with the results presented in Table 3.14. Hierarchical multiple regression was also applied with untransformed GAP similarity scores in order to determine whether using continuous dependent variables would result in any more significant findings. The hierarchical regressions are presented in Appendix 13.

Aboriginal inmates

General aggressor profile similarity scores negatively predicted successful completion of violence prevention programs, but adding ADS total scores to the model reduced the relation to a trend level; the ADS did not contribute to the model. Neither GAP similarity scores nor ADS total scores predicted unsuccessful completion of violence prevention programs. When GAP similarity scores were entered into the regression model alone, they did not significantly predict "other" outcomes to violence prevention programs, but there was a trend suggesting that ADS total scores in combination with GAP similarity scores predicted "other" outcomes for violence prevention programs. Neither GAP similarity scores nor ADS total scores significantly predicted substance abuse program or other program outcomes.

Non-Aboriginal inmates

General aggressor profile similarity scores alone did not significantly predict program success, but the combination of GAP similarity scores and ADS total scores negatively significantly predicted the successful completion of violence prevention programs. Neither the GAP similarity score nor the ADS total score predicted unsuccessful outcomes for violence treatment. There was a trend suggesting GAP

similarity scores alone significantly negatively predicted "other" outcomes to violence treatment programs. In combination with ADS total scores, this relation became statistically significant and there was a trend suggesting ADS total scores are significantly negatively related to other outcomes with respect to violence treatment programs. No other program outcomes were predicted by GAP similarity scores or ADS total scores for non-Aboriginals.

Regression of Urinalysis Variables onto Defenses for Aboriginal and Non-Aboriginal Inmates

Urinalysis data were transformed into dichotomous (present/absent) variables because of a significant positive skew with a mode of zero for most variables. Logistic regression was applied with GAP similarity score as the predictor variable in step one and GAP similarity score and ADS total score as predictor variables in step two. The criterion variables were the urinalysis variables. Results are presented in Table 3.15.

Aboriginal inmates

Neither GAP similarity score nor ADS total score significantly predicted any of the variables related to drug testing.

Non-Aboriginal inmates

Neither measure of defenses significantly predicted urinalysis for grounds or random testing. There was a trend suggesting a significant positive relation between GAP similarity scores and testing for "other" reasons. When the ADS total score was

added to the model the GAP similarity score significantly predicted testing for "other" reasons, with a trend suggesting a significant positive relation between ADS total scores and testing for "other" reasons. There was a trend suggesting the possibility of a positive relation between GAP similarity score and ADS total score when both measures were entered together to predict positive urinalysis results. Neither measure of defenses significantly predicted other variables related to urinalysis.

Regression of Institutional Behaviour on Defenses for Aboriginal and Non-Aboriginal Inmates

Variables related to institutional misconduct were transformed into dichotomous (present/absent) variables due to significant positive skew and a mode of zero with most of the variables. Logistic regression was applied with GAP similarity score as the predictor variable in step one and GAP similarity score and ADS total score as the predictor variables in step two. The criterion variables were the variables associated with institutional misconduct. Results are presented in Table 3.16.

Aboriginal inmates

The two defense mechanism measures did not significantly predict any institutional misconduct. However, there was a trend suggesting a significant prediction between GAP similarity score and instigating "other" incidents when this was entered with ADS total scores.

Non-Aboriginal inmates

With one exception, the two measures of defenses did not significantly predict institutional misconduct. In step one GAP similarity scores significantly positively predicted association with "other" incidents of misconduct. This significance was reduced to a trend when the ADS total score was combined in step two.

Regression of Institutional Charges on Defenses for Aboriginal and Non-Aboriginal Inmates

Outcomes for institutional charges were transformed into dichotomous (present/absent) variables due to significant positive skew with a mode of zero in the raw data. Logistic regression was applied with GAP similarity score as the predictor variable in step one and GAP similarity score and ADS total score as the predictor variables in step two. The dependent variables were the various outcomes for institutional charges. Results are presented in Table 3.17.

Aboriginal inmates

General aggressor profile similarity score did not significantly predict guilty verdicts for minor charges, but the combination of GAP similarity scores and ADS total scores did significantly negatively predict guilty verdicts for minor charges. Neither measure of defenses significantly predicted not guilty verdicts for minor institutional charges. The GAP similarity score did not significantly predict "other" verdicts to minor charges, but ADS total scores in combination with GAP similarity scores significantly negatively predicted "other" verdicts for minor charges. Neither measure of defenses significantly predicted outcomes for serious charges, but there was a trend suggesting a

possible significant negative relation between GAP similarity scores and not guilty verdicts to serious charges when entered into the model with ADS total scores.

Non-Aboriginal inmates

Neither of the defense measures significantly predicted outcomes to institutional charges. However, there was a trend suggesting a possibly significant positive relation between GAP similarity score and not guilty verdicts to minor charges when entered into the model with ADS total scores, and a trend suggesting a possibly significant positive relation between GAP similarity scores and guilty verdicts to serious charges.

Aboriginal and non-Aboriginal Differences on Personality and Relationship Measures

Group differences between Aboriginal and non-Aboriginal participants are discussed briefly in Study Two. However, given the general lack of significant differences on the variables of interest to the current study, I reviewed participants' scores on measures of personality pathology. Psychopathy Checklist-Revised (PCL-R; Hare, 1991, 2003), Borderline Personality Inventory (BPI; Leichsenring, 1999), and Propensity for Abusiveness Scale (PAS; Dutton, 1995) mean scores for Aboriginal and non-Aboriginal participants were compared using independent samples T-tests. The results are presented in Table 3.18. Non-Aboriginal participants had significantly higher PCL-R total and Factor 1 scores, the latter being due primarily due to facet 1 ($p<0.10$), but other than this there were no significant differences between groups on these measures.

Discussion

The current study explored the relation between ego defenses, criminal history, and institutional behaviour for both Aboriginal and non-Aboriginal inmates. As a whole, the results are unexpected, as the few group differences that emerged tended to show non-Aboriginal inmates as having more problems than Aboriginal inmates, contrary to the literature in this area. Additionally, there were few meaningful relations between defense use, offence history, and institutional behaviour.

The lack of difference between Aboriginal and non-Aboriginal inmates with respect to how antisocial their defense profiles (i.e., GAP similarity scores) are, in addition with the finding that these groups use defenses more or less equally (mal)adaptively (i.e., have similar ADS total scores), suggests that the relatively higher rates of Aboriginal incarcerations is not related to which defenses are most characteristic for this population or how their defenses are used. That is, the over-representation of Aboriginal inmates in correctional settings is not due to their using more pathological defenses than non-Aboriginal inmates. Other factors, such as social factors related to marginalization and the effects of colonization may play a greater role in the higher rates of incarceration among Aboriginals.

Given the similarity of Defense-Q profiles for Aboriginal and non-Aboriginal inmates, the inmate profile from Study Two should be considered to be characteristic of the defenses used by male federal inmates with the caveat that offenders are a heterogeneous group, and other offender defense profiles may exist for types of offenders identified along other dimensions (e.g., intra-familial child molesters may have a different mean profile than violent psychopathic offenders). The mean profile for Study

Two is fairly maladaptive, and it can be used to help understand some of the more erratic or dramatic behaviour of inmates as coping with limited resources. Correctional staff (e.g., correctional officers, program facilitators, parole officers, unit managers) should be educated about the limited coping resources of inmates, as well as the developmental trauma they may have endured that blocked the development of more adaptive ways of coping with adversity. If behaviour such as acting out and devaluation were recognized as defensive, responses to it may be more helpful (e.g., segregation or isolation may not be the most useful consequence in all cases).

The development of a general defense profile for male federal offenders also has treatment implications. Cognitive-behavioural treatment programs often include a focus on cognitive distortions (e.g., Marshall, et al., 1999), and, as discussed earlier, if one sees cognitive distortions as *purposeful*, then they begin to resemble defense mechanisms. Treating defense mechanisms is different from treating cognitive distortions, because defenses are generally unconscious, fairly reflexive, and mobilized to regulate anxiety or decrease dissonance, whereas cognitive distortions are more generally described as "thinking errors" (e.g., Yochelson & Samenow, 1977) which may or may not serve a purpose. When helping a patient relinquish maladaptive defenses, one must take care to ensure that the anxiety they defend against is not unmitigated (McCullough Vaillant, 1997). Thus, identifying maladaptive defenses common among inmates as treatment targets should be considered a first step in treatment, with the goal of replacing maladaptive defenses with neurotic or, in best-case scenarios, adaptive ones.

The differences between Aboriginal and non-Aboriginal inmates found in previous research (e.g., Bonta., LaPrairie, & Wallace-Capretta, 1997; Landry & Sinha,

2008; PSEPC, 2007) with respect to age, violence, criminality, and recidivism are fairly robust, the present study notwithstanding. The non-Aboriginal sample in the current study appears to have been somewhat anomalous, in that they had higher PCL-R scores (but see Olver, 2003, who had similar findings), as well as higher rates of institutional misconduct than the Aboriginal sample.

Defenses and Offence History

The pattern of relations between defenses and HOI index scores was surprising. For Aboriginal inmates, defenses predicted HOI: total scores but did not predict any of the HOI: violence scores. For non-Aboriginal inmates, defenses predicted HOI: total and all HOI: violence scores except for domestic violence (it should be noted that the base rates for convictions for domestic violence were quite low). Non-Aboriginal inmates had significantly more convictions for sexual assaults than Aboriginal inmates, which increased their HOI: violence scores. It appears that HOI: total scores are more influenced by violence for non-Aboriginal inmates than they are for Aboriginal inmates.

The relation between Defense-Q and ADS measures of defenses and HOI scores was different for the two groups as well. It appears that for Aboriginal inmates, GAP similarity score is the better predictor of severity of general criminal history. However, for non-Aboriginal inmates, the relation between the GAP similarity score and HOI index scores was consistently non-significant; adding ADS total scores to the model contributed significant variance to HOI scores. Given the room for pathological aggression in the defenses characteristic of the GAP, the lack of relation between GAP similarity score and HOI violence indices (independent of ADS scores) is surprising, especially when one

considers that the relation between the GAP and HOI reached trend (negative) levels when the ADS was added to the model for Aboriginal inmates.

One possible reason for the different relations between defenses and offense history could be different motivations for crime between the groups. The non-Aboriginal inmates appear to have been a slightly more antisocial group with respect to interpersonal functioning, as their PCL-R factor one and total scores were significantly higher. Criminal behaviour among the Aboriginal participants may be less related to a predatory personality style than to contextual or social factors, which were not investigated in the current study.

Defenses and Program Outcome

While most of the analyses examining defense use and program outcome showed that defenses did not predict outcome, the few significant findings were with violence prevention programs. As with the HOI analyses, defenses did not predict program outcome equally for Aboriginal and non-Aboriginal inmates. With Aboriginal inmates, the important variable appears to be which defenses are being used (GAP similarity score), whereas with non-Aboriginal inmates the important variables appear to be how defenses are being used in combination with which defenses are being used (ADS total score).

With Aboriginal inmates, GAP similarity score was negatively related to successful completion of a violence treatment program. That is, less use of defenses characteristic of violent chronic offenders was associated with successful treatment outcome, which makes sense. Beyko and Wong (2005) found that, with sex offenders,

treatment attrition was predicted in part by variables that could be described as maladaptive defenses (e.g., acting out, neurotic denial, rationalization). It may be that addressing maladaptive defenses prior to violence prevention programming would result in more successful outcomes.

With non-Aboriginal inmates, the pattern was different. While there was a trend suggesting that GAP similarity score may play a role, the stronger finding was that ADS scores were negatively associated with successful violence prevention treatment. This was unexpected, as it suggests that less adaptive use of defense mechanisms predicts successful treatment outcome. When one considers that ADS scores are in a regression model with GAP similarity scores, a different picture emerges, however.

If one accepts the trend finding that GAP similarity scores play a role in successful violence treatment outcome, then the picture that emerges is that when non-Aboriginal inmates use neurotic or adaptive defenses, but do not use them very well, they are more likely to complete violence treatment programs successfully. This may speak to relatively low standards for successful completion of violence treatment programs. However, one should be cautious about such an interpretation. A more conservative interpretation is that the sample size is too small to draw stable conclusions about the relation between defense use and violence treatment outcome for non-Aboriginals.

The defenses characteristic of Aboriginal and non-Aboriginal inmates may also be associated with program outcome in ways the current study could not measure. For example, an inmate whose hostility is overcontrolled, and who acts out rarely (so acting out might not be assessed as "characteristic" with the Defense-Q) but dramatically (so if it were coded with the ADS it would be low level acting out) may be discharged from a

treatment program because of a single outburst of severely aggressive behaviour. Beyko and Wong (2005) argued that such an outburst should be a reason to place someone in treatment rather than for discharge, as this sort of behaviour is likely related to criminal behaviour and so a criminogenic treatment need (Andrews & Bonta, 2003).

Defenses and Urinalysis

The lack of meaningful relations between defense use and drug testing has several explanations. Urinalysis is part of prison culture as inmates are randomly tested; this would add error to the data. As well, it appeared that some, but not all, inmates taking part in substance abuse programming may have been tested more frequently than others as part of the programming, thus distorting this outcome measure. Additionally, while inmates reported that drugs are at least as common in prison as in the community, the base rates of testing appear to be so low (recall that the data were skewed with mode of zero for the frequencies of variables related to urinalysis) that larger samples would have been needed to detect any relations between defense use and substance use during incarceration.

Defenses and Institutional Behaviour

As with the hypothesis that drug use would be related to defenses, the hypothesis that defenses would predict instances of institutional behaviour was not supported. The explanations for this may be similar. During interviews, inmates reported that violence is part of institutional culture, but they also generally reported that they follow the "con code", which includes not reporting the behaviour of other inmates to staff. As with

policing, community support is necessary for effective control, and, based on the interview data, correctional officers do not generally have the support of the inmates. As such, it is difficult to detect between-inmate violence. Violence against staff is relatively rare among medium security inmates, which comprised the majority of the samples. The detection of "other" incidents likely suffers from the code of silence with respect to reporting as well, reducing the likelihood of accurate detection. In other words, the quality of the dependent variables related to institutional behaviour may be suspect. This combined with the error in measuring defenses would result in small effect sizes, and the current samples may have been inadequate to detect such small effects.

Defenses and Institutional Charges

In contrast, institutional charges have less measurement error, as there is enough evidence to proceed with a charge. There are enough significant findings that make theoretical sense to suggest a relation between defense use and institutional charges. With Aboriginal inmates it appears that less adaptive use of defenses, rather than the use of maladaptive defenses, predicts guilty and "other" verdicts with minor charges. That is, when defenses are used more crudely and obviously, at least in the case of minor infractions, they are associated with guilty and "other" verdicts, but not with not guilty verdicts. It may be that variables other than personality and defenses (e.g., current prison climate) account for a significant portion of the variance with respect to serious charges, which could account for the lack of relation between defenses and outcomes to this type of charge for Aboriginal inmates.

The lack of significant findings with respect to non-Aboriginal inmates is likely a result of limited statistical power due to relatively small sample size.

Aboriginal and non-Aboriginal Differences with Respect to Correctional Variables

Few significant differences were found between Aboriginal and non-Aboriginal inmates with respect to offense history, program outcome, or urinalysis outcome. Most differences were found with respect to (violent) institutional behaviour and outcomes for institutional charges. The most obvious explanation for this is that non-Aboriginal inmates had higher PCL-R ratings, as psychopathy is related to institutional misconduct, especially violent misconduct (e.g., Cale & Lilienfeld, 2006; Edens, Poythress & Lilienfeld, 1999; Huchzermeier, Bruss, Geiger, Godt, von Nettelbladt, & Aldenhoff, 2006).

Conclusions

The hypotheses that the ADS would account for unique significant variance beyond the Defense-Q GAP similarity score were only infrequently met. However, the differential performance of the ADS with respect to predicting HOI: general and HOI: total violence scores supports the finding in Studies One and Two that the ADS may be sensitive to the interpersonal functioning of defenses. Interpersonal violence is an extreme form of interpersonal dysfunction.

There do not seem to be significant differences between Aboriginal and non-Aboriginal inmates with respect to defense use and both groups seem to use relatively maladaptive defenses characteristically and at moderate to low levels of adaptiveness.

The differences with respect to offence history and institutional events suggest that the non-Aboriginal sample was somewhat more aggressive than the Aboriginal sample. The analysis of personality measures from Study Two showed few differences between the groups aside from higher ratings of psychopathy in the non-Aboriginal group. The higher levels of psychopathy in the non-Aboriginal group are reflected in this group's greater institutional maladjustment. Replication with larger samples is needed to determine the stability of the current findings.

Limitations

The limitations relevant to Study Two are relevant to this study, as it involves the same sample and much of the same methodology. Additionally, some other limitations have been alluded to. That is, the detection of institutional misconduct, the error in the data with respect to institutional events, and the limited sample sizes.

More relevant to the assessment of defenses with offenders, defense coders were unable to review correctional files when making their assessments. Other defense mechanism researchers use file data, either as transcriptions of the videotaped interviews (Perry, 1990) or as interviews in combination with file reports (Vaillant, 1976). One should bear in mind that "pathological lying" is an item on the PCL-R (Hare, 1991, 2003) and that deceitfulness is one of the criteria for ASPD (APA, 2000). Some participants presented themselves in a more favourable light than their files revealed to be the truth, and the coders did not have access to corroborating or refuting materials in the files. This may have contributed to error in the coding of defenses, which is already burdened by

coder error (i.e., poor reliability), and so may have reduced the ability to detect significant relations between variables.

Future Directions

The relation between inmates and symptoms of dramatic and erratic personality disorders was discussed in the introduction, as was the relation between defenses and these disorders and the paucity of research examining defenses among inmates. The present study has revealed several important points indirectly related to the data. Future coders examining defense use among inmates should have access to institutional file materials in order to have corroborating or refuting information in addition to videotaped interviews. Additionally, future research should examine relations between defenses and correctional variables based more on aggregates of behaviour than the ones in the present study. Multiple variables are involved in creating an aggragate variable such as sentence length, so measurement error could be minimized this way.

Due to limited power, conclusions drawn from this study should be considered to be tentative; the variables in the present study would benefit from replication with much larger samples to determine whether there are indeed relations between defenses and these correctional variables.

Future research examining defenses and Aboriginal cultures should be more specific, for example measuring how acculturated participants are with respect to Aboriginal culture (e.g., Cree, Dene, etc.) or Anglo-Western Canadian culture. That way, one could discuss ethnic differences more meaningfully than the broad brush strokes in the present study. Differences among Aboriginal subgroups could be identified as well,

which could help treatment providers such as CSC to tailor correctional programs to address the responsivity issue of culture more usefully (cf. Andrews & Bonta, 2003). Of course, sufficient sample sizes would be needed to avoid the difficulties of limited statistical power in the current study.

Additionally, the present study only examined male inmates. Aboriginal female inmates are the fastest growing forensic population by percent in Canada's federal justice system (Native Women's Association of Canada, 2007) yet they are currently understudied, and defenses associated with this population should be investigated for the same reasons that it is important to have information about the defensive functioning of male inmates. Whereas males have higher rates of ASPD than females, females have higher rates of BPD than males (APA, 2000) and while ASPD and BPD have certain similarities, there are important differences between the disorders. Knowledge of defenses common to female inmates could be used to improve correctional treatment and reduce recidivism.

Finally, given the myriad ways in which defenses can manifest and the unique ways in which individuals make sense of their experience, future research may also benefit from using case studies and qualitative methods in order to gain a better understanding of variables related to the experience of inmates. Such research may provide information that could be used to develop measurement tools specific for an inmate population, or at least provide clearer indications of where significant relations lie, and thus provide more directions for defense mechanism research with inmates.

General discussion

The current series of studies was an exploratory examination of two main research questions. The first question addressed within-defense variability as assessed by the ADS. Findings showed that the ADS could identify differences in the use of defenses common to both undergraduate males and federal inmates, supporting the hypothesis that individual defenses are dynamic constructs with different ranges of functioning. The positive correlation between the ADS total score and the ADP similarity score, combined with the negative correlation between the ADS total score and the GAP similarity score suggests that the ADS measures generally healthy use of defenses. Future studies should explore relations between ADS total scores and other measures of psychological health and interpersonal functioning, such as emotional intelligence, social intelligence, or ego strength to help clarify more precisely the aspect of defenses measured by the ADS.

The second question addressed ego defenses in male federal inmates, including Aboriginal and non-Aboriginal differences. Although sample size limited statistical power, the lack of clear and consistent findings with respect to the relation between defenses and correctional variables is concerning given the relatively high rates of ASPD and BPD in the forensic samples, and the robust relation between these disorders and maladaptive defense use identified in previous research. In other words, if strong relations between defenses and behaviours associated with defenses were not made with a population in which dramatic/erratic personality traits are characteristic, then there may be a problem with the measures or the constructs under investigation. There are several ways to address some of the problems involved with assessing defenses in the current study.

Vaillant (1998) suggested that videotaped interviews observed by multiple trained raters would help improve reliability in the assessment of defenses. The present studies used videotaped videos and multiple raters, but reliability was still limited. McCullough (1992) commented that to improve inter-rater reliability of defenses, raters should be rating a defense *for the same reason* (e.g., a particular phrase or gesture that indicates the use of a specific defense). This would reduce error due to individual rater idiosyncrasy and maximize reliability perhaps at the cost of missing less clear manifestations (i.e., reducing sensitivity to increase specificity). This idea has not been incorporated into Defense-Q or ADS scoring to date, and should be the object of future research on increasing reliability in defense assessment with these instruments. Changing the way defenses are assessed by incorporating the inclusion of structured criteria into their assessment would take into account observations from the data in other areas that found actuarial measurement to be more reliable and valid than unstructured clinical judgment (Meehl, 1954). However Vaillant's (1998) observation that defenses are "as ephemeral and real as rainbows" (p. 1150) should be kept in mind. The fact that defenses are essentially metaphors for behaviour rather than objective phenomena limits the degree to which one can operationalize them (or structure their assessment) without limiting the construct to the point where it is no longer valid.

Improving validity is related issue. In the present study, the raters had no access to institutional files when rating the defenses of inmates. This information would have helped raters interpret participants' responses within the context of their lives, rather than relying on a brief videotaped interview to make judgments about which defenses are or are not characteristic. Defense mechanism research with the Defense-Q generally uses a

12 to 15 minute interview (the ESI, Hall, et al. 1998) through which raters identify which defenses are characteristic for an individual. While reliability has been acceptable using this interview (e.g., Davidson & MacGregor, 1996; MacGregor & Olson, 2005; Olson, 2008; Presniak, 2008), the assumption that the psychological defense profiles of healthy individuals can be validly assessed in the context of a short videotaped interview is bold, especially when one considers that characteristic use of a limited set of defenses regardless of context is symptomatic of psychopathology and much of this research has been conducted with nonclinical samples. The assumption that defenses can be validly assessed using brief videotaped interviews is more valid in the assessment of defenses with pathological individuals, yet this fails with the observation that, although the forensic sample responded to a longer interview and was significantly more pathological than the student sample, reliability was not improved. Consequently, one must consider that defenses observed using a single brief videotaped interview are likely related to the particular context of the interview, the specific nature of the stress put on the individual as part of the interview, and transference and countertransference dynamics emerging from the relationship with the interviewer. Some defenses may manifest in more familiar settings, while others may manifest in different relationships, or with different stressors.

Generally, when assessing defenses, one should have information about the individual from more than one context in order to maximize the confidence in the validity of the ratings. Thus, either multiple sources (such as any available file reports including psychosocial histories) or multiple contexts (such as observations at home, work, or with friends) should be used to improve the confidence with which raters can identify

characteristic defenses. This may help identify relations between defenses and other constructs that logically should exist.

The present studies showed that information about within-defense variability provides some information beyond what measures such as the Defense-Q can provide. The most consistent finding across the three studies is that the ADS appears to be related to defensive functioning based on its correlations with the ADP similarity score and GAP similarity score. Further, it appears to measure a specific aspect of defensive functioning. The data suggest that this aspect is related to interpersonal behaviour, as the strongest relations were with the ECR avoidance scale, the PCL-R's Factor 1 and its interpersonal and affective facets, and the HOI: violence scales (for non-Aboriginal male inmates). These three variables were not predicted by the Defense-Q similarity scores, and so are less related to which defenses are used than how defenses are used.

Ultimately, the present studies provide useful information about future directions for both the assessment of defenses and the assessment of defenses with offenders. Less adaptive defenses should be studied with pathological rather than nonclinical samples, and raters should have access to as much information as possible about participants. Ideally this would include both videotaped interviews and file data.

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Appendix 1. The Adaptive Defense Profile of the Defense-Q (MacGregor, 2000)

Least	Quite	Somewhat	Neither/nor Characteristic	Somewhat	Quite	Most
			Reaction formation			
			Displacement			
			Isolation			
			Devaluation			
		Passive aggression	Identification	Pseudoaltruism		
		Undoing	TAS	Idealization		
		Projection	Repression	Neurotic denial		
	Acting out	Regression	Grandiosity	Fantasy	Rationalization	
Psychotic denial	Dissociation	Splitting	TAO	Intellectualization	Humour	Sublimation

Note: TAS= Turning against the self, TAO= Turning against others, Identification= Identification with the aggressor. As well, defenses higher in the columns are more adaptive within their respective columns.

Appendix 2. The Adaptiveness of Defenses Scale

Sublimation Card 1	Core features	Social/occupational functioning	psychological functioning
Higher level sublimation	Positive transformation of anxiety, increased feelings of self efficacy. Generally a response to longer-term stressors. Skills are gained, relationships are gained or supported. Sublimation is well integrated into the individual's life.	At the higher level, sublimation appears as a convenient virtue. The individual may make or solidify social relationships through engaging in the sublimative activity. For example, a recently retired man teaches or takes painting lessons. This helps him form new social contacts to replace the ones he may have lost when retiring, as well as helping increase (or maintain) his self-efficacy and skills.	Because the use of the defense transforms anxiety into something productive that is beneficial to the individual, there is essentially no psychological disturbance per se; the distortion is positive. For example, a widowed woman finds meaning and purpose in gardening. Her garden is lush and healthy.
Middle level sublimation	Positive transformation of anxiety. At the middle level, this is likely sporadic and due to more immediate stressors, or less well integrated into the individual's life than at the higher level. Skills may be gained and relationships may be supported because of the defense. However, the lesser degree to which the defense is integrated into the person's life limits these gains.	Middle level sublimation appears as a useful distraction. The individual is less likely than at the higher level to make or solidify social relationships through engaging in the sublimative activity. For example, a man deals with stressors at work by sporadically using the weight room. He does not do this often enough for the positive benefits of exercise to be realized, although he is likely somewhat healthier as a consequence. Others know he works out sometimes, and sometimes work out with him.	Because the sublimations are more transient or sporadic at the middle level, the transformation of anxiety into something productive is not as successful as at the higher level. For example, after being yelled at by her parents, a girl who stopped taking lessons some time ago plays piano to feel better. Because her piano playing is sporadic, she does not gain any skill or foster social relationships, and cannot benefit from feelings of self-efficacy to the same degree that she could if she were to transform her anxiety into music more fully.
Lower level sublimation	At the lower level, sublimation can either be an attempt at a positive transformation of anxiety or a disproportionate focus onto the sublimated activity. If the former is the case, few if any skills are gained and few if any relationships are enhanced. If the latter is the case, skills may be gained at the cost of relationships because of the hyperfocus on the activity. Little opportunity exists for meaningful personal or relationship growth.	Lower level sublimation generally occurs as a brief response to a stressor, and may cause some friction in interpersonal relationships. Because of the relatively brief or forced nature of the behaviour, few opportunities for developing skills or social support are generated by the use of the defense. For example, after a fight with his wife, a man finds that working on his truck makes him feel better. He has been working on his truck for two years, and the sporadic nature of his work (and its consequent lack of progress) has been the cause of some friction between him and his wife.	The psychological disturbance caused by lower level sublimation is relatively mild. Engaging in the sublimative activity helps the individual feel better, but the individual does not make this activity a larger part of his or her life, and so is more open to anxiety. For example, a young woman finds that she feels good when she trains her dog, but she only does so when she is upset because of something fairly immediate. Consequently, her dog's training is poor. She realizes she feels better when she trains her dog, but does not make this part of her life.

Reaction formation Card 2	Core features	Social/occupational functioning	psychological functioning
Higher level reaction formation	Reversal of minor affect, generally in distant relationships.	At the higher level, relationships affected by reaction formation are generally distant so the degree of social or occupational disturbance is limited. For example, a man getting a speeding ticket might feel he likes the officer giving the ticket. The officer may be positively disposed to the man as a result, and more inclined to give a warning instead of a ticket.	Generally, the emotions reversed are relatively minor, so the amount of psychological disturbance is relatively minor. For example, a woman who is being held up in rush-hour traffic begins to admire the stores lining the street, even though she does not shop at any of them. She is unaware of feeling frustrated.
Middle level reaction formation	Reversal of affect; the intensity is usually moderate and the relationships closer than at the higher level.	The relationships affected by middle level reaction formation may be less distant than at the higher level, allowing for a relatively greater degree to social disturbance For example, a woman developing unacceptable romantic feelings for a male co-worker reverses these to find him unattractive and sometimes makes unprovoked hostile comments to or about him. This sometimes creates tension at work.	The emotions reversed are stronger than at the higher level, so the amount of psychological disturbance is relatively greater. For example, a man's mother-in-law is consistently rude to him, and he is not aware of the aggression this is fostering in him. When his wife tells him her mother has high blood pressure, he is quite concerned about her heath and unaware of any aggressive feelings towards her. He may be so concerned that his behaviour creates stress around her.
Lower level reaction formation	Generally a reversal of relatively severe affect, often occurring in close relationships.	The relationships impacted by lower level reaction formation tend to be closer, and so the defense tends to cause greater social disturbance at this level. For example, a chronically henpecked and cuckolded husband believes that he loves his wife. His devotion to her increases her resentment of him for being "pathetic".	Because more significant emotions are reversed at the lower level of reaction formation, the degree of psychological disturbance is greater than at the higher levels. For example, a latent homosexual man attracted to another man experiences the other as hateful and repulsive. At the lower level, there may be "leakage" of the original (threatening) affect. For example, if the latent homosexual in the previous example assaulted the object of this defense, the assault may include sexual elements.

Displacement Card 3	Core features	Social/occupational functioning	psychological functioning
Higher level displacement	Redirection of (usually minor) affect, usually to distant objects that are perceived as safer targets for the ventilation of the affect	Generally, objects targeted by higher level displacement are relatively distant or have limited awareness of the emotions being directed at them, so the degree of social disturbance is limited. For example, watching TV alone, a woman makes an angry comment to a character on TV whose actions mirror her unfaithful husband's. The TV character remains unaware of the displacement, and, if any one who knew her saw her talk to the character, they likely understand the source of the woman's anger.	Generally the emotions that are redirected through higher level displacement are relatively mild or fleeting, so the amount of psychological disturbance is relatively minor. For example, a man is unnecessarily short with his son after paying his bills. At the time he believes he is actually angry at his son, but soon afterwards he understands the true object of his frustration.
Middle level displacement	Redirection of affect to objects that are perceived as safer targets for the discharge of the affect	Generally, objects targeted by middle level displacement are closer or have greater awareness of the emotions being directed at them than at the higher level, so the degree of social disturbance is relatively greater. For example, a woman snaps at a male co-worker because she is upset with her husband. The co-worker does not understand that she is displacing, and the issue with her husband may remain unresolved.	Generally the emotions that are redirected through middle level displacement are relatively stronger or more enduring than at the higher level, so the amount of psychological disturbance is relatively greater. For example, a man is hostile to his friends and colleagues during and some time after being audited. At the time, he is genuinely angry with his friends and does not understand the role his audit plays in his emotional reactions. He understand some time afterwards, reflecting on this period.
Lower level displacement	Redirection of relatively severe affect, often onto relatively close objects.	Lower level displacement generally occurs in closer relationships and with more intense emotions than at the higher levels, and so causes relatively greater social disturbance. For example, a woman suffering sexual harassment at work displaces her rage against her harassers onto her children. Her children experience alternations of love and displaced anger, and so feel ambivalent about her.	Because more significant emotions are displaced, the degree of psychological disturbance is greater than at the higher levels. For example, after being humiliated in front of his friends by his wife, a man becomes furious when his secretary makes a typo in a memo he asks her to circulate. He screams at her for "trying to embarrass him", and believes that she is the sole cause of his anger.

Dissociation Card 4	Core features	Social/occupational functioning	psychological functioning
Higher level dissociation	Brief breaches of sense of self, awareness of reality	Generally, higher level dissociation is brief enough not to disturb social interactions significantly. For example, while being yelled at by his mother, a boy "tunes out" briefly. His mother may not notice. If she does, she simply snaps at him to listen to her when she's talking.	Because the sense of self is usually regained quickly and/or easily, the degree of psychological disturbance is relatively low. For example, while bored in class, a student tunes out, returning to awareness when part of her recognizes that the professor is no longer speaking. While she was tuned out, she was not bored, but she was also unaware of what the professor was saying.
Middle level dissociation	Breaches of sense of self, awareness of reality.	Generally, middle level dissociation is longer and/or more tenacious than higher level dissociation, and so disturbs social interactions more. For example, terrified while on a scary amusement park ride, a woman stares blankly ahead, unaware of her surroundings. When she gets off, she has no recollection of the ride. Her friends notice her unusual behaviour, and their good mood is broken. They wonder if they should take her to a hospital.	Because the sense of self is usually not regained as quickly and/or easily as at the higher level, the degree of psychological disturbance is relatively greater. For example, after finding out that he has been fired, a man dissociates during the drive home. He has no recollection of the drive or of parking the car after he arrives home.
Lower level dissociation	Relatively long ego lapses, possible fugue states, dissociative identities, or catatonic dissociations.	Lower level dissociations last longer and/or are more tenacious, and include more severe symptoms than at the higher levels, thus causing greater social disturbance. For example, in order to deal with a childhood of chronic sexual abuse, a man's personality fractured into different fragments (alters). Each alter deals with different types of situations in his life, and the alters are unaware of each other. The man experiences lost time, and his social life is severely impaired because different alters react quite differently to the same people, depending what is currently happening.	The degree of psychological disturbance is significant at the lower level, as serious and prolonged breaks of ego integration occur. For example, after finding out that he has accidentally shot his hunting partner, a man finds that he does not recognize his hands; they feel foreign to him, as if they are not his hands. When they move, he does not experience them as being under his control.

Isolation Card 5	Core features	Social/occupational functioning	psychological functioning
Higher level isolation	Isolation of minor emotions.	Higher level isolation allows the individual to act when others are less able to do so. It has the potential to create social support. For example, an emergency room trauma nurse isolates his horror and revulsion in order to treat traumatized patients at work. His patients, colleagues and supervisors admire his ability to stay task-focused. He has a normal range of affect in other contexts.	At the higher level, isolated affect is usually relatively minor, so the amount of psychological disturbance is relatively minor. For example, a judge isolates her feelings of anger and disgust when sentencing a sex offender. Her sentence is sound according to the law. She is left feeling satisfied by a job well done, but may experience the anger and disgust later when more removed from the case.
Middle level isolation	Isolation of moderately intense emotions	Middle level isolation is more noticeable than at the higher level, and so the individual seems "colder" or less emotional. This sometimes helps and sometimes alienates others. For example, a woman survives a frightening mugging and reports it to the police. Because she so dispassionately describes a traumatic experience, some officers doubt her story.	At the middle level, isolated affect is usually more intense than at the higher level, so the amount of psychological disturbance is relatively greater. For example, a self-conscious man is approached by an attractive woman at a bar. He is intimidated by her, and his conversation with her is flat because he isolates feelings of attraction, happiness, excitement, etc. He eventually leaves because he is not having any fun.
Lower level isolation	Isolation of relatively severe emotions	Lower level isolation includes the isolation of almost all emotions. Individuals using the defense at this level likely present as cold and unfeeling, and close relationships are typically difficult for them to manage. For example, a young man's girlfriend dumps him because, as he is terrified of intimacy, he isolated his feelings for her. He is aware that he liked spending time with her, but she did not experience any positive feelings from him and so ended the relationship, telling him he did not know how to love.	Because strong emotions are not experienced at this level of isolation, there is greater psychological disturbance than at the higher levels. Individuals who use the defense at this level may be confused by the emotional reactions of others, as emotional reactions are removed from their own experience. For example, a man feels nothing at his wife's funeral. He knows that his wife is dead, and may even want to grieve, but finds he cannot access his emotions.

Splitting Card 6	Core features	Social/occupational functioning	psychological functioning
Higher level splitting	Vacillation of relatively minor idealizations and devaluations, generally of distant objects (including groups or organizations); cycles likely last relatively long long. Behaviour motivated by the splitting is fairly minor or innocuous.	Generally, the object of the defense is relatively distant (e.g., another driver, or an individual on TV) thus limiting the social disturbance caused by the defense. For example, a student alternately loves and hates her university, depending on how the semester is going. The university as an institution is unaware of these splits, and the student's peers likely understand where she is coming from at the time.	The emotions involved are likely to be minor and/or brief, and/or the vacillations are likely to return to a relatively stable baseline, the degree of disturbance is likely relatively minor. For example, a sports fan idealizes his team's members when they perform well and devalues them when they perform poorly, but usually likes his team. When they are doing poorly, although he is upset with them and devalues them, he keeps them has his favourite team. Likewise, when they do well and he idealizes them, he understands that they lose sometimes.
Middle level splitting	Vacillation of idealizations and devaluations onto relatively closer objects; cycles often shorter than at the higher level. Behaviour motivated by the splitting is less innocuous because of the closer relationship between the individual and the split objects.	The object of the defense is closer than at the higher level, which increases the social disturbance caused by the defense. For example, a student alternately loves and hates her classmates, depending on how the semester is going. As the term progresses, the classmates begin to stay away from the student, finding her volatile.	The emotions involved are likely to be stronger than at the higher level. The degree of disturbance is likely relatively greater than at the higher level. For example, an individual alternately loves his job and everything associated with it, or hates the job, colleagues, subordinates and supervisors, and looks for employment elsewhere. When idealizing the job, he minimizes any problems with it, when devaluing it, he minimizes any good in it.
Lower level splitting	Vacillation between relatively severe idealizations and devaluations of objects, often of objects close to the individual. The cycles are often quite short. Behaviour motivated by the splitting is more dysregulated than at the higher levels because of the stronger feelings and closer relationships to the split objects.	Lower level splitting typically occurs in closer relationships than at the higher levels, and so causes greater social disturbance. This is aggravated by the fact that lower level splitting also generally includes the vacillation of more severe idealizations and devaluations. For example, a university student believes that his fraternity brothers are alternately the best people in the world, without whom he would be lost, or the most irresponsible gorillas on the planet who have no idea of decent behaviour. His fraternity brothers are dealing with this by arranging to have him removed from their organization. They find they never know what to expect from him.	Because the idealizations and devaluations are more severe than at the lower levels, lower level splitting causes greater psychological disturbance. For example, a woman contemplates charging her boyfriend with sexual assault, perceiving their sexual encounter the night before as coercive, and also believes she wants to marry him because she has never been so in love. The fact that these are quite extreme opposites does not enter her awareness.

Regression Card 7	Core features	Social/occupational functioning	psychological functioning
Higher level regression	Subtle regressive behaviours	Generally, higher level regression provokes concern in others and thus builds social support. For example, an young man turns to his friends in tears after being dumped by his girlfriend. His friends likely support him during his troubles.	At the higher level, regression is relatively brief and problem-focused. For example, a woman learns that she has not been hired for a job she wanted. She feels brief panic until she gets on the phone and cries to her best friend. After talking to her friend for a few minutes, she pulls herself together and gets back to looking for work.
Middle level regression	Relatively less subtle regressive behaviours in response to distress.	Middle level regression may provoke concern or disdain in others and thus may build or damage social support. For example, a man's performance at work is reduced because he is unable to fulfill his duties since he is crying and clinging to other staff after his girlfriend dumps him. Some of his colleagues feel sorry for him, and others find him immature and annoying.	Middle level regression lasts longer and is less problem-focused than at the higher level. For example, a middle-aged woman finds out that her favourite high school teacher has died. She feels overwhelmed by the news until she gets on the phone and cries to her best friend. It takes several hours of comforting for her to feel better.
Lower level regression	Blatantly regressive behaviours	Lower level regression generally includes behaviours that are blatantly immature for the individual; these sometimes last for prolonged periods. For example, a woman, in her late 20's and threatened by adulthood, fixates on cartoon characters created to appeal to pre-teens and carries a security blanket in her backpack. Although she lives on her own and works at a toy store, she organizes her life around events and objects appropriate for children. She has no friends who share her interests in cartoons, and has never had a romantic partner.	Because lower level regressions are profound, they cause relatively more psychological disturbance than at the higher levels. For example, a man in his 40's holds a job in a factory. He has never lived away from his parents. Whenever there are problems at work, he becomes whiny and tearful. If he is identified by management as not pulling his weight, he often complains that they are "unfair" and pouts. He often complains to his mother about how difficult work is. He also tends to adopt a submissive role in his interpersonal relationships, deferring to the direction of others.

Devaluation Card 8	Core features	Social/occupational functioning	psychological functioning
Higher level devaluation	Devaluations that are distortions and/or directed at distant objects. Behaviours motivated by higher level devaluations also have the potential to build solidarity and strengthen relationships.	Generally, the objects of higher level devaluation are relatively distant, so the degree of social disturbance is limited. For example, a young woman has a very frustrating meeting with her supervisor and is distraught. Her friend is uncomfortable with her feelings. Her friend comes to console her and calls the supervisor unfair, irresponsible and callous.	Generally, the devaluations are relatively minor negative attributions or relatively brief, so the degree of psychological disturbance is relatively minor. For example, a man listening to a politician's speech thinks the politician is a sleazy liar. Likely, the man understands that the politician has some positive qualities, but these are briefly ignored.
Middle level devaluation	Devaluations that are less accurate and/or directed at closer objects than at the higher level. Behaviours motivated by middle level devaluations may facilitate or damage relationships.	Generally, the objects of middle level devaluation are closer than at the higher level, so the degree of social disturbance is relatively greater. At this level, the devaluations may facilitate or harm social support. For example, a taxi driver rants about the idiocy of city council to a customer, not knowing whether the customer supports the council. Some customers agree with him, others do not and find his opinion offensive.	Generally, the devaluations of the objects' qualities are greater than at the higher level, so the degree of psychological disturbance is relatively greater. For example, a woman listening to her boss describe a plan that will negatively influence her work decides that he is stupid and incompetent. She minimizes any evidence to the contrary.
Lower level devaluation	Devaluations that are quite distorted, often directed at close objects. Behaviour motivated by lower level devaluation damages relationships.	At the lower level, devaluation includes the severe degradation of the object of the defense, often with little provocation, and includes ignoring obvious strengths or fabricating shortcomings. Often, the object of the defense is close. For example, a man unconsciously expects perfection from those around him, so that when they fail he may devalue them for their shortcomings. His unrealistic expectations of others, and then punishment when others fail to meet these expectations has left him alone and lonely.	Because lower level devaluation is more intense than at the higher levels, ignoring obvious strengths of the object, grossly exaggerating shortcomings, and sometimes fabricating shortcomings, it causes more severe psychological disturbance. For example, a woman goes to a French restaurant on a first date, and watches as her date has difficulties with the French menu. She immediately perceives him as stupid, ugly, and lecherous, and immediately makes an excuse to break their date.

Humour Card 9	Core features	Social/occupational functioning	psychological functioning
Higher level humour	Use of humour or irony that involves laughing with, rather than at, objects; use of humour that builds social support. The focus is generally on light topics.	High level humour usually facilitates social support, so it creates relatively little social disturbance. For example, a nervous speaker reacts to equipment failure with a joke and gains confidence when the audience laughs with him.	Because the individual usually remains aware of the stressor, but the stressor is rendered less threatening through the use of the defense, the degree of psychological disturbance is relatively minor. For example, nervous because she is hiking in the dark, a young woman jokes with her friends about their poor sense of timing, and her anxiety about the dark is lessened when she laughs with them.
Middle level humour	Use of humour or irony that involves laughing with, and sometimes at, objects; use of humour that may build or damage social support. The focus is generally on less comfortable topics than at the higher level.	Middle level humour may facilitate or damage social support; there is potential for more social disturbance than at the higher level. For example, in an attempt to feel more comfortable at a party where he does not know many people, a young man tells an off-colour joke as a response to an event near the swimming pool. Some people find the joke funny; others do not.	The degree of psychological disturbance is greater at the middle level than at the higher level, because the individual's perception of what is appropriate or fitting is less accurate. For example, in order to deal with the embarrassment of showing up to a party in the same dress as a another woman she does not know, a young woman jokes that they both must be astute bargain hunters. She does not consider whether the other woman would find this amusing before saying it.
Lower level humour	Humour that often alienates others because the focus is on unpleasant or uncomfortable truths.	At the lower level, humour tends to make others uncomfortable rather than alleviate stress and facilitate social support. For example, a school teacher is interviewed for a television news story about sex education. While on camera, he tells a joke about child molesters that results in complaints against him.	Because the individual perceives the humour as appropriate when it is clearly not, there is more psychological disturbance than at the higher levels. For example, a woman is on a date with a Jewish man whom she likes, but is uncomfortable because he is Jewish and she has no experience interacting with Jews. In an attempt to lighten her anxiety, she makes several jokes about Jews. She does not understand when he does not call her back.

Identification with the aggressor Card 10	Core features	Social/occupational functioning	psychological functioning
Higher level identification with the aggressor	Identification with prosocial aspects of an individual or organization	Generally, the individual or organization identified with has some power over the individual using this defense at the higher level, so the degree of social disturbance is limited. For example, a young lawyer dresses more like the senior partners in the firm she works for, and adopts some of their speech mannerisms. This helps her fit in.	At the higher level, aspects of the aggressor are generally positive and beneficial to the individual using the defense, which limits the degree of psychological disturbance. For example, a young lawyer adopts values similar to her superiors after getting a promotion. This involves little change in her previous values.
Middle level identification with the aggressor	Identification with aspects of an individual or organization that may or may not be prosocial and/or helpful	The individual or organization identified with may or may not have some power or influence over the individual using this defense at the middle level, so the degree of social disturbance is greater than at the higher level. For example, a young law student dresses more like the senior students in the law program, and adopts some of their attitudes and values towards success, some of which may not be ethical.	At the middle level, the aspects of the aggressor that are internalized are less positive and beneficial to the individual, and so the degree of psychological disturbance is relatively greater than at the higher level. For example, a woman feels anxious around her interpersonally aggressive boss, and takes on her boss's style at work. She feels more powerful when she is abrupt with others (including her boss) in the same way her boss is abrupt with her.
Lower level identification with the aggressor	Identification with antisocial or otherwise problematic aspects of an individual or organization.	At the lower level, identification with the aggressor disturbs social relationships because of the qualities of the aggressor that are internalized. For example, a man has identified with the domineering and physically aggressive aspects of his father, and mistreats his girlfriends in a manner similar to the one in which his father abused his mother. This ensures a lack of mutuality and stability in his romantic relationships, as his girlfriends either leave him or fear him if they stay.	At the lower level, the aspects of the aggressor that are internalized are neither positive nor beneficial to the individual, and so the degree of psychological disturbance is greater than at the higher levels. For example, a young woman joins a biker club because her boyfriend joins. The attitudes toward women by the members of the club are quite negative, and the woman internalizes these values. She begins to see women (and herself) as sex objects subservient to men; she begins to use increasingly sexist language, and to enjoy the degradation of women.

Turning against self Card 11	Core features	Social/occupational functioning	psychological functioning
Higher level turning against self	Relatively minor misplaced self blame.	Generally, higher level turning against the self facilitates social support and so causes relatively little social disturbance. For example, a poorly treated worker blames himself for his boss's unprovoked outburst in such a way that it provokes sympathy and support from his colleagues.	The degree of psychological disturbance caused by higher level turning against the self is relatively minor, as the relation between the individual and the problem is generally close. For example, after his children left the door open and his cat got out and dug up the neighbour's garden, a man feels personally responsible for the damage to the garden.
Middle level turning against self	Relatively moderate misplaced self blame. The use of the defense may prompt sympathy or create problems for the individual.	Middle level turning against the self may facilitate or damage social support and so causes more social disturbance than higher level turning against self. For example, a shift manager blames herself for her employees' poor performance, provoking sympathy from some of her subordinates and contempt from others. Performance suffers with this crew, and management is left wondering what is happening.	The degree of psychological disturbance caused by middle level turning against the self is greater than at the higher level, as the relation between the individual and the problem is less clear. For example, a young woman is harassed by her boss, and believes that if she were a more productive employee the harassment would stop. She minimizes evidence that suggests she is not to blame.
Lower level turning against self	Self blame that creates new problematic situations and may be exploited by others	At the lower level, turning against the self causes problems more often than it facilitates support. The self-blame is clearly misplaced and others may become impatient with the individual's inability to do something about his or her distress, or otherwise continue to mistreat him or her. For example, the abused husband of an unemployed alcoholic is convinced that if he were a better husband his life would be better. His family is losing patience because he continues to support his wife, and she continues to abuse him.	Because the self-blame is more clearly misplaced than at the higher levels, the degree of psychological disturbance is greater. For example, after surviving a sexual assault, a woman berates herself for acting the way she did to "provoke" her aggressor. She cannot internalize any views that remove blame from her.

Projection Card 12	Core features	Social/occupational functioning	psychological functioning
Higher level projection	Projection of aspects of the self that match the object of the defense somewhat or are relatively minor and innocuous. At the higher level, projections are also often brief.	Generally, the objects of higher level projections are relatively distant and/or unaware of the projection, thus limiting the social disturbance caused by the use of the defense. For example, feeling guilty about coming home late, a man projects anger onto his wife and is overly defensive with her. She was more worried than angry, but may become angry because of his defensiveness.	Because the aspects of the individual that are projected are minor, innocuous, or are relatively consistent with the object of the defense, the degree of psychological disturbance is relatively minor. For example, a father becomes nervous walking on a dark path in a campsite to take his son to the bathroom, he turns to the boy and tells him it's OK to be afraid. He believed his son must be afraid, and was somewhat aware of his own fear.
Middle level projection	Projection of aspects of the self that are match the object less well	Generally, the objects of middle level projections are less distant and/or unaware of the projection than at the higher level, thus the degree of social disturbance caused by the use of the defense is greater. For example, feeling guilty about increasingly romantic feelings towards a female friend, a man becomes suspicious about his wife's faithfulness, and becomes jealous of her and irritable with her. She does not know why his behaviour has changed, and wonders if something is going on with him.	Because the projected aspects are clearly inconsistent with the object of the defense, the degree of psychological disturbance is greater than at the higher levels. For example, a woman falls in love with her boss (who is not interested in her romantically). She begins to misinterpret his behaviour as indicating that he is romantically interested in her, and responds to his "advances". She is angry when he calls her in for a meeting to discuss her inappropriate behaviour with him, believing that he was the one who was inappropriate. She has no valid evidence to support her claim, just a feeling.
Lower level projection	Projection of aspects of the self that are poor matches to the object, or that are obvious to others.	At the lower level, projection involves projecting aspects of the self that clearly do not match the object of the defense. Others may see that the attributions are projections. The individual using the defense may or not may acknowledge that he or she has the projected aspects. For example, a man works with an individual who is a rising star in his field. Threatened by his colleagues' success, the man projects envy onto his colleague, energetically telling people that the other man is envious of his successes. No one believes this, and the fact that he is telling people about the perceived envy disturbs the atmosphere at work to the point that some of his colleagues make complaints of harassment about him.	Because the aspects of the individual that are projected are less minor, innocuous, or relatively consistent with the object of the defense than at the higher levels, the degree of psychological disturbance is greater. For example, a hostile young man projects his intense hostility into people in his environment and, seeing others as intensely hostile, is afraid of people.

Pseudo-altruism Card 13	Core features	Social/occupational functioning	psychological functioning
Higher level pseudoaltruism	Helping others rather than oneself in situations where not helping oneself does not create or maintain significant problems.	Generally, higher level pseudoaltruism helps others without hindering the individual, so it facilitates social relationships. For example, a manager at a firm lobbies for better working conditions for her subordinates, but not for people in her position. This results in positive regard from her subordinates.	The fact that the individual feels better from helping others in similar situations, and that not addressing his or her own issues does not present significant problems for the individual limits the degree of psychological disturbance. For example, a man feels better when helping other students study. His own study habits are relatively poor, but he is doing acceptably well at school.
Middle level pseudoaltruism	Helping others rather than oneself when such behaviour may create and/or helps perpetuate moderate problems for the individual	Middle level pseudoaltruism helps others but may hinder the individual because he or she neglects his or her own situation. It likely facilitates social relationships, but may also provoke concern in those who care about the individual. For example, a student helps her roommate study for upcoming exams, but neglects to study for her own exams. While her roommate appreciates the help, her parents and friends are concerned about her grades.	Middle level pseudoaltruism involves greater psychological disturbance because the individual's situation is at greater risk of becoming worse or staying bad, but he or she neglects it in favour of helping others with similar problems. For example, a teacher lobbies for better working conditions for the faculty at the school where a friend works, but fails to address the poor working conditions in her own school. She acknowledges that the working conditions in her school are poor.
Lower level pseudoaltruism	Helping others instead of oneself when such behaviour clearly creates and/or helps perpetuate significant problems for the individual	At the lower level, pseudoaltruism basically involves experiencing vicarious satisfaction from helping others when one's own situation demands action. Adding to the social disturbance is the likelihood that others may resent the help. For example, a woman insists on helping a family in a similar situation to hers; both suffer poverty and domestic aggression. The mother in the other household feels intruded upon, and the woman's own children feel neglected as they see all the energy their mother puts toward the other family. The woman's husband becomes jealous that she is spending so much time with the other family, and his abuse continues.	Because the use of this pseudoaltruism at the lower level includes addressing others' issues when one's own clearly require attention, the degree of psychological disturbance is greater. For example, a lonely middle-aged man notices that a younger colleague seems to be having similar troubles. He spends some time talking to the younger man, telling him where good places to meet others are. When the younger man invites him out for drinks, he refuses, but helps arrange a staff social that he then does not attend. The older man's loneliness continues, despite his assistance of the younger man, and despite opportunities for him to have social interactions. He cannot bring himself to address his own problem.

Acting out Card 14	Core features	Social/occupational functioning	psychological functioning
Higher level acting out	Acting out behaviour with relatively minor consequences. The degree of risk or damage necessary to provide relief is minimal.	Generally, higher level acting out occurs in social contexts where the risky behaviour has relatively limited potential for damage and impresses others, thus facilitating social support. For example, a first year university student, feeling anxious at a pool party, attempts a triple somersault off the diving board, never having tried this before. The students at the party cheer him on.	The degree of psychological disturbance is limited because the individual has some awareness and control over the acting out behaviour. For example, a young man misses his flight and causes a small scene at the airport. He is able to stop and compose himself when he sees security approaching.
Middle level acting out	Acting out behaviour with more serious consequences than at the higher level. The degree of risk or damage necessary to provide relief is greater than at the higher level.	Middle level acting out occurs in social contexts where the risky behaviour has greater potential for damage than at the higher level. While it may facilitate social support, the risk for harm is greater. For example, a first year university student, feeling anxious at a party, drinks 25 shooters over the course of the evening. He becomes so sick he is taken to hospital. Some of his colleagues are impressed by his willingness to "go hard", and others think he was stupid for drinking as much as he did.	The degree of psychological disturbance is greater than at the higher level because the acting out behaviour is more extreme (i.e., the risk or desire for destruction is relatively greater). For example, a woman is fired at work, and she starts screaming obscenities at her ex-supervisor and co-workers. When this fails to reduce her distress, she throws office furniture around until security is called.
Lower level acting out	Severe acting out behaviour with serious consequences than at the higher levels. The degree of risk or damage necessary to provide relief is extreme.	At the lower level, acting out risks serious damage or consequences and so has a significant negative impact on social functioning. For example, a man is bumped into at a bar, and responds by smashing the end off his beer bottle and angrily threatening the man who bumped him with it. Other patrons stampede the doors in their panic and the police are called.	Because the risk of serious damage or consequences is ignored, the degree of psychological disturbance is greater than at the higher levels. For example, a woman is upset because her boyfriend has not called for the past three days, so she slashes her wrists in an attempt to feel better. The physical pain helps her take her focus off her psychological distress.

Rationalization Card 15	Core features	Social/occupational functioning	Psychological disturbance
Higher level rationalization	The use of relatively plausible excuses. The objects of the defense may be relatively minor stressors	The degree to which higher level rationalization causes social disturbance is limited, as the activating stressor is generally relatively minor. For example, a young man is ambivalent about a date he is going on and shows up a few minutes late (which may indicate passive aggression). He explains how difficult it was to find parking. His date indicates that she understands.	Because the rationalizations are relatively plausible, the degree of psychological disturbance is limited. For example, cleaning up after a party, a man on a diet eats the remaining few cookies, telling himself it would be a shame to throw them away.
Middle level rationalization	The use of relatively less plausible excuses. The objects of the defense may be relatively moderate stressors.	Middle level rationalization causes relatively greater social disturbance than at the higher level, because the activating stressor is relatively more serious and the excuses less plausible. For example, a student hands in a term paper two weeks late with the excuse that he did not know the deadline. The instructor knows that other students knew the deadline, and the deadline was also listed in the course outline, and does not accept the excuse.	Because the activating stressors are relatively greater and the rationalizations less plausible than at the higher level, the degree of psychological disturbance is relatively greater. The rationalizations serve to justify or maintain a less healthy status quo. For example, a woman excuses her increasingly promiscuous behaviour while drunk by telling herself that she has been under a lot of stress recently and that she deserves to "blow off some steam".
Lower level rationalization	The use of relatively implausible excuses. The objects of the defense may be relatively severe stressors.	At the lower level, rationalization creates excuses that are highly implausible or that ignore significant elements of truth. This creates social friction because others see how distorted the rationalization is. For example, a child molester tells his therapist that engaging in sexual activity with children is a good way to teach them about sex. This belief serves to justify his sexual aggression against children and has resulted in his incarceration.	Because lower level rationalizations are implausible or ignore significant elements of the truth, the degree of psychological disturbance is greater than at the higher levels. For example, a woman believes that her excessive drinking helps her deal with the pressures of work and parenting. She has no plans to change, as her behaviour is justified to her.

Intellectualization Card 16	Core features	Social/occupational functioning	Psychological disturbance
Higher level intellectualization	Intellectualization withdrawal from relatively innocuous emotions	The activating stressors of higher level intellectualizations are often relatively remote, so the degree of social disturbance is limited. For example, a woman is disturbed reading about thousands killed in an earthquake, and discusses with a friend how this might have been limited if the affected nation had a more efficient infrastructure. She and her friend have a discussion about the difficulties of governing developing nations.	Because the activating stressors are generally relatively distant, the evoked threatening emotions are often mild, and so the degree of psychological disturbance is relatively minor. For example, a researcher, frustrated by a series of studies that do not support his theory, uses formal language when communicating these findings with a colleague. Focusing on the intellectual aspects helps him avoid feeling frustrated.
Middle level intellectualization	Intellectual withdrawal from moderately intense emotions.	The activating stressors of middle level intellectualizations are less remote than at the higher level, so the degree of social disturbance is greater. While the intellectualizations may help the individual avoid "making a scene", they may also strike others as cold and unfeeling. For example, when diagnosed with a serious illness, a young man focuses on the nature of the pathogens and their treatment instead of experiencing fear that is typical of those confronted with the illness. His treatment team appreciates his understanding of the illness, but his wife is concerned because he is not dealing with the feelings that his illness must bring.	Because the activating stressors are generally closer than at the higher level, the evoked threatening emotions are generally more acute, and so the degree of psychological disturbance is relatively greater at the middle level. For example, when confronted by unpleasant truths about himself in psychotherapy, a patient discusses Freudian psychosexual theory in "an attempt to understand"; he does not believe that he has had an emotional response to the information, and focuses on the information learned rather than what it means to him.
Lower level intellectualization	Intellectualized withdrawal from strong emotions	At the lower level, intellectualizations focus on abstractions that are significantly removed from the original stressor, and the activating stressor is generally quite immediate. For example, upon discovering that her husband has been unfaithful, a woman immediately tries to discuss his perspective on the modern nuclear family with him in an attempt to flee her feelings of loss and shock. Her lack of affect perplexes others, and they worry about her.	Because lower level intellectualization involves the repression of affect in favour of abstract intellectualizations in the context of immediate stressors, the degree of psychological disturbance is greater than at the higher levels. For example, upon learning that her son has died in a fraternity drinking initiation, a woman immediately focuses on the problem of alcohol abuse and addiction in North American youth culture rather than experiencing significant emotion associated with the loss of her son. Her focus on the abstract decreases her suffering.

Fantasy Card 17	Core features	Social/occupational functioning	Psychological disturbance
Higher level fantasy	Daydreams that generally motivate action	Higher level fantasy causes relatively little social disturbance because it generally occurs in private or for brief bursts. When it occurs in social situations, it is generally relatively brief, and so any social disturbance resulting from its use is limited. For example, after a difficult day waiting tables, a waitress loses herself in books about France. She is saving for a trip to France. Her friends buy her books about France and the French language on her birthday in support of her dream.	Higher level fantasy often motivates action, and is therefore relatively reality-based. Consequently, the degree of psychological disturbance associated with the defense at this level is limited. For example, a woman imagines herself confronting her domineering boss several times before plucking up the courage to actually do it.
Middle level fantasy	Daydreams and fantasies that are less reality-based or that do not motivate action	Middle level fantasy causes more social disturbance than at the higher level because it is less reality-based and/or less likely to be something that others can connect with. Consequently, it may facilitate or hinder social support. For example, a man finds his job stressful, and often fantasizes about leaving it and starting his own company. While he finds his fantasies relaxing, his wife complains that "his head is in the clouds". She wishes he would either resolve the issues at his job or actually start the company he dreams of.	Middle level fantasy may not necessarily motivate action, and is therefore less reality-based than at the higher level. Consequently, the degree of psychological disturbance associated with the defense at this level is greater than at the higher level. For example, a woman who works as a waitress in a busy restaurant loses herself in romance novels on the bus ride home. She finds that "these escapes" are relaxing after a busy day on her feet.
Lower level fantasy	Fantasies at this level often interfere significantly with the individual's ability to fulfill social/occupational roles, and/or replace action. The fantasies may be used excessively to escape unpleasant realities.	At the lower level, fantasy is generally a retreat to the imagination that either creates or maintains social problems. For example, a woman works from home and is ashamed of her morbid obesity. She has a friend base that is exclusively internet-based. In her interactions with them, she presents herself as fit and active. She spends hours each day chatting with her internet friends, and is lonely when not interacting with them.	Lower level fantasies create psychic "retreats" for individuals where real-life problems may be avoided. This either creates or maintains problems. For example, a young man feels socially awkward. Instead of acting to remedy his social situation, he creates imaginary scenarios in which he has many friends and feels happy. If he an issue arises that needs to be dealt with, he generally imagines how he would like to deal with it instead of actually doing something to address the situation.

Psychotic denial Card 18	Core features	Social/occupational functioning	Psychological disturbance
Higher level psychotic denial	Brief thought disorder, minor hallucination, or minor delusion	Because higher level psychotic denial has relatively minor symptoms or is relatively brief, the degree of social disturbance is limited. For example, upon hearing from a police officer that her husband has been killed in an accident, a young woman wonders how her husband will react to the news (as if he is still alive). She then realizes what she has said and apologizes for being confused. The police officer understands that she is distressed.	Because the psychotic symptoms are relatively minor and/or brief, the degree of psychological disturbance is relatively minor. For example, after being violently sexually assaulted, a young man sometimes hears what he believes footsteps behind him (denying his lack of control over his trauma). When he attends to them, he usually finds that they are not footsteps, but rather other sounds he mistook for footsteps. He understands that his perceptions are off after the fact.
Middle level psychotic denial	Thought disorder, hallucinations, or delusions that serve to deny, fracture, or replace distressing elements of reality.	At the middle level, psychotic denial has more severe symptoms or a longer duration than at the higher level, and the psychotic denial is generally a response to a less severe stressor at the middle level, so the degree of social disturbance is greater. For example, a woman moves to a large city from a small town. She is single and lonely, but also feels unsafe because of the higher incidence of crime in the city. She develops the belief that she has been noticed by a man (which, in this context, is both a hope and a fear for her); she sees evidence of him in otherwise innocuous events, and begins to worry about this. Her belief consumes so much of her energy that she is unable to make new acquaintances, as she tends to alienate others quickly by discussing her "stalker".	Because the psychotic symptoms are greater and/or of longer duration and/or in response to relatively less serious stressors, the degree of psychological disturbance at the middle level is greater than at the higher level. For example, an awkward and lonely young computer programmer fixates on conspiracy theories. He draws connections that seem to support a belief that the CIA is interested in his work (which validates him as important) from current events. While he does have explanations for how the events are related and pertain to him, these explanations are implausible at best, and loosely organized at worst.
Lower level psychotic denial	Significant thought disorder, hallucinations, or delusions.	At the lower level, psychotic denial involves significant psychotic symptoms. The individual's ability to maintain social relationships is severely compromised by the use of this defense and its accompanying loss of contact with reality. For example, a woman who was sexually abused for years as a child develops the belief that she was never a child (and therefore never abused), that she is an eternal avatar of Fate. She has lost contact with her family and friends, and it is difficult for others to interact with her because of her delusions.	Because the thought disorder, hallucinations, and/or delusions at the lower level of psychotic denial are more severe and/or long-lasting than at the higher levels, the degree of psychological disturbance is greater. For example, after losing his family in a house fire, a man's ability to hold onto a thought (including thoughts of his loss) diminishes drastically; his speech and behaviour become disorganized as the internal chaos he experiences is expressed directly.

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Undoing Card 19	Core features	Social/occupational functioning	Psychological disturbance
Higher level undoing	Repetitive or ritualistic behaviours and/or "taking back" that cause few if any problems	Because higher level undoing involves relatively mundane repeated symbolic gestures, the degree of social disturbance is limited. For example, talking to his boss's secretary on his way to deliver bad news, a junior employee taps his foot against his other ankle. The secretary does not notice.	Because the repetitive behaviours are relatively mundane symbolic gestures, the degree of psychological disturbance is relatively minor. For example, a student finds that doodling in her notebook during a boring lecture alleviates her feelings of boredom.
Middle level undoing	Repetitive or ritualistic behaviours and/or "taking back" that may cause moderate problems	Middle level undoing involves repeated symbolic gestures that are less innocuous than at the higher level. Because middle level undoing may facilitate or harm social interactions, the degree of social disturbance is greater than at the higher level. For example, in an effort to maintain his composure on a date with a woman he likes, a young man finds himself frequently retracting things he says. His date may find this endearing, or she may wonder what he is hiding.	Because the repetitive behaviours are less disguised as mundane events, the degree of psychological disturbance is greater than at the higher level. For example, an instructor who does not like public speaking paces near the door of the room in which he is teaching.
Lower level undoing	Compulsive use of ritualistic symbolic behaviours and/or "taking back" that have the potential to create significant problems.	At the lower level, undoing involves the repeated use of symbolic or ritualistic gestures that are more obvious or potentially disruptive than at the higher levels. For example, a man who is worried about women think he looks compulsively picks at imaginary blemishes on his face, which results in him accidentally scratching and cutting his face. This results in him creating scabs and pock-marks on his face, which make him less attractive.	The degree of psychological disturbance is greater than at the higher levels because the symbolism contained in the repetitive or ritualistic behaviour is more obvious. For example, a woman who feels her life is spinning out of control begins to find it necessary to check things in order to make sure that she has some control. She repeatedly checks whether she has locked her apartment, she repeatedly checks to see that she has turned the lights and stove off. Also, she has begun to eat in a very ritualized manner, and becomes distressed when unable to do so. If she does not check or eat according to her ritual, she becomes very anxious and panicky.

Passive aggression Card 20	Core features	Social/occupational functioning	Psychological disturbance
Higher level passive aggression	Indirect expressions of mild aggression	Higher level passive aggression generally occurs in situations where there is a real power difference between the individual and the object of the defense. However, because the expressed aggression is relatively minor, the degree of social disturbance is limited. For example, a disgruntled employee accidentally leaves an unflattering cartoon of his hostile boss in the photocopier when the boss is away. The cartoon cannot be traced to the employee.	Because the aggression expressed is relatively mild, the degree of psychological disturbance is limited. For example, a student forgets to tell her negligent supervisor when she notices that that his zipper is undone. She remembers after the fact that she forgot, but does not feel especially embarrassed.
Middle level passive aggression	Indirect expressions of moderate aggression	Middle level passive aggression generally occurs in situations where there is less of a power difference between the individual and the object of the defense than at the higher level, and/or the expression of aggression is less indirect. This results in greater social/occupational disturbance. For example, a young man mutters insults under his breath after a colleague informs him that he has failed to accomplish an important task at work. When the colleague asks the man what he just said, the man says nothing and does not make eye contact with his colleague. The colleague is left frustrated and angry.	Because the relationship to the object of the aggression is generally more equal and/or the aggression expressed is more obvious than at the higher level, the degree of psychological disturbance is greater. For example, a woman finds it impossible to confront her boyfriend on some of his rude or inconsiderate behaviours. The thought of direct confrontation fills her with dread. Instead of discussing what is upsetting her with him, she gives him "the silent treatment" until he guesses what has upset her.
Lower level passive aggression	Indirect expressions of relatively severe aggression	At the lower level, passive aggression includes the indirect expression of more serious aggression than at the higher levels, and so creates more significant social disturbance. For example, a man employed at a steel mill neglects to tell a co-worker with whom he is upset about an important change to the schedule with regards to the movement of molten steel in the mill. The co-worker is seriously injured as a result, and, because the man's dislike for his co-worker is well-known, he is charged with criminal negligence in this event. Others find him callous with regard to this accident, and wonder if he did it on purpose.	At the lower level, passive aggression often occurs between equals or in relationships where the person using the defense actually has more power in the relationship than the object of the defense. The individual using the defense at this level cannot tolerate direct confrontation with the object of this defense, and so resorts (usually unconsciously) to indirect expression of aggression. For example, a woman is angry with her subordinate because she cut her off during a presentation. Instead of discussing this with her subordinate, the woman "accidentally" deletes her subordinate's cumulated data from the previous week. When conducting a performance evaluation of her subordinate, the woman takes note that the deadline was missed on this project.

Repression Card 21	Core features	Social/occupational functioning	psychological functioning
Higher level repression	Motivated forgetting of events that have relatively little to do with one's current situation	Unless the content of the repressed material is relevant to current social functioning, higher level disturbance is unlikely to involve social disturbance. For example, a man experienced significant emotional abuse from his ex-wife, but no longer associates with her. Discussing a period of his life when he was married, he is surprised to find that he cannot remember events from this time in his life. This has little impact on his current social life.	Because the activating stressor is repressed from conscious awareness there is significant disturbance. However, the repressed material is likely focally repressed; more general aspects of the situation are likely retained. For example, a woman discusses summer holidays with her brother, and discovers that she was sexually abused by their uncle one summer. Despite concentrated effort, she cannot remember this abuse, although she remembers other events from that summer.
Middle level repression	Motivated forgetting that may have an impact on current functioning	Middle level repression involves repression of material more relevant to current social functioning than at the higher level, and so the social disturbance is greater. For example, a man who is having difficulty confronting some difficult issues in therapy forgets his sessions and only remembers that he has therapy when he receives a phone call from his therapist, who is wondering whether he still wants treatment.	As with the higher level, there is significant psychological disturbance because material is repressed from conscious awareness. At the middle level, there is generally less focus of the repressed material, with possible "spillage" into other areas. For example, a woman discusses a staff party with a colleague. The colleague remarks that the woman seems to be dealing well with the embarrassment of being yelled at by the boss at the party. The woman does not remember this happening, and finds she only has a hazy recollection of the party.
Lower level repression	Motivated forgetting that likely has an impact on current functioning, possibly affecting in multiple contexts or involving multiple memory "gaps"	At the lower level, repression involves repression of material that is relevant to everyday functioning. Because the individual has no awareness of this material and needs it in order to function properly, the use of the defense at the lower level causes significant social disturbance. For example, a secretary has a conversation over the telephone, after which she is supposed to tell her boss some important information. However, she feels uncomfortable talking to her boss. After hanging up, she promptly forgets that she had the conversation, which allows her to avoid having to talk to her boss. This leads to problems at work.	Because the threatening information is pushed outside of conscious awareness, there is significant psychological disturbance. What contributes to this at the lower level of repression is the fact that the repressed material may be more global than at the higher levels, and/or is more relevant to the individual's daily functioning. For example, a man who is in a dysfunctional marriage finds that he cannot recall significant events in his marriage. He has no recollection of birthdays, holidays, vacations taken with his wife, or similar events that would normally make memories. He is unaware of this unless someone reminds him, at which point he notices that he has no recollection. He wonders whether he has a neurological problem.

Neurotic denial Card 22	Core features	Social/occupational functioning	psychological functioning
Higher level neurotic denial	Denial of relatively minor affect, action, consequences, or intent	Higher level denial involves relatively limited social disturbance, as the elements denied are subtle or minor. For example, a self-conscious man ignores evidence that a colleague dislikes him and so is able to focus on his work rather than engage in office politics.	Because the aspects denied are likely relatively trivial, there is relatively little psychological disturbance involved at the higher level. For example, a woman on a diet does not believe that the alfredo sauce she is eating violates her diet.
Middle level neurotic denial	Denial of relatively moderate affect, action, consequences, or intent.	Because the affect, intention, action, or consequences denied are more obvious than at the higher level, middle level denial involves greater social disturbance. Others may become concerned or irritated by the denial. For example, a student believes that he will still receive an A in his class despite barely passing the first mid-term and so does not improve his study habits. His parents, worried about his grades, talk to him about his performance, but he dismisses their concerns, telling them that he will "get it together".	There is greater psychological disturbance involved at the middle level than at the higher level, because the elements denied are more obvious. For example, a man developing romantic feelings for his co-worker's wife denies having these feelings despite the fact that he makes excuses to be able to spend time with her and thinks about her frequently when they are not together. He believes that he thinks she is a "good friend".
Lower level neurotic denial	Denial of obvious action, intent, affect, consequences, or intent, but without psychotic disturbance.	At the lower level, neurotic denial involves the denial of obvious action, intent, affect, and/or consequences. Because the elements that are being denied are fairly obvious to others, the degree of social disturbance is greater than at the higher levels. For example, a man is confronted by his wife about his drinking. She tells him she is concerned about it because he drinks at least four glasses of scotch when he comes home from work every day and it seems to her he was drinking before he came home. When he denies that he has a drinking problem, she considers moving out.	Because the elements of reality that are denied are obvious at the lower level, the degree of psychological disturbance is greater. For example, a woman accidentally hits a cyclist while driving. She continues driving, telling herself that it didn't happen, that she must have hit a garbage can or something.

Grandiosity Card 23	Core features	Social/occupational functioning	psychological functioning
Higher level grandiosity	Relatively minor self-aggrandizement.	Higher level grandiosity involves relatively minor self-aggrandizement, which may facilitate social support or inspire (slightly misplaced) confidence in others. For example, a self-conscious man compensates for his feelings by slightly exaggerating his accomplishments to his friends. His friends think he is interesting.	Because the self-aggrandizement is relatively minor, the amount of psychological disturbance is limited. For example, an employee believes that his recent promotion to a management position will not significantly alter the amount of stress he experiences at work because he is so skilled.
Middle level grandiosity	Moderate self-aggrandizement that may alienate or impress others. The individual likely evaluates others in relation to him or herself frequently and works to feel superior.	Middle level grandiosity involves greater self-aggrandizement than at the higher level, which may facilitate or harm social support. For example, a woman with a low self-image goes to the bar walks to the front of the line, expecting to be let in before the crowd. Having to wait in line would confirm her fears that she is unimportant. Some of her friends are impressed by her boldness, while others think she is too full of herself.	Because the self-aggrandizement is greater than at the higher level, the amount of psychological disturbance is greater. For example, a young woman who feels undeserving of love demands that her boyfriend prove his love to her by being quite demanding with him. On the surface, she believes that she deserves "royal treatment", and when she does not get it she becomes very upset.
Lower level grandiosity	Relatively severe self-aggrandizing behaviour that alienates others because the individual is constantly in "competitions" that he or she must "win". This has a corrosive effect on relations with others. Lower level grandiosity stops short of grandiose delusions (which are indicative of psychotic denial/disturbance).	At the lower level, grandiosity involves behaviour that highly exaggerates one's positive qualities and ignores one's negative qualities. Positive qualities may also be fabricated. This creates significant social disturbance, as the individual generally makes his or her opinion that others are generally beneath him or her known. For example, at a dinner party sponsored by the archdiocese, a woman seats herself beside the archbishop, although she is not directly involved with the church. The other guests who do not know her mutter disapproval; the ones who do are angry that she has marred the event.	Because the self-aggrandizement is more severe at the lower level than at the higher levels, the degree of psychological disturbance is greater. For example, a limousine driver who took first year courses in a community college before failing out (because, he believes, the instructors did not understand his genius) learns that his customer is a world-renowned economist on his way to the United Nations to give a talk on third world debt. The limousine driver believes that he understands this topic enough to be in a position to give advice to his customer and does so. He becomes angry when his customer disagrees with him because he feels the customer will fail to share his vital insights in the lecture.

Turning against others Card 24	Core features	Social/occupational functioning	psychological functioning
Higher level turning against others	Blaming abstract or distant objects for intrapsychic conflict.	Objects of this defense at the higher level are generally distant and/or unaware that blame is being attributed to them, so the amount of social disturbance is relatively limited. For example, a conservative retiree who feels guilty about retiring blames his neighbours, whom he believes are "liberals, hippies and communists", for a recent increase in social spending. He does not associate with people who have differing opinions, so expressing his opinion affirms what some of his associates believe.	The degree of psychological disturbance is relatively minor because the objects are too distant for reality testing to be possible and/or because there is some plausible (but false) relation between the object and the stressor. For example, an absent-minded waitress teased by her hostess blames the hostess when she forgets to place an order. The waitress believes that she was flustered by the teasing and that is why she forgot.
Middle level turning against others	Blaming relatively closer external objects for distress or problems. The blame is less plausible than at the higher level.	Objects of this defense at the middle level are generally closer and/or more aware that blame is being attributed to them than at the higher level, and/or the blame is more obviously unrelated to the object of the defense, so the amount of social disturbance is greater. For example, a middle-aged man blames his son-in-law after his daughter is injured in a car accident that was not the son-in-law's fault (he was driving). This strains his relationship between him and his daughter and son-in-law, but strengthens his relationship with his wife, who also wants a concrete object to blame for her daughter's misfortune.	The degree of psychological disturbance is greater than at the higher level because the objects are close enough for reality testing to be possible and/or because there is less of a relation between the object and the stressor. For example, a man's second wife leaves him after their relationship has been floundering for several years. He blames his daughter from his first marriage, believing that her difficult behaviour drove his second wife away, although his daughter got along reasonably well with his wife.
Lower level turning against others	Blaming close objects for distress or problems. The blame is obviously implausible.	At the lower level, turning against others involves attributing blame to others (who are usually in close relationships), when the blame is clearly misplaced. For example, a patient in a high intensity residential sex offender treatment program who is finding treatment to be stressful believes that the treatment staff are trying to see at which point he will "snap". He does not take responsibility for his lapses, blaming the treatment team and the intensity of the program for his behaviour.	Because the blame is more obviously misplaced than at the higher levels, lower level turning against others causes more psychological disturbance. For example, a woman ignores her pre-surgery instructions to not eat for 24 hours prior to her operation. When complications including infection result from her noncompliance, she attempts to sue the hospital, believing the incompetence of her surgeon caused her difficulties. She refuses to hear any arguments that she contributed to the problem.

Idealization Card 25	Core features	Social/occupational functioning	psychological functioning
Higher level idealization	Gaining ego strength through affiliation with a powerful other	The object of higher level idealization is relatively powerful and supportive, so the degree of social disturbance is relatively minor. For example, the new student of a well-recognized professor feels more confident about her abilities because the professor selected her. This allows her to work more confidently in the program.	Because the object of the defense is in a relatively powerful and supportive position at the higher level, the degree of psychological disturbance is limited. For example, a young woman enters a new relationship and gains self-confidence because she feels loved.
Middle level idealization	Gaining ego strength through affiliation with another. The other may not be powerful or strong, or may not react to the idealization favourably	The object of middle level idealization is less powerful and supportive than at the higher level. As middle level idealizations may foster and harm social support, the degree of social disturbance is greater. For example, a new employee idealizes one of the older salespeople, and describes him to others in idealized terms. The new employee feels more competent at work because of his contact with this senior employee. The senior staff member may be flattered or irritated by the new employee's star-struck behaviour, and others may find it endearing or annoying.	Because the object of the defense is in a less powerful and/or supportive than at the higher level, the degree of psychological disturbance is greater. For example, a woman idealizes the organization she works for, extolling its virtues to her friends and family. She feels empowered by her affiliation with the organization, but management sees her as just another employee.
Lower level idealization	Gaining ego strength from affiliation with harmful objects	At the lower level, the objects of idealization are generally negative. This causes social disturbance because the individual using the defense creates potentially harmful role models. For example, an boy believes that his older brother is "awesome", and loves spending time with him despite the fact that the older brother has just been charged with pimping, drug dealing, and assault with a weapon. The older brother used the boy as a "courier" to take drugs from one location to another, knowing that the boy would do anything he asked. When others ask the boy why he worships his brother, he gets angry and defensive. His devotion to his brother has created problems for him at school.	Because the object of the idealization is clearly more inappropriate at the lower level than at the higher levels, the degree of psychological disturbance is greater. For example, a wealthy older woman falls in love with a man 18 years younger than herself who has been divorced four times. All of his ex-wives were older wealthy women. The woman refuses to hear anything negative about her "new fiancé", believing their love to be real. She is devastated when he divorces her and demands significant alimony.

Appendix 3. A Sample Adaptiveness of Defenses Scale Profile

This ADS profile assumes the Defense-Q identified sublimation, pseudoaltruism, turning against the self, isolation, idealization, splitting, fantasy, and rationalization as characteristic for the examinee.

Defense	Social/occupational	Psychological	Total
Sublimation	3	3	6
Pseudoaltruism	1	2	3
TAS	2	2	4
Isolation	2	3	5
Idealization	1	2	3
Splitting	2	2	4
Fantasy	2	2	4
Rationalization	1	1	2
Scale score	**14**	**17**	**31**

Note: TAS= Turning against the self, Isolation= Isolation of affect.

Appendix 4. Intraclass Correlation Coefficients for Individual Defense-Q and Adaptiveness of Defenses Scale Defenses in Male Undergraduates

To calculate reliability for the individual defenses of the Defense-Q, each coder's ranking of participants' defenses was compared to the other coders' ranking using a two-way random effects intraclass correlation coefficient (ICC) model as per Shrout and Fleiss (1979) and previous research using the Defense-Q (Olson, 2008; Presniak, 2008). This generated ICCs for the Defense-Q's individual defenses.

To calculate reliability at the profile level (i.e., reliability of ADP similarity scores), each coder's Defense-Q profiles were compared with the ADP as described above and ICCs were calculated on the ADP similarity score using a two-way random effects intraclass correlation coefficient (ICC) model as per Shrout and Fleiss (1979) and previous research using the Defense-Q (Olson, 2008; Presniak, 2008). This generated ICCs at the profile level.

To calculate inter-rater reliability for individual defenses assessed using the ADS, each coder's ratings of defenses at the social/occupational, psychological, and total scale level were compared with the other coders' using a two-way random effects intraclass correlation coefficient (ICC) model as per Shrout and Fleiss (1979). This generated ICCs for individual defenses. The Ns for the different calculations vary, as all three coders did not always agree on which individual defenses were characteristic for individual participants. When examining the inter-rater reliability of the ADS, only defenses for which at least 10 cases had ratings were used.

To calculate inter-rater reliability for ADS scale scores, each coder's scale score was compared with the other coders' using a two-way random effects intraclass correlation coefficient (ICC) model as per Shrout and Fleiss (1979). This generated ICCs for the ADS scales.

Defense-Q

Defense	ICC (95% CI)
Sublimation	0.57 (0.36-0.72)
Reaction formation	0.66 (0.49-0.78)
Dissociation	0.22 (-0.09-0.46)
Displacement	0.40 (0.13-0.61)
Isolation	0.35 (0.06-0.57)
Splitting	-0.03 (-0.32-0.24)
Regression	0.40 (0.08-0.62)
Devaluation	0.72 (0.57-0.82)
Humour	0.63 (0.45-0.76)
Identification (with the aggressor)	0.10 (-0.34-0.41)
Turning against self	0.64 (0.46-0.76)
Projection	0.19 (-0.15-0.45)
Pseudoaltruism	0.61 (0.42-0.75)
Acting out	0.66 (0.46-0.79)
Rationalization	0.49 (0.24-0.66)
Intellectualization	0.54 (0.32-0.70)
Fantasy	0.54 (0.31-0.70)
Psychotic denial	0.25 (-0.01-0.51)
Undoing	0.52 (0.29-0.69)
Passive aggression	0.54 (0.24-0.72)
Repression	0.64 (0.39-0.78)
Neurotic denial	0.50 (0.26-0.67)
Grandiosity	0.56 (0.34-0.71)
Turning against others	0.60 (0.39-0.74)
Idealization	0.50 (0.25-0.68)
Mean ICC	0.47
ICC at the profile level	0.68 (0.52-0.80)

Adaptiveness of Defenses Scale

Defense	Social/occupational ICC (95% CI)	Psychological ICC (95% CI)	Total ICC (95% CI)
Sublimation n=20	0.34 (-0.42-0.72)	0.12 (-0.87-0.63)	0.24 (-0.61-0.68)
Reaction formation n=11	-0.30 (-1.52-0.54)	-0.04 (-1.42-0.67)	-0.83 (-2.68-0.37)
Devaluation n=24	0.44 (-0.06-0.73)	0.33 (-0.17-0.66)	0.45 (0.00-0.73)
Rationalization n=37	0.25 (-0.28-0.59)	0.40 (0.00-0.62)	0.41 (0.00-0.67)
Intellectualization n=14	0.74 (0.38-0.91)	0.65 (0.15-0.88)	0.80 (0.52-0.93)
Undoing n=11	0.51 (-0.12-0.84)	0.04 (-0.73-0.64)	0.36 (-0.24-0.77)
Passive aggression n=14	-0.30 (-2.31-0.56)	0.25 (-0.78-0.74)	0.07 (-1.23-0.67)
Neurotic denial n=27	0.39 (-0.14-0.70)	0.26 (-0.37-0.63)	0.37 (-0.18-0.69)
Grandiosity n=23	0.28 (-0.35-0.66)	0.36 (-0.19-0.70)	0.39 (-0.14-0.71)
Mean	0.26	0.23	0.25
ICC for scale	0.50 (0.26-0.68)	0.42 (0.14-0.62)	0.50 (0.25-0.68)

Appendix 5. Multiple Regression Analysis of Remaining Personality Assessment Inventory Variables onto Defense-Q Adaptive Defense Profile Similarity Score and Adaptiveness of Defenses Scale Total Scores

Variable	B	SE B	β	R	R²	Δ R²
Anxiety						
Step 1: ADP similarity score	-5.06	8.59	-0.07	0.07	0.01	0.01
Step 2: ADP similarity score	-8.97	11.46	-0.13			
ADS total score	0.24	0.47	0.09	0.10	0.10	0.00
Anxiety related disorders						
Step 1: ADP similarity score	-2.40	8.09	-0.04	0.04	0.00	0.00
Step 2: ADP similarity score	4.44	10.77	0.07			
ADS total score	-0.42	0.44	-0.16	0.13	0.02	0.02
Depression						
Step 1: ADP similarity score	-4.04	8.91	0.06	0.06	0.00	0.00
Step 2: ADP similarity score	-2.46	11.91	-0.03			
ADS total score	-0.10	0.49	-0.03	0.06	0.00	0.00
Mania						
Step 1: ADP similarity score	3.21	6.90	0.06	0.06	0.00	0.00
Step 2: ADP similarity score	7.10	9.19	0.13			
ADS total score	-0.24	0.38	-0.12	0.10	0.01	0.01
Paranoia						
Step 1: ADP similarity score	11.35	8.37	0.17	0.17	0.03	0.03
Step 2: ADP similarity score	16.05	11.14	0.24			
ADS total score	-0.29	0.45	-0.12	0.19	0.04	0.01
Schizophrenia						
Step 1: ADP similarity score	-4.85	8.29	-0.07	0.07	0.00	0.01
Step 2: ADP similarity score	-0.14	11.04	0.00			
ADS total score	-0.29	0.45	-0.11	0.11	0.01	0.01
Borderline						
Step 1: ADP similarity score	11.45	8.19	0.17	0.17	0.03	0.03
Step 2: ADP similarity score	16.54	10.56	0.25			
ADS total score	-0.32	0.41	-0.12	0.20	0.04	0.01
Antisocial						
Step 1: ADP similarity score	4.19	9.03	0.06	0.06	0.00	0.00
Step 2: ADP similarity score	6.92	12.05	0.10			
ADS total score	-0.17	0.49	-0.06	0.07	0.01	0.00
Alcohol						
Step 1: ADP similarity score	11.12	9.54	0.14	0.14	0.02	0.02
Step 2: ADP similarity score	9.74	12.75	0.13			
ADS total score	0.09	0.52	0.03	0.15	0.02	0.00
Drugs						
Step 1: ADP similarity score	4.05	10.32	0.05	0.05	0.00	0.00
Step 2: ADP similarity score	-3.65	13.71	-0.04			
ADS total score	0.48	0.56	0.14	0.12	0.01	0.01

Appendix 6. Interview for Coding Defenses with Male Inmates

Interview for Offenders for use with Defence-Q: Prison life, work and programs, family and relationships, and psychological functioning

[Interviewer: Read all bold print aloud]

Your identification number is _____

This interview is about how prisoners deal with problems in their daily lives. I'll be asking questions about institutional life, work and programs, family and relationships, and your thoughts and feelings. I want to caution you not to discuss details of any offences for which you haven't been charged with me (i.e., giving a name, date or place). Also, if you have any plans to harm another person or commit another offence, don't discuss them with me either. Do you have any questions before we begin? [Answer all questions that won't invalidate the participant.]

I. Institutional life

OK let's get started. In the first part of the interview, I'm going to ask questions about life in prison.

1. **Is this your first incarceration? (How many incarcerations have you had?)**

2. **Do you think your conviction was fair? (Why/why not?)**

3. **How often do you think about the crime? (Your victim[s]?) How do you feel about it/them?**

4. **How do you want to use the time remaining in your sentence?**

5. **What do you find most stressful about life in prison?**

6. **How do you deal with these feelings? (Stuff them? Get irritable? Distract yourself with something?)**

7. **Sometimes, institutional staff are unfair or rude to inmates. Has this ever happened to you?**
   [If no: **Never?** If still no, move to question 10]

8. **What do you usually do about it when this happens? (Has this ever gotten you into trouble? Do you do anything else?)**

9. **Do you think you're treated unfairly by staff more than most other inmates? (Why/why not?)**

10. **Tell me about your treatment team/CX: What's your relationship like with them? (What do they contribute to the relationship? What do you contribute?)**

11. **Inmates sometimes have disagreements with their treatment team/CX. How do you usually go about resolving yours?**

12. **How do you think most institutional staff feel about inmates?**

13. **How do you think most institutional staff feel about you? (How do you feel about this?)**

14. **How do you feel about most institutional staff?**

15. **What annoys you most about most institutional staff? (What do you do about these feelings?)**

16. **Do you support the con code? (Why/why not?)**

17. **Do you consider yourself to be a pretty solid con? (Why/why not?)**

18. **Do you think most other inmates think you're a pretty solid con? (Why/why not?)**

19. **When something's happened to make you really upset in prison, what do you do about it (get quiet, yell, swear, throw things, slam doors/punch walls, get into fights)?**

20. **Do these things help?**

21. **How do you feel about inmates who posture and talk like they're really tough?**

22. **What do you do about it?**

23. **Sometimes inmates try to pressure other inmates for things. Has this ever happened to you? (Why/why not?)**
    [If yes: **How did you deal with this? Is that the only way you deal with it? What else do you do?**]
    [If no: **Is there anything you do to ensure that this doesn't happen? (What?)**]

24. **Sometimes inmates are rude and disrespectful to other inmates. Has this ever happened to you?**
    [If yes: **How did you deal with this? Is that the only way you deal with it? What else do you do?**]
    [If no: **What do you do to ensure that this doesn't happen?**]

25. **How do you think most inmates feel about other inmates?**

26. **How do you think most inmates feel about you?**

27. **How do you feel about this?**

28. **How do you feel about most other inmates?**

29. **What annoys you most about other inmates?**

30. **What do you usually do about these feelings? (Has this ever gotten you into trouble? Do you do anything else?)**

31. **Do you plan to have a different life when you get out?**

[If yes: **How will it be different? What are you doing to make it different? Have you planned to change your life before? (What happened to bring you back?)**]
[If no: **What do you like about the life you had before you came in? Would you like to have a different life?**]

32. **Do you plan to live in the same area you lived in before your crime? Do you plan to have the same friends?**

33. **Remember not to tell me if you're planning anything illegal, but what do you hope to do the first week you're out?**

34. **How do you expect to feel after you're released?**

II. Work

That's it for questions about what life is like for you in prison. In the next questions, I'll ask you about work outside of prison and programs inside.

35. **Some jobs require special training. What work qualifications do you have?**
[If no qualifications: **What job would you like to do?**]
[If yes: **Have you worked in this field?**]

36. **Have you ever been fired? (How many times? How do you feel about having been fired?)**

37. **What's the longest time you've been unemployed? (How did you make ends meet during this time? Were you satisfied with this?)**

38. **What's the longest time you've been employed at the same job or place outside?**
[If never employed: **How do usually spend your time when you're outside? How do you support yourself?** Then move to question 50]

39. **What was it about that job that enabled you to stay as long as you did?**

40. **What did you like about this job? (What did you dislike?)**

41. **What was hardest about this job for you?**

42. **How did you deal with this?**

43. **Did you have co-workers?**
[If no co-workers, move to question 50]

44. **What was good and what was bad about these co-workers?**

45. **Did you ever have problems when dealing with these people?**
[If no: **None at all?**]
[If still no, move to question 50]

46. **What types of problems?**

47. How did you usually handle these problems?

48. When you couldn't do that, how did you usually handle these problems?

49. Did you ever get into trouble for how you deal with problems with co-workers? (How do you feel about this?)

50. Have you ever been offered work that you did not take outside?
[If yes: **Why didn't you take it? How did you feel about the offer?**]

51. Have you taken any programs this incarceration? (Past incarcerations?)

52. Did you take them because you thought you had a problem? (Why did you take them?)

53. **Do you think you put a lot of effort into your programs? (Did you take the programs seriously?)**

54. What did you get out of them?

55. **What things do you do in prison besides programs to pass the time? (What do you get out of doing them?)**

III. Family

That's it for questions about work and programs. The next set of questions is about your family and relationships

56. Did you grow up with your biological parents?
[If no: **How many homes did you live at? (Why did you move so often? Are you still in touch with any of your foster parents?)**]

57. **Tell me about your father or a male role model who was most like a father to you: What was he like when you were little? (Did he ever discipline you? How? Looking back, do you think he was doing the right thing?)**

58. **Tell me about your mother or a female role model who was like a mother to you: What was she like when you were little? (Did she ever discipline you? How? Looking back, do you think she was doing the right thing?)**

59. Did you get into trouble at home often? (How often? What for?)

60. **Did you get into trouble at school often? (How often? What for?)**

61. **What's your relationship with your parents (or foster parents) like now? (Are they supportive of you? What do you do for them?)**
[If no relationship with parents: **Why?**]

62. How many kids do you have?
[If he has no kids, move to question 67]

63. **How would you describe your relationship with them? (Why is it that way? How do you feel about it? How would you like it to be?)**

64. **What types of things do you worry about with regards to your kids?**

65. **Are any of your kids teenagers?** [If none are teenagers, move to question 67]

66. **How do you handle their adolescence differently from how your parents handled yours?**

67. **Have there been any recent deaths in your family? (Who died? Were you close?)**
    [If no deaths, move to question 71]

68. **What was your first response to this death? What was your second response?**

69. **How did you finally deal with your feelings about it?**

70. **Are you satisfied with this?**

71. **Do you have a wife, girlfriend or partner?**
    [If not, move to question 81]

72. **How would you describe this relationship?**

73. **Is this the way you want it to be? (How do you want it to be? What do you do to make it this way)**

74. **What do you like most about your partner? What do you dislike most?**

75. **What makes you worry about your partner?**

76. **How often do you and your partner have fights or disagreements? (What are they usually about? Who usually starts them?)**

77. **How do you usually resolve things when there's a fight or disagreement between you and your partner?**

78. **What do you do when your partner makes you really angry? (Is there anything else you do?)**

79. **Looking back on it, are these things really worth getting that upset about?**

80. **Have you ever considered splitting up? (Why/why not?)**

81. **Have you had any significant relationships before?**
    [If yes: **What was it like? How long did it last? Why did it end? How do you feel about it now?**]
    [If no: **Have you wanted to? (What stopped you?)**]

82. **Have you had any casual relationships, like one-night stands and flings? (How many? How do you feel about them? Do you prefer casual relationships or serious relationships? Why?)**

83. **Do you have any relationships with people that are like family to you, but that aren't family?**

84. **Tell me about them: In what ways are they like family? (What do they contribute to the relationship? What do you contribute?)**

85. **How do you feel about these relationships?**

86. **Have you ever had disagreements or fights with these people?**
    [If yes: **How often?**]
    [If no: **Never?** If still no, move to section IV]

87. **What are these conflicts usually about? (Who usually starts them?)**

88. **How do you usually deal with them? When you can't do that, how do you deal with them?**

89. **Looking back, do you think these conflicts are really worth fighting about?**

IV. Psychological

That's all the questions about family and relationships. The next section is about thoughts and feelings you have.

90. **What are your biggest worries about? (What do you do about them?)**

91. **What has been your dominant mood for the past six months? (Why?)**

92. **How do you feel about this? (What do you do about it?)**

93. **Some people have trouble going to others for help or getting advice when things are tough: What do you usually do? (Do you do anything else?)**

94. **What's the hardest thing you've had to deal with so far?**

95. **What made this one harder than the others?**

96. **How did you deal with it? / How are you dealing with it?**

97. **Can you talk about your oldest friends? (How long have you been friends? What made them your friends?)**

98. **Who are the people (non-family) that you feel free to call on for help?**

99. **When you're having a tough time, how do they know you could use some help?**

100.   How often do you get together with your friends?

101.   **What things do you do for fun? (How often do you do this? Do you do anything else?)**

102.   **What do you believe people criticize you for or find irritating about you? (How do you feel about this?)**

103.   **What do you believe people admire about you or find endearing? (How do you feel about this?)**

104.   What are the things you like and dislike about yourself?

105.   **Most people have buttons that can be pushed to make them upset. What things really upset you?**
[If nothing: **Nothing at all?** If still nothing, move to question 109]

106.   **Have you felt really really angry?**
[If yes: **What made you so mad?**]
[If no: **Never? Have you ever felt mad?** If still no, move to question 109]

107.   **What did you do about it? (Did it help?)**

108.   **Looking back on it, was what made you so mad really that bad?**

109.   Tell me about another time you felt a different extreme emotion. (What caused you to feel this way? What did you do about it?)

110.   How is your physical health?

111.   Is there anything you do to deal with stress and problems that I haven't asked about but you think would be important to add?

V. Ending

That's pretty much it for the interview questions. Do you have any questions about the review of your case record and criminal history? [Answer any questions.]

Do you have any other questions about the study? [Answer any questions.] **Well, that's it for the interview. Thanks again for taking part in the study.**

Appendix 7. Psychopathy Checklist-Revised 2ⁿᵈ Edition Items, Factors, and Facets

Item	Score (0, 1, 2, X)	Factor 1		Factor 2	
		Facet 1	Facet 2	Facet 3	Facet 4
1. Glibness/ superficial charm		☐			
2. Grandiose sense of self worth		☐			
3. Need for stimulation/ proneness to boredom				☐	
4. Pathological lying		☐			
5. Conning/ manipulative		☐			
6. Lack of remorse or guilt			☐		
7. Shallow affect			☐		
8. Callous/ lack of remorse			☐		
9. Parasitic lifestyle				☐	
10. Poor behavioural controls					☐
11. Promiscuous sexual behaviour					
12. Early behavioural problems					☐
13. Lack of realistic long term goals				☐	
14. Impulsivity				☐	
15. Irresponsibility				☐	
16. Failure to accept responsibility for own actions			☐		
17. Many short-term marital relationships					
18. Juvenile delinquency					☐
19. Revocation of conditional release					☐
20. Criminal versatility					☐
Total scores		F1: ___	F2: ___	F3: ___	F4: ___
		Factor 1: ___		**Factor 2: ___**	

Appendix 8. Self-report Questionnaires for Male Inmates. (1) Borderline Personality Inventory, (2) Propensity for Abusiveness Scale

SELF-REPORT QUESTIONNAIRE

(1) Please indicate for each of the following statements whether the statement is True (T) or False (F) for you:

1	T /F	I frequently experience panic spells.
2	T /F	Recently there has been nothing that has affected me emotionally.
3	T /F	I often wonder who I really am.
4	T /F	I often take risks that cause trouble for me.
5	T /F	I feel smothered when others show deep concern for me.
6	T /F	Sometimes another person appears in me that does not belong to me.
7	T /F	I have seen strange figures or visions when nothing was really there.
8	T /F	Sometimes I feel that people and things around me are not real.
9	T /F	My feelings toward other people quickly change into opposite extremes (e.g., from love and admiration to hate and disappointment).
10	T /F	I often feel a sense of worthlessness or hopelessness.
11	T /F	I have often wasted money, or lost it in gambling.
12	T /F	I have heard voices talking about me when nobody was really there.
13	O/W	If yes, please mark the following: Outside of me 0 Within me 0
14	T /F	In close relationships I am hurt again and again.
15	T /F	Sometimes I act or feel in a way that does not fit me.
16	T /F	I have had feelings of being directed or controlled from outside, like a puppet on a string.
17	T /F	I have attacked someone physically.
18	T /F	I have had the feeling that my thoughts are audible.

Please indicate for each of the following statements whether the statement is True (T) or False (F) for you:

19	T /F	Sometimes I feel guilty as if I had committed a crime, although I did not really commit one.
20	T /F	I have intentionally done myself physical harm.
21	T /F	Sometimes I feel that people or things change in their appearance, when they really do not.
22	T /F	I have had intense religious experiences.
23	T /F	In romantic relationships I am often uncertain what kind of relationship I want.
24	T /F	Sometimes I feel a special sense of destiny (i.e., like a prophet).
25	T /F	If a relationship gets close, I feel trapped.
26	T /F	I have felt the presence of another person, when he or she was not really there.
27	T /F	Sometimes parts of my body seem strange or somehow changed to me.
28	T /F	If relationships become too close, I often feel the need to break them off.
29	T /F	Sometimes I feel that other people are out to get me.
30	T /F	I have often used drugs (hash, LSD, etc.).
31	T /F	I enjoy having control over someone.
32	T /F	Sometimes I feel I am someone special.
33	T /F	Sometimes I feel like I am falling apart.
34	T /F	Sometimes it is difficult for me to tell, whether something really happened, or whether it occurred only in my imagination.
35	T /F	I often act spontaneously without thinking about the consequences.
36	T /F	Sometimes I feel a sense of not being real.
37	T /F	Sometimes I have the feeling that my body is dissolving or that a part of my body is missing.

Please indicate for each of the following statements whether the statement is True (T) or False (F) for you:

38	T /F	I often have frightening dreams.
39	T /F	I often have the feeling that others laugh or talk about me.
40	T /F	People often appear to me to be hostile.
41	T /F	I have the feeling that other people have injected their thoughts into my mind.
42	T /F	I often don't know what I really want.
43	T/F	I have attempted suicide.
44	T /F	Sometimes I believe that I have a serious disease.
45	Y/N	I have been addicted to alcohol, drugs, or pills. If yes, please mark the following: (a) alcohol 0 (b) drugs 0 (c) pills 0
46	T /F	Sometimes I feel I am living in a dream, or see my life before me as if it were a movie.
47	T /F	I have often stolen things.
48	T /F	I often experience pangs of hunger which cause me to devour everything in sight.
49	T /F	I am often insecure concerning questions about (please mark): (a) politics 0 b) religion 0 (c) morals (good and evil) 0
50	T /F	Sometimes I have murderous ideas.
51	T /F	I have been in trouble with the law.
52	Y/N	Did any of the above experiences occur on drugs? If yes, please give the number(s) of the respective sentence(s) Number:_____
53	Y/N	Did any of the above experiences occur while undergoing psychotherapy? If yes, please give the number(s) of the respective sentence(s) Number:_____

(2)

If the statement is *completely undescriptive* of you:	Circle the "1"
If the statement is *mostly undescriptive* of you:	Circle the "2"
If the statement is *partly undescriptive* of you	
And *partly descriptive* of you:	Circle the "3"
If the statement is *mostly descriptive* of you:	Circle the "4"
If the statement is *completely descriptive* of you:	Circle the "5"

1. I can make myself angry about something in the past just by thinking about it.

   1   2   3   4   5

2. I get so angry, I feel that I might lose control.

   1   2   3   4   5

3. If I let people see the way I feel, I'd be considered a hard person to get along with.

   1   2   3   4   5

4. I see myself in totally different ways at different times.

   1   2   3   4   5

5. I feel empty inside.

   1   2   3   4   5

6. I tend to feel things in a somewhat extreme way, experiencing either great joy or intense despair.

   1   2   3   4   5

7. It is hard for me to be sure about what others think of me, even people who have known me very well.

   1   2   3   4   5

8. I feel people don't give me the respect I deserve unless I put pressure on them.

   1   2   3   4   5

9. Somehow, I never know quite how to conduct myself with people.

   1   2   3   4   5

If the statement is *completely undescriptive* of you:	**Circle the "1"**
If the statement is *mostly undescriptive* of you:	**Circle the "2"**
If the statement is *partly undescriptive* of you	
And *partly descriptive* of you:	**Circle the "3"**
If the statement is *mostly descriptive* of you:	**Circle the "4"**
If the statement is *completely descriptive* of you:	**Circle the "5"**

10. I find it difficult to depend on other people.

<div align="center">

1   2   3   4   5

</div>

11. I worry that I will be hurt if I allow myself to become too close to others.

<div align="center">

1   2   3   4   5

</div>

12. I am somewhat uncomfortable being close to others.

<div align="center">

1   2   3   4   5

</div>

Beside each statement, please write in the number of the response listed below (1-4) that best describes how often the experience happened to you with your mother (or female guardian) and father (or male guardian). If you had more than one mother/father figure, please answer for the person who you feel played the most important role in your upbringing.

1 **Never** **occurred**	**2** **Occasionally** **occurred**	**3** **Often** **occurred**	**4** **Always** **occurred**

Father Guardian	Mother Guardian		
_____	_____	13	My parent punished me for even small offences.
_____	_____	14	As a child I was physically punished or scolded in the presence of others.
_____	_____	15	My parent gave me more corporal punishment than I deserved.
_____	_____	16	I felt my parent thought it was *my* fault when he/she was unhappy.
_____	_____	17	I think my parent was mean and grudging towards me.

Beside each statement, please write in the number of the response listed below (1-4) that best describes how often the experience happened to you with your mother (or female guardian) and father (or male guardian). If you had more than one mother/father figure, please answer for the person who you feel played the most important role in your upbringing.

	1 Never occurred	2 Occasionally occurred	3 Often occurred	4 Always occurred

Father Guardian	Mother guardian		
_____	_____	18	I was punished by my parent without having done anything.
_____	_____	19	My parent criticized me and told me how lazy I and useless I was in front of others.
_____	_____	20	My parent would punish me hard, even for trifles.
_____	_____	21	My parent treated me in such a way that I felt ashamed.
_____	_____	22	I was beaten by my parent.

How often have you experienced each of the following in the *last two months*? Please circle the appropriate answer.

0 Never	1 Occasionally	2 Fairly often	3 Very often

23.	Insomnia (trouble getting to sleep)	0	1	2	3
24.	Restless sleep	0	1	2	3
25.	Nightmares	0	1	2	3
26.	Anxiety attacks	0	1	2	3
27.	Fear of women	0	1	2	3
28.	Feeling tense all the time	0	1	2	3
29.	Having trouble breathing	0	1	2	3

Appendix 9. Intraclass Correlation Coefficients for Male Inmate Defense-Q and Adaptiveness of Defenses Scale Scores

Defense-Q

Defense	ICC (95% CI)
Sublimation	0.57 (0.34-0.72)
Reaction formation	0.27 (-0.10-0.53)
Dissociation	0.34 (0.03-0.57)
Displacement	0.46 (0.19-0.65)
Isolation	0.74 (0.58-0.84)
Splitting	0.40 (0.11-0.61)
Regression	0.32 (0.02-0.55)
Devaluation	0.56 (0.33-0.72)
Humour	0.50 (0.22-0.69)
Identification (with the aggressor)	0.25 (-0.05-0.49)
Turning against self	0.53 (0.53-0.70)
Projection	0.42 (0.14-0.62)
Pseudoaltruism	0.45 (0.16-0.65)
Acting out	0.73 (0.58-0.83)
Rationalization	0.56 (0.34-0.72)
Intellectualization	0.76 (0.55-0.87)
Fantasy	0.43 (0.15-0.63)
Psychotic denial	0.52 (0.27-0.69)
Undoing	0.50 (0.25-0.68)
Passive aggression	0.24 (-0.06-0.49)
Repression	0.62 (0.40-0.77)
Neurotic denial	0.22 (-0.19-0.51)
Grandiosity	0.63 (0.44-0.77)
Turning against others	0.51 (0.26-0.69)
Idealization	0.60 (0.38-0.75)
Mean ICC	0.49
ICC with ADP similarity score	0.75 (0.59-0.85)

Adaptiveness of Defenses Scale

Defense	Social/occupational ICC (95% CI)	Psychological ICC (95% CI)	Total ICC (95% CI)
Isolation (n=11)	0.26 (-0.86-0.77)	-0.07 (-2.01-0.69)	0.23 (-1.48-0.79)
Devaluation (n=19)	0.06 (-1.06-0.62)	0.16 (-0.76-0.62)	0.19 (-0.76-0.66)
Acting out (n=46)	0.51 (0.21-0.71)	0.49 (0.19-0.70)	0.56 (0.28-0.74)
Rationalization (n=35)	0.32 (-0.08-0.61)	0.22 (-0.31-0.57)	0.33 (-0.09-0.62)
Intellectualization (n=12)	0.61 (0.08-0.67)	0.70 (0.27-0.90)	0.70 (0.26-0.90)
Passive aggression (n=10)	0.45 (-0.34-0.84)	0.77 (0.36-0.94)	0.64 (0.07-0.90)
Neurotic denial (n=34)	0.51 (0.16-0.74)	-0.40 (-1.42-0.25)	0.19 (-0.40-0.56)
Grandiosity (n=26)	0.65 (0.33-0.83)	0.43 (-0.09-0.73)	0.58 (0.20-0.80)
Mean ICC	0.42	0.29	0.43
Total scale (n=62)	0.57 (0.34-0.72)	0.45 (0.18-0.65)	0.54 (0.31-0.71)

Appendix 10. The Mean Defense-Q Profile for Male Inmates

			Projection			
			Undoing			
			Fantasy			
			Identification			
		Splitting	Displacement	Grandiosity		
		Regression	Idealization	Passive aggression		
		Sublimation	Isolation	Devaluation		
	TAS	Dissociation	Reaction formation	TAO	Rationalization	
Psychotic denial	Pseudoaltruism	Humour	Repression	Intellectualization	Neurotic denial	Acting out
Least	Quite	Somewhat	Neither/nor Characteristic	Somewhat	Quite	Most

Note: TAS= Turning against self, Identification= Identification with the aggressor, TAO= Turning against others. Defenses higher in the columns are more characteristic of the individual within their respective columns (e.g., projection is more characteristic of male inmates than repression).

Appendix 11. The General Aggressor Profile for the Defense-Q

Least	Quite	Somewhat	Neither/nor Characteristic	Somewhat	Quite	Most
			Passive aggression 4.34			
			Fantasy 4.00			
			Identification 4.00			
			Undoing 4.00			
		Regression 3.67	Intellectualization 4.00	Splitting 5.34		
		Displacement 3.34	Reaction formation 3.67	Grandiosity 5.00		
		Idealization 3.34	Repression 3.67	Displacement 4.67		
	TAS 2.34	Psychotic Denial 3.34	Isolation 3.67	Projection 4.67	Acting out 6.34	
Sublimation 2.00	Humour 2.00	Pseudoaltruism 2.67	Neurotic denial 3.67	Rationalization 4.67	Devaluation 5.34	TAO 6.67
Least	Quite	Somewhat	Neither/nor Characteristic	Somewhat	Quite	Most

When a number of defenses had tied scores with the result that a category had too many defenses in it, ties were resolved by examining which defenses were scored lower by 2/3 raters. The case of neurotic denial was complicated as this left too many defenses in one category. This was resolved by contacting the raters directly and asking them of the defenses with which neurotic denial was tied, which defense was more characteristic of violent career criminals.

Appendix 12. Coding Sheet and Rules for Correctional Variables

CODING SHEET: MICHAEL'S DISSERTATION

I-DEMOGRAPHICS

Primary language: _____ *1=English,* *2=French,* *3=Aboriginal language,* *4=Other* *5- Unknown* Ethnicity: ____ *1=Non-Aboriginal* *2=Aboriginal (incl. Métis and Inuit),* *3=Unknown,* Background: _____ *1= Rural, non-reserve* *2=Urban, non-reserve* *3=Rural, reserve* *4= Urban reserve* *5- Other (i.e., not Canadian)* *6=Unkown*	DOB:_____ YYYY/MM/DD Age:_____ Earliest Sentencing Date: _____ Type of institution: _____ *1=Federal, 2=Provincial* Number of sentencing dates: _____ Marital status: _____ *1=single, 2=married,* *3=common-law, 4=divorced,* *5=widowed, 6=separated,* *7=unknown*	Gang member: ____ *1= yes* *2= no* *3= Ex-member* *4= Unsure* Location: _____ *1=RPC,* *2= SP,* *3= Sask Pen Max* *4= Oscana* *5= Provincial CC* *6= Community treatment* Security rating:_____ *1=Minimum,* *2=Medium* *3=Maximum* Sentence commencement date: _____ YYYY/MM/DD

II-SENTENCE SPECIFICS

Category:_____
1=General aggressor,
2=Domestic abuser,
3=Mixed

Long term offender:_____
1=yes, 2=no

LTO Duration: _____
(months)

Indeterminate:_____
1=yes, 2=no

Type:_____
1=Lifer, 2= Dangerous
offender

Minimum incarceration
length:_____
Lifers only. DO's use 25
years

Total number of
convictions:

_____

III- OFFENSE HISTORY

Category	Number	Total Prob.	Total Incar	Category	Number	Total Prob.	Total Incar.
Theft				Driving			
Robbery				Fraud			
Drugs				Escape			
Assault				Kidnap			
Spousal Assault				Spousal Kidnap			
Murder				Arson			
Spousal Murder				Spousal Arson			
Possession of a wpn				Obstruct Justice			
Sex offense				Crime Against State			
Spousal sex offenses				Misc.			

IV-PROGRAMMING

Violence (any)	Successful	Unsuccessful	Other result
Substance abuse (any)	Successful	Unsuccessful	Other result
Other (incl. mental health, educational, occupational	Successful _____	Unsuccessful _____	Other result _____

V- DSM DIAGNOSES

Axis I	Axis II	Axis III

VI- Urinalyses

Reason	Grounds: ____	Random: ____	Other: ____
Results	Positive: ____	Negative: ____	Other: ____
	Refused: ____		

VII- INSTITUTIONAL BEHAVIOUR
Incidents

Inmate violence	Instigator: ____	Victim: ____	Other: ____
Staff violence	Instigator: ____		
Other	Instigator: ____	Victim: ____	Other: ____
Self-harm	Instigator: ____		

Charges

Minor	Guilty: ____	Not guilty: ____	Other: ____
Serious	Guilty: ____	Not guilty: ____	Other: ____

How to use the "Coding Sheet for Michael's Dissertation"

I-   Demographics
    a. For Primary language, use language given in Criminal Profile.
    b. For Ethnicity use ethnicity listed in Criminal Profile. If none listed in CP, use ethnicity listed in other OMS reports.
    c. For Background, refer to social history in OMS reports.
    d. For DOB use DOB from OMS. Use yyyy-mm-dd.
    e. For Age use age at time of Defence-Q interview. Use years
    f. For Location, Security rating, Ethnicity, Marital Status, and Gang member, use the code provided on the sheet.
    g. For number of incarcerations, count federal and provincial incarcerations separately.

II-   Sentence Specifics
    a. For minimum incarceration length with indeterminate sentences, use time until first full parole eligibility with lifers, and 25 years for D.O.'s with indeterminate sentences.

III-   Offence History
    a. For the different categories, use the PCL-R manual categories for Item 20 (Criminal Versatility).
    b. If the victim of an assault, murder, sex offence, kidnapping, or arson was a spouse or intimate partner, code as spousal. You will need to cross-validate the Criminal Profile and CPIC to get this information.
    c. Count each sentence (in months), even if the time is to be served concurrently (e.g., if sentenced to 6 months for both B & E and Possession of stolen property, code as two thefts and 12 months).
    d. Count probation and incarceration separately. Do not count fines. Do not count sentences of less than 5 days.
    e. Use decimals to reflect portions of months (treat months has having 30 days). Do not code if the sentence is less than 5 days.
    f. Enter sentence dates, offences and sentences into Exel. Have Exel calculate total times in respective columns.
    g. Count offences separately, even if they were sentenced together (e.g., Robbery x8 counts as 8 robberies.
    h. Do not multiply the time sentenced when multiple sentences receive one sentence length (i.e., if "Robbery x8" receives a sentence of 3 years 6 months, do not multiply this sentence by 8 to reflect each robbery). If more than one cluster exists for a specific sentencing date, treat them as separate (e.g., if "Robbery x8" is followed by "Robbery x2", add the sentence from Robbery x2 to that from Robbery x8).
    i. Do not include time served.
    j. Code conditional sentences as probation.

IV-   Programming
   a. Count the number of each type of program the offender has taken, even if he is currently taking that program.
   b. If the offender completed successfully, it counts as a **successful**.
   c. If the offender was discharged from the program or otherwise completed the program unsuccessfully, it counts as **unsuccessful**.
   d. If the offender did not complete the program for a reason other than being discharged from the program, e.g., transferred to another institution, achieved Statutory Release, WED, assignment change, suspended etc., it counts as **incomplete**.
   e. **Violence programs** include all programs designed to treat violence including sexual vioelnce, e.g., the ABC and Clearwater programs at RPC
   f. **Substance abuse** programs include all programs designed to treat substance abuse, e.g., OSAP.
   g. **Other** programs include all programs not classified above.

V-   DSM Diagnoses
   a. Use the DSM-IV codes to identify the disorders, including Axis III.

VI-   Drug testing
   a. Indicate the number of times for reasonable grounds, random, positive, negative, etc. in the blanks.

VII-   Institutional Behaviour
   a. Indicate the number of instances of inmate violence, staff violence, etc. in the blanks, as well as whether the offender was an instigator, victim, or associate.
   b. Indicate number of minor and serious charges and their outcomes in the blanks.

Appendix 13. Intraclass Correlation Coefficients for Aboriginal and Non-Aboriginal Inmate Defense-Q and General Aggressor Profile and Adaptiveness of Defenses Scale Scores.

Defense-Q

Defense	Non-Aboriginal ICC n=18 (95% CI)	Aboriginal ICC n=42 (95% CI)
Sublimation	0.26 (-0.49-0.68)	0.60 (0.33-0.77)
Reaction formation	-0.29 (-1.00-0.47)	0.43 (0.06-0.67)
Dissociation	0.48 (-0.13-0.79)	0.20 (-0.23-0.52)
Displacement	0.43 (-0.29-0.77)	0.45 (0.11-0.68)
Isolation	0.69 (0.26-0.88)	0.76 (0.60-0.86)
Splitting	0.51 (0.03-0.51)	0.34 (-0.07-0.62)
Regression	0.44 (0.05-0.75)	0.27 (-0.11-0.25)
Devaluation	0.55 (0.10-0.81)	0.53 (0.23-0.73)
Humour	0.36 (-0.11-0.70)	0.54 (0.24-0.74)
Identification (with the aggressor)	0.34 (-0.17-0.70)	0.18 (-0.20-0.49)
Turning against self	0.45 (-0.25-0.78)	0.59 (0.33-0.77)
Projection	0.13 (-0.72-0.63)	0.43 (0.08-0.67)
Pseudoaltruism	0.43 (-0.30-0.77)	0.44 (0.07-0.68)
Acting out	0.81 (0.60-0.92)	0.64 (0.40-0.79)
Rationalization	0.66 (0.25-0.86)	0.53 (0.21-0.73)
Intellectualization	0.88 (0.72-0.95)	0.70 (0.39-0.85)
Fantasy	0.38 (-0.22-0.74)	0.46 (0.12-0.69)
Psychotic denial	0.15 (-0.68-0.64)	0.35 (-0.03-0.62)
Undoing	0.33 (-0.36-0.72)	0.60 (0.34-0.77)
Passive aggression	0.53 (0.07-0.80)	0.04 (-0.39-0.39)
Repression	0.50 (0.02-0.78)	0.68 (0.46-0.82)
Neurotic denial	0.64 (0.23-0.85)	-0.04 (-0.76-0.41)
Grandiosity	0.68 (0.29-0.87)	0.66 (0.43-0.81)
Turning against others	-0.08 (-0.99-0.51)	0.62 (0.35-0.79)
Idealization	0.68 (0.31-0.87)	0.59 (0.29-0.77)
Mean ICC	0.44	0.46
GAP similarity score	0.62 (0.22-0.84)	0.75 (0.54-0.86)

Adaptiveness of Defenses Scale Social Functioning Intraclass Correlation Coefficients for Aboriginal and Non-Aboriginal Male Inmates

Defense	Non-Aboriginal ICC (95% CI)	Aboriginal ICC (95% CI)
Devaluation	N/A	0.25 (-0.72-0.72) (n=15)
Acting out	0.53 (-0.23-0.86) (n=12)	0.48 (0.06-0.73) (n=31)
Rationalization	-0.03 (-1.00-0.65) (n=12)	0.31 (-0.20-0.67) (n=21)
Neurotic denial	0.71 (0.28-0.90) (n=14)	0.30 (-0.40-0.70) (n=19)
Grandiosity	N/A	0.66 (0.28-0.86) (n=17)
Mean ICC	0.40	0.40
Scale ICC	0.55 (-0.01-0.82) (n=18)	0.51 (0.20-0.72) (n=41)

Note: Only defenses where at least 10 cases by all three coders are included in the Table.

Adaptiveness of Defenses Scale Psychological Functioning Intraclass Correlation Coefficients for Aboriginal and Non-Aboriginal Male Inmates

Defense	Non-Aboriginal ICC (95% CI)	Aboriginal ICC (95% CI)
Devaluation	N/A	0.30 (-0.53-0.73) (n=15)
Acting out	0.44 (-0.46-0.83) (n=12)	0.51 (0.15-0.74) (n=31)
Rationalization	0.07 (-1.00-0.71) (n=12)	0.32 (0.19-0.67) (n=21)
Neurotic denial	-0.76 (-1.00-0.44) (n=14)	-0.27 (-1.00-0.45) (n=19)
Grandiosity	N/A	0.54 (0.00-0.82) (n=17)
Mean ICC	-0.08	0.12
Scale ICC	0.24 (-0.50-0.67) (n=18)	0.47 (0.14-0.69) (n=41)

Note: Only defenses where at least 10 cases by all three coders are included in the Table.

Adaptiveness of Defenses Scale Total Score Intraclass Correlation Coefficients for Aboriginal and Non-Aboriginal Male Inmates

Defense	Non-Aboriginal ICC (SD)	Aboriginal ICC (SD)
Devaluation	N/A	0.38 (-0.41-0.77) (n=15)
Acting out	0.49 (-0.34-0.84) (n=12)	0.56 (0.21-0.77) (n=31)
Rationalization	0.09 (-1.00-0.71) (n=12)	0.34 (-0.14-0.68) (n=21)
Neurotic denial	0.36 (-0.67-0.79) (n=14)	0.02 (-0.96-0.58) (n=19)
Grandiosity	N/A	0.65 (0.24-0.86) (n=17)
Mean ICC	0.31	0.39
Scale ICC	0.43 (-0.22-0.77) (n=18)	0.52 (0.21-0.72) (n=41)

Note: Only defenses where at least 10 cases by all three coders are included in the Table.

Appendix 14. Hierarchical Regressions of Program Outcome, Urinalysis, Institutional Behaviour, and Institutional Charges Variables onto Defense-Q General Aggressor Profile Similarity Score and Adaptiveness of Defenses Scale Total Score for Aboriginal and Non-Aboriginal Male Inmates

Multiple Regression Analysis of Program Outcome Variables onto General Aggressor Profile Similarity Score and Adaptiveness of Defenses Scale Total Score for Aboriginal and Non-Aboriginal Male Inmates

Aboriginal	B	SE B	β	R	R²	Δ R²
VOP successful						
Step 1 GAP similarity score	-1.82	0.72	**-0.37**	0.37	0.14	0.14
Step 2 GAP similarity score	-1.65	0.89	-0.34†			
ADS total score	0.01	0.03	0.06	0.38	0.14	0.00
VOP unsuccessful						
Step 1 GAP similarity score	-0.40	0.91	-0.07	0.07	0.01	0.01
Step 2 GAP similarity score	-0.21	1.11	-0.04			
ADS total score	0.01	0.03	0.06	0.09	0.01	0.00
VOP other outcome						
Step 1 GAP similarity score	1.17	1.82	0.10	0.10	0.01	0.01
Step 2 GAP similarity score	0.74	2.24	0.07			
ADS total score	-0.02	0.07	-0.07	0.12	0.01	0.00
SAP successful						
Step 1 GAP similarity score	-0.11	1.27	-0.01	0.01	0.00	0.00
Step 2 GAP similarity score	-0.72	1.56	-0.09			
ADS total score	-0.03	0.05	-0.14	0.11	0.01	0.01
SAP unsuccessful						
Step 1 GAP similarity score	0.21	0.74	0.05	0.05	0.00	0.00
Step 2 GAP similarity score	0.68	0.90	0.15			
ADS total score	0.02	0.03	0.18	0.16	0.02	0.02
SAP other outcome						
Step 1 GAP similarity score	0.39	2.34	0.03	0.03	0.00	0.00
Step 2 GAP similarity score	-0.46	2.87	-0.03			
ADS total score	-0.04	0.08	-0.10	0.09	0.01	0.01
Other program successful						
Step 1 GAP similarity score	0.10	2.49	0.00	0.00	0.00	0.00
Step 2 GAP similarity score	-3.81	6.66	-0.11			
ADS total score	-0.20	0.20	-0.20	0.17	0.03	0.03
Other program unsuccessful						
Step 1 GAP similarity score	0.56	3.15	0.03	0.03	0.00	0.00
Step 2 GAP similarity score	-1.21	3.38	-0.06			
ADS total score	-0.09	0.11	-0.16	0.13	0.02	0.02
Other program other outcome						
Step 1 GAP similarity score	-0.52	7.52	-0.01	0.01	0.00	0.00
Step 2 GAP similarity score	-5.88	9.13	-0.13			
ADS total score	-0.28	0.27	-0.20	0.17	0.03	0.03

Non-Aboriginal	B	SE B	β	R	R²	Δ R²
VOP successful						
Step 1 GAP similarity score	-0.92	2.26	-0.10	0.10	0.01	0.01
Step 2 GAP similarity score	-2.78	2.41	-0.30			
ADS total score	-0.11	0.06	-0.44†	0.40	0.16	0.14
VOP unsuccessful						
Step 1 GAP similarity score	0.71	0.94	0.18	0.18	0.03	0.03
Step 2 GAP similarity score	0.08	1.04	0.02			
ADS total score	-0.04	0.03	-0.35	0.36	0.13	0.10
VOP other outcome						
Step 1 GAP similarity score	-1.24	2.10	-0.14	0.14	0.02	0.02
Step 2 GAP similarity score	-3.14	2.19	-0.36			
ADS total score	-0.19	0.06	-0.48†	0.45	0.20	0.18
SAP successful						
Step 1 GAP similarity score	0.93	1.93	0.12	0.12	0.01	0.01
Step 2 GAP similarity score	0.78	2.24	0.10			
ADS total score	-0.01	0.06	-0.04	0.12	0.02	0.01
SAP unsuccessful						
Step 1 GAP similarity score	0.65	1.05	0.15	0.15	0.02	0.02
Step 2 GAP similarity score	1.07	1.19	0.25			
ADS total score	0.02	0.03	0.21	0.24	0.06	0.04
SAP other outcome						
Step 1 GAP similarity score	3.01	2.59	0.20	0.20	0.04	0.04
Step 2 GAP similarity score	2.20	4.13	0.15			
ADS total score	-0.05	0.11	-0.12	0.23	0.05	0.01
Other program successful						
Step 1 GAP similarity score	9.88	19.12	0.12	0.12	0.02	0.02
Step 2 GAP similarity score	-3.11	20.95	-0.04			
ADS total score	-0.74	0.54	-0.36	0.34	0.12	0.10
Other program unsuccessful						
Step 1 GAP similarity score	5.28	10.35	0.12	0.12	0.02	0.02
Step 2 GAP similarity score	0.95	11.75	0.02			
ADS total score	-0.25	0.30	-0.22	0.23	0.05	0.03
Other program other outcome						
Step 1 GAP similarity score	-1.86	17.87	-0.03	0.03	0.00	0.00
Step 2 GAP similarity score	-16.28	19.11	-0.22			
ADS total score	-0.82	0.49	-0.43†	0.38	0.15	0.15

Multiple Regression Analysis of Urinalysis Variables onto General Aggressor Profile Similarity Score and Adaptiveness of Defenses Scale Total Score for Aboriginal and Non-Aboriginal Male Inmates

Aboriginal	B	SE B	β	R	R^2	ΔR^2
Urinalysis for grounds						
Step 1 GAP similarity score	0.08	0.87	0.02	0.02	0.00	0.00
Step 2 GAP similarity score	0.02	1.07	0.00			
ADS total score	0.00	0.03	-0.02	0.02	0.00	0.00
Urinalysis: random						
Step 1 GAP similarity score	-3.32	2.09	-0.25†	0.25	0.06	0.06
Step 2 GAP similarity score	-2.41	2.56	-0.18			
ADS total score	0.05	0.08	0.12	0.27	0.07	0.01
Urinalysis for other reason						
Step 1 GAP similarity score	0.54	2.39	0.04	0.04	0.00	0.00
Step 2 GAP similarity score	-0.32	2.94	-0.02			
ADS total score	-0.04	0.09	-0.10	0.09	0.01	0.01
Positive urinalysis findings						
Step 1 GAP similarity score	1.00	1.10	0.14	0.14	0.02	0.02
Step 2 GAP similarity score	1.32	1.35	0.19			
ADS total score	0.02	0.04	0.08	0.16	0.03	0.01
Negative urinalysis findings						
Step 1 GAP similarity score	-4.02	2.79	-0.23	0.23	0.05	0.05
Step 2 GAP similarity score	-5.32	3.41	-0.30†			
ADS total score	-0.07	0.10	-0.13	0.25	0.06	0.01
Other urinalysis findings						
Step 1 GAP similarity score	-0.05	0.30	-0.03	0.03	0.00	0.00
Step 2 GAP similarity score	-0.07	0.37	-0.04			
ADS total score	0.00	0.01	-0.01	0.03	0.00	0.00
Refusal to provide a sample						
Step 1 GAP similarity score	0.71	1.66	0.07	0.07	0.01	0.01
Step 2 GAP similarity score	2.07	2.01	0.20			
ADS total score	0.07	0.06	0.23	0.20	0.04	0.03

Non-Aboriginal	B	SE B	β	R	R²	Δ R²
Urinalysis for grounds						
Step 1 GAP similarity score	4.87	4.15	0.27	0.27	0.08	0.08
Step 2 GAP similarity score	6.64	4.70	0.37			
ADS total score	0.10	0.12	0.22	0.34	0.11	0.03
Urinalysis: random						
Step 1 GAP similarity score	-2.31	5.65	-0.10	0.10	0.01	0.01
Step 2 GAP similarity score	-7.42	5.90	-0.32			
ADS total score	-0.29	0.15	-0.48†	0.44	0.19	0.18
Urinalysis for other reason						
Step 1 GAP similarity score	-0.20	19.42	-0.00	0.00	0.00	0.00
Step 2 GAP similarity score	14.65	20.94	0.18			
ADS total score	0.84	0.54	0.41†	0.36	0.13	0.13
Positive urinalysis findings						
Step 1 GAP similarity score	1.85	7.16	0.06	0.06	0.00	0.00
Step 2 GAP similarity score	6.57	7.86	0.22			
ADS total score	0.27	0.20	0.35	0.32	0.10	0.10
Negative urinalysis findings						
Step 1 GAP similarity score	1.96	21.95	0.04	0.04	0.00	0.00
Step 2 GAP similarity score	8.98	14.49	0.17			
ADS total score	0.40	0.37	0.29	0.26	0.07	0.07
Other urinalysis findings						
Step 1 GAP similarity score	6.48	5.22	0.29	0.29	0.08	0.08
Step 2 GAP similarity score	8.59	5.93	0.38			
ADS total score	0.12	0.15	0.21	0.34	0.12	0.04
Refusal to provide a sample						
Step 1 GAP similarity score	0.28	2.97	0.02	0.02	0.00	0.00
Step 2 GAP similarity score	-1.04	3.39	-0.09			
ADS total score	-0.07	0.09	-0.24	0.21	0.04	0.04

Multiple Regression Analysis of Institutional Behaviour Variables onto General Aggressor Profile Similarity Score and Adaptiveness of Defenses Scale Total Score for Aboriginal and Non-Aboriginal Male Inmates

Aboriginal	B	SE B	β	R	R^2	ΔR^2
Inmate violence- instigator						
Step 1 GAP similarity score	-0.91	1.00	-0.15	0.15	0.02	0.02
Step 2 GAP similarity score	-0.83	1.20	-0.14			
ADS total score	0.00	0.04	0.02	0.15	0.02	0.02
Inmate violence- victim						
Step 1 GAP similarity score	-0.86	0.56	-0.24	0.24	0.06	0.06
Step 2 GAP similarity score	-0.24	0.67	-0.07			
ADS total score	0.03	0.02	0.30	0.34	0.12	0.06
Inmate violence- associate						
Step 1 GAP similarity score	0.09	0.25	0.06	0.06	0.00	0.00
Step 2 GAP similarity score	0.02	0.30	0.01			
ADS total score	0.00	0.01	-0.08	0.09	0.01	0.01
Staff violence						
Step 1 GAP similarity score	-0.22	0.17	-0.20	0.20	0.04	0.04
Step 2 GAP similarity score	-0.08	0.21	-0.07			
ADS total score	0.01	0.01	0.22	0.27	0.07	0.03
Other incident- instigator						
Step 1 GAP similarity score	-4.36	3.97	-0.17	0.17	0.03	0.01
Step 2 GAP similarity score	-2.85	4.87	-0.11			
ADS total score	0.08	0.14	0.11	0.19	0.04	0.01
Other incident - victim						
Step 1 GAP similarity score	0.13	0.58	0.04	0.04	0.00	0.00
Step 2 GAP similarity score	0.01	0.71	0.00			
ADS total score	-0.01	0.02	-0.06	0.06	0.00	0.00
Other incident - associate						
Step 1 GAP similarity score	-1.43	0.94	-0.24	0.24	0.06	0.06
Step 2 GAP similarity score	-1.38	1.16	-0.23			
ADS total score	0.00	0.03	0.01	0.24	0.06	0.00
Self-harm						
Step 1 GAP similarity score	0.06	0.25	0.04	0.04	0.00	0.00
Step 2 GAP similarity score	0.21	0.30	0.14			
ADS total score	0.01	0.01	0.18	0.15	0.02	0.02

$\dagger p < 0.10$, $*p < 0.05$

Non-Aboriginal	B	SE B	β	R	R²	Δ R²
Inmate violence- instigator						
Step 1 GAP similarity score	2.78	4.41	0.15	0.15	0.02	0.02
Step 2 GAP similarity score	4.31	5.03	0.23			
ADS total score	0.09	0.13	0.18	0.22	0.05	0.03
Inmate violence- victim						
Step 1 GAP similarity score	2.24	5.33	0.10	0.10	0.01	0.01
Step 2 GAP similarity score	-2.13	2.68	-0.10			
ADS total score	-0.25	0.15	-0.44†	0.40	0.16	0.15
Inmate violence- associate						
Step 1 GAP similarity score	0.55	0.78	0.17	0.17	0.03	0.03
Step 2 GAP similarity score	0.53	0.91	0.16			
ADS total score	0.00	0.02	-0.01	0.17	0.03	0.00
Staff violence						
Step 1 GAP similarity score	2.03	6.27	0.08	0.08	0.01	0.01
Step 2 GAP similarity score	-3.95	6.47	-0.15			
ADS total score	-0.34	0.17	-0.51†	0.46	0.21	0.20
Other incident- instigator						
Step 1 GAP similarity score	14.59	22.61	0.16	0.16	0.02	0.02
Step 2 GAP similarity score	5.01	25.64	0.05			
ADS total score	-0.54	0.66	-0.22	0.25	0.06	0.04
Other incident - victim						
Step 1 GAP similarity score	2.43	2.27	0.25	0.25	0.06	0.06
Step 2 GAP similarity score	1.77	2.61	0.18			
ADS total score	-0.04	0.07	-0.15	0.28	0.08	0.02
Other incident - associate						
Step 1 GAP similarity score	3.84	1.75	0.47*	0.47	0.22	0.22
Step 2 GAP similarity score	3.23	1.99	0.40†			
ADS total score	-0.03	0.05	-0.16	0.49	0.24	0.02
Self-harm						
Step 1 GAP similarity score	0.36	3.95	0.02	0.02	0.00	0.00
Step 2 GAP similarity score	-2.04	4.38	-0.13			
ADS total score	-0.14	0.11	-0.32	0.29	0.08	0.08

Multiple Regression Analysis of Institutional Charges Variables onto Defense-Q General Aggressor Profile similarity score and Adaptiveness of Defenses Scale Total Scores for Aboriginal and Non-Aboriginal Male Inmates

Aboriginal	B	SE B	β	R	R²	Δ R²
Minor charge- guilty						
Step 1 GAP similarity score	3.34	7.09	0.07	0.08	0.01	0.01
Step 2 GAP similarity score	-4.98	8.40	-0.11			
ADS total score	-0.43	0.25	-0.33†	0.28	0.08	0.07
Minor charge- not guilty						
Step 1 GAP similarity score	0.37	1.34	0.05	0.05	0.00	0.00
Step 2 GAP similarity score	-1.49	1.56	-0.18			
ADS total score	-0.10	0.05	-0.39*	0.33	0.11	0.11
Minor charge- other						
Step 1 GAP similarity score	0.41	0.95	0.07	0.07	0.01	0.01
Step 2 GAP similarity score	-0.82	1.11	-0.14			
ADS total score	-0.06	0.03	-0.36†	0.31	0.10	0.09
Serious charge- guilty						
Step 1 GAP similarity score	2.58	3.16	0.13	0.13	0.02	0.02
Step 2 GAP similarity score	4.22	3.86	0.21			
ADS total score	0.09	0.11	0.15	0.18	0.03	0.01
Serious charge- not guilty						
Step 1 GAP similarity score	-0.27	0.39	-0.11	0.11	0.01	0.01
Step 2 GAP similarity score	-0.78	0.46	-0.32†			
ADS total score	-0.03	0.01	-0.36†	0.32	0.10	0.09
Serious charge- other						
Step 1 GAP similarity score	-0.43	0.76	-0.09	0.09	0.01	0.01
Step 2 GAP similarity score	-0.66	0.93	-0.14			
ADS total score	-0.01	0.03	-0.08	0.11	0.01	0.00

Non-Aboriginal	B	SE B	β	R	R²	Δ R²
Minor charge- guilty						
Step 1 GAP similarity score	14.40	20.37	0.17	0.17	0.03	0.03
Step 2 GAP similarity score	16.00	23.56	0.19			
ADS total score	0.09	0.61	0.04	0.17	0.03	0.00
Minor charge- not guilty						
Step 1 GAP similarity score	2.20	4.17	0.13	0.12	0.02	0.02
Step 2 GAP similarity score	1.11	4.79	0.06			
ADS total score	-0.06	0.12	-0.14	0.18	0.03	0.01
Minor charge- other						
Step 1 GAP similarity score	-3.33	8.78	-0.09	0.09	0.01	0.01
Step 2 GAP similarity score	-10.55	9.35	-0.29			
ADS total score	-0.41	0.24	-0.44†	0.40	0.16	0.15
Serious charge- guilty						
Step 1 GAP similarity score	5.67	10.70	0.13	0.13	0.02	0.02
Step 2 GAP similarity score	2.73	12.28	0.06			
ADS total score	-0.17	0.32	-0.15	0.18	0.03	0.01
Serious charge- not guilty						
Step 1 GAP similarity score	-1.52	3.06	-0.12	0.12	0.01	0.01
Step 2 GAP similarity score	-3.42	3.38	-0.27			
ADS total score	-0.11	0.09	-0.33	0.32	0.10	0.09
Serious charge- other						
Step 1 GAP similarity score	-0.49	7.45	-0.02	0.02	0.00	0.00
Step 2 GAP similarity score	-8.33	7.46	-0.27			
ADS total score	-0.45	0.19	-0.56*	0.50	0.25	0.25

†$p<0.10$, *$p< 0.05$

Table 1a. Criteria Sets for Antisocial and Borderline Personality Disorders (APA, 2000) and Corresponding Defenses

Criteria	Antisocial Personality Disorder	Related defenses
1	Failure to conform to social norms with respect to lawful behaviours as indicated by repeatedly performing acts that are grounds for arrest;	Acting out, grandiosity, neurotic denial
2	Deceitfulness, as indicated by repeatedly lying, use of aliases, or conning others for personal profit or pleasure;	Passive aggression, acting out,
3	Impulsivity or failure to plan ahead;	Acting out, neurotic denial, grandiosity
4	Irritability and aggressiveness, as indicated by repeated physical fights or assaults;	Projection, devaluation, acting out, turning against others
5	Reckless disregard for safety of self or others;	Acting out, grandiosity, neurotic denial
6	Consistent irresponsibility, as indicated by repeated failure to sustain consistent work behaviour or honour financial obligations;	Acting out, neurotic denial, passive aggression
7	Lack of remorse, as indicated by being indifferent to or rationalizing having hurt, mistreated, or stolen from another	Isolation, dissociation, rationalization, intellectualization, and/or neurotic denial

Table 1b. Criteria for Borderline Personality Disorder (APA, 2000), and Corresponding Defenses

Criteria	Borderline Personality Disorder	Related defenses
1	Frantic efforts to avoid real or imagined abandonment. [Not including suicidal or self-mutilating behaviour covered in Criterion 5]	Projection, idealization
2	A pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation.	Splitting
3	Identity disturbance: markedly and persistently unstable self-image or sense of self.	Dissociation
4	Impulsivity in at least two areas that are potentially self-damaging (e.g., promiscuous sex, eating disorders, binge eating, substance abuse, reckless driving). [Again, not including suicidal or self-mutilating behaviour covered in Criterion 5]	Acting out
5	Recurrent suicidal behaviour, gestures, threats, or self-mutilating behaviour such as cutting, interfering with the healing of scars, or picking at oneself.	Acting out, passive aggression, undoing
6	Affective instability due to a marked reactivity of mood (e.g., intense episodic dysphoria, irritability, or anxiety usually lasting a few hours and only rarely more than a few days).	Splitting, projection, turning against the self
7	Chronic feelings of emptiness, worthlessness.	Dissociation, turning against the self
8	Inappropriate anger or difficulty controlling anger (e.g., frequent displays of temper, constant anger, recurrent physical fights).	Acting out, displacement, projection, devaluation, turning against others
9	Transient, stress-related paranoid ideation, delusions or severe dissociative symptoms	Delusional projection, dissociation, psychotic denial

Table 1.1. Maladaptive Defenses by Researcher(s)

Freud/Vaillant (1992)	Bond, et al. (1983)	Cramer (1991)	Perry & Cooper (1989)	Vaillant (1992)	MacGregor (2000)
Denial$_{2,3}$	*Acting out**	*Denial$_{2,3}$*	**Action level**	*Passive aggression**	*Denial$_{2,3}$*
Distortion	*Regression*		*Acting out**	Hypochondriasis	Dissociation$_2$
	*Passive aggression**		Apathetic withdrawal	*Acting out**	*Acting out**
Projection$_2$			Help-rejecting complaining	Dissociation$_2$	Splitting$_2$
	Withdrawal		*Passive aggression**	*Projection$_2$*†*	*Projection$_2$*
	Projection$_2$		**Major image-distorting**	Fantasy$_{2,3}$	*Regression*
	Inhibition		*Projective identification$_2$*	*Regression*	*Passive aggression**
			Splitting (self)$_2$	*Denial$_{2,3}$*	Undoing$_2$
			Fantasy$_{2,3}$	Distortion	
			Disavowal level		
			Denial$_{2,3}$		
			Projection$_2$		
			Rationalization$_3$		
			Minor image-distorting		
			Devaluation$_2$		
			Idealization$_2$		
			Omnipotence$_2$		

Note: Defenses in Italics with an asterisk are agreed upon by at least four of the six researchers. Defenses in Italics are agreed upon by at least three of the six researchers. Defenses underlined are agreed upon by at least two of the six. Subscripts 1-3 indicate that the defense is also described as maladaptive, neurotic, or adaptive in other hierarchies, respectively. Also, fantasy is not a Disavowal level defense, but is coded at that level (Perry & Kardos, 1995). Finally, help-rejecting complaining and hypochondriasis are conceptualized as similar (Perry & Kardos, 1995).

†Vaillant classifies both projection and delusional projection as less mature defenses, the modifier "delusional" has been removed and the two defenses collapsed together.

Table 1.2. Neurotic Defenses by Researcher(s)

Freud/Vaillant (1992)	Bond, et al. (1983)	Cramer (1991)	Perry & Cooper (1989)	Vaillant (1992)	MacGregor (2000)
	*Reaction formation**				
Splitting$_1$	*Reaction formation**	Projection1	**Other neurotic**	Intellectualization$_3$	*Isolation**
					*Reaction formation**
Hypochondriasis$_1$	Altrusim$_3$		*Repression**	*Repression**	
Turning against self†$_1$	Omnipotence/ devaluation$_1$			*Reaction formation**	*Reaction formation**
			Dissociation$_1$		Grandiosity$_1$
Fantasy$_{1,3}$	Splitting$_1$		*Reaction formation**	*Displacement**	Devaluation$_1$
Dissociation$_1$	Idealization$_3$		*Displacement**		*Displacement**
*Repression**			**Obsession level**		*Repression**
					Turning against others
*Isolation**			*Isolation**		Turning against self$_1$
Undoing$_1$			Intellectualization$_3$		
*Displacement**			Undoing$_1$		Identification

Note: Defenses in Italics with an asterisk are agreed upon by at least four of the six researchers. Defenses in Italics are agreed upon by at least three of the six researchers. Defenses underlined are agreed upon by at least two of the six. Subscripts 1-3 indicate that the defense is also described as maladaptive, neurotic, or adaptive in other hierarchies, respectively.

†Turning against self and passive aggression are considered to be synonymous in this classification

Table 1.3. Mature Defenses by Researcher(s)

Freud/Vaillant (1992)	Bond, et al. (1983)	Cramer (1991)	Perry & Cooper (1989)	Vaillant (1992)	MacGregor (2000)
*Sublimation**	*Sublimation**	Idealization$_2$	**High adaptive level**	Anticipation	*Sublimation**
*Altrusim$_2$**	*Suppression*		Anticipation	Suppression*	*Humour**
*Humour**	*Humour**		Affiliation	*Altrusim$_2$**	Rationalization$_1$
*Suppression**			*Altrusim$_2$**	*Sublimation**	Idealization$_2$
			*Humour**	*Humour**	Fantasy$_{2,3}$
			Self-assertion	Ascetism	*Altrusim$_2$**
			Self-observation		
			*Suppression**		Intellectualization$_2$
					Denial$_1$

Note: Defenses in Italics with an asterisk are agreed upon by at least four of the six researchers. Defenses in Italics are agreed upon by at least three of the six researchers. Defenses underlined are agreed upon by at least two of the six. Subscripts 1-3 indicate that the defense is also described as maladaptive, neurotic, or adaptive in other hierarchies, respectively.

Table 1.4 Defense-Q Means for Male Undergraduates

Defense	Mean score (SD) N=88
Sublimation	4.68 (0.90)
Reaction formation	4.47 (0.88)
Dissociation	3.88 (0.60)
Displacement	3.46 (0.54)
Isolation	3.14 (0.90)
Splitting	2.94 (0.53)
Regression	3.58 (0.71)
Devaluation	4.72 (0.82)
Humour	3.97 (0.77)
Identification (with the aggressor)	3.68 (0.60)
Turning against self	4.14 (0.96)
Projection	4.03 (0.46)
Pseudoaltruism	3.68 (0.75)
Acting out	2.95 (0.99)
Rationalization	5.43 (0.75)
Intellectualization	4.52 (0.87)
Fantasy	4.28 (0.68)
Psychotic denial	1.35 (0.36)
Undoing	4.41 (0.70)
Passive aggression	4.48 (0.83)
Repression	3.83 (0.84)
Neurotic denial	5.25 (0.87)
Grandiosity	5.07 (1.06)
Turning against others	3.91 (0.73)
Idealization	4.13 (0.71)
Mean ICC	
ICC at the profile level	

Table 1.5 Adaptiveness of Defenses Scale Means for Male Undergraduates

Defense	Social/occupational Mean (SD)	Psychological Mean (SD)	Total Mean (SD)
Sublimation	4.02 (0.58)	4.16 (0.58)	8.15 (1.05)
Reaction formation	4.28 (0.57)	4.32 (0.58)	8.61 (1.03)
Dissociation	3.87 (0.61)	3.78 (0.62)	7.65 (1.09)
Displacement	4.33 (0.66)	4.33 (0.75)	8.67 (1.28)
Isolation	3.58 (0.58)	3.64 (0.56)	7.22 (1.00)
Splitting	4.17 (0.72)	4.33 (0.65)	8.50 (1.24)
Regression	4.22 (0.58)	4.31 (0.53)	8.53 (1.00)
Devaluation	3.86 (0.59)	3.89 (0.67)	7.75 (1.71)
Humour	4.58 (0.54)	4.68 (0.42)	9.26 (0.89)
Identification (with the aggressor)	3.91 (0.55)	3.92 (0.72)	7.84 (1.08)
Turning against self	4.02 (0.51)	3.92 (0.52)	7.94 (0.85)
Projection	4.49 (0.51)	4.42 (0.56)	8.91 (0.85)
Pseudoaltruism	4.55 (0.47)	4.70 (0.47)	9.25 (0.68)
Acting out	3.78 (0.77)	4.12 (0.77)	7.90 (1.38)
Rationalization	4.09 (0.41)	3.94 (0.50)	8.03 (0.80)
Intellectualization	4.14 (0.62)	4.17 (0.71)	8.32 (1.21)
Fantasy	4.16 (0.59)	3.79 (0.68)	7.95 (1.10)
Psychotic denial	N/A	N/A	N/A
Undoing	3.96 (0.61)	4.03 (0.62)	7.98 (1.09)
Passive aggression	3.87 (0.53)	3.67 (0.60)	7.55 (0.99)
Repression	4.33 (0.72)	3.96 (0.61)	8.29 (0.96)
Neurotic denial	3.79 (0.55)	3.89 (0.61)	7.68 (1.02)
Grandiosity	4.09 (0.60)	4.08 (0.69)	8.16 (1.22)
Turning against others	3.98 (0.62)	3.96 (0.60)	7.94 (1.03)
Idealization	4.42 (0.56)	4.40 (0.63)	8.83 (1.06)
Mean	4.02 (0.58)	4.16 (0.58)	8.15 (1.05)
Scale score mean	32.17 (2.12)	32.12 (2.25)	64.29 (4.22)

Note: psychotic denial was not coded as characteristic for any participant in this sample.

Table 1.6 Multiple Regression analysis of Experiences in Close Relationships Inventory Variables onto Defense-Q Adaptive Defense Profile Similarity Score and Adaptiveness of Defenses Scale Total Scores for Male Undergraduates

Variable	B	SE B	β	R	R^2	ΔR^2
Avoidance						
Step 1 ADP similarity score	-1.28	0.82	-0.19	0.19	0.04	0.03
Step 2 ADP similarity score	0.41	1.05	0.06			
ADS total score	-0.11	0.04	-0.38*	0.35	0.12	0.08
Anxiety						
Step 1 ADP similarity score	-1.06	0.70	0.19	0.19	0.03	0.03
Step 2 ADP similarity score	-0.66	0.94	-0.12			
ADS total score	-0.25	0.04	-0.11	0.20	0.04	0.01

*$p<0.05$, Step 1: Defense-Q ADP similarity score, Step 2: Defense-Q ADP similarity score and ADS total score

Table 1.7 Multiple Regression Analysis of Personality Assessment Inventory Variables onto Defense-Q Adaptive Defense Profile Similarity Score and Adaptiveness of Defenses Scale Total Scores for Male Undergraduates

Variable	B	SE B	β	R	R^2	ΔR^2
Somatization (SOM)						
Step 1 ADP similarity score	-18.49	8.19	-0.27*	0.27	0.08	0.08
Step 2 ADP similarity score	-22.86	10.80	-0.34			
ADS total score	0.27	0.43	0.10	0.28	0.08	0.01
Conversion (SOM-C)						
Step 1 ADP similarity score	-7.67	8.10	-0.12	0.12	0.01	0.01
Step 2 ADP similarity score	-11.72	10.78	-0.18			
ADS total score	0.25	0.44	0.10	0.14	0.02	0.01
Somatic complaints (SOM-S)						
Step 1 ADP similarity score	-17.82	7.37	-0.29*	0.29	0.08	0.08
Step 2 ADP similarity score	-22.82	9.80	-0.37*			
ADS total score	0.31	0.40	0.12	0.30	0.09	0.01
Health (SOM-H)						
Step 1 ADP similarity score	-18.93	8.33	-0.28*	0.28	0.08	0.08
Step 2 ADP similarity score	-21.07	11.02	-0.31			
ADS total score	0.13	0.45	0.05	0.28	0.08	0.00

*$p<0.05$, Step 1: Defense-Q ADP similarity score, Step 2: Defense-Q ADP similarity score and ADS total score

Table 1.8. Multiple Regression Analysis of Final Grade in Introductory Psychology Course onto Defense-Q Adaptive Defense Profile Similarity Score and Adaptiveness of Defenses Scale Total Scores for Male Undergraduates

Variable	B	SE B	β	R	R^2	ΔR^2
Final grade						
Step 1 ADP similarity score	15.03	11.06	0.17	0.17	0.03	0.03
Step 2 ADP similarity score	15.83	15.20	0.18			
ADS total score	-0.05	0.66	-0.13	0.17	0.03	0.00

*$p<0.05$, Step 1: Defense-Q ADP similarity score, Step 2: Defense-Q ADP similarity score and ADS total score

Table 2.1 Defense-Q Means for Male Inmates

Defense	Mean score (SD)
Sublimation	3.38 (0.86)
Reaction formation	3.69 (0.55)
Dissociation	3.79 (0.48)
Displacement	3.34 (0.66)
Isolation	3.74 (1.49)
Splitting	3.49 (0.62)
Regression	3.40 (0.58)
Devaluation	4.63 (0.58)
Humour	3.29 (0.80)
Identification (with the aggressor)	3.91 (0.58)
Turning against self	3.14 (0.92)
Projection	4.32 (0.56)
Pseudoaltruism	2.95 (0.68)
Acting out	5.44 (0.92)
Rationalization	5.38 (0.68)
Intellectualization	4.34 (1.23)
Fantasy	3.97 (0.53)
Psychotic denial	2.37 (0.90)
Undoing	4.26 (0.64)
Passive aggression	4.76 (0.67)
Repression	3.68 (0.77)
Neurotic denial	5.37 (0.58)
Grandiosity	5.16 (1.01)
Turning against others	4.44 (0.58)
Idealization	3.76 (0.72)

Table 2.2 Adaptiveness of Defenses Scale Means for Male Inmates

Defense	Social/occupational Mean (SD)	Psychological Mean (SD)	Total Mean (SD)
Sublimation	3.15 (0.54)	3.08 (0.60)	6.26 (0.96)
Reaction formation	3.25 (0.57)	3.15 (0.62)	6.39 (0.99)
Dissociation	2.56 (0.62)	2.36 (0.45)	4.92 (0.83)
Displacement	3.30 (0.49)	3.07 (0.50)	6.43 (0.92)
Isolation	2.44 (0.59)	2.23 (0.56)	4.76 (1.12)
Splitting	2.77 (0.56)	2.80 (0.56)	5.59 (0.90)
Regression	2.73 (0.80)	2.90 (0.88)	5.63 (1.54)
Devaluation	2.71 (0.50)	2.74 (0.54)	5.39 (0.98)
Humour	3.60 (0.91)	3.48 (0.66)	7.08 (1.48)
Identification (with the aggressor)	2.16 (0.63)	2.59 (0.53)	4.70 (0.98)
Turning against self	3.35 (0.44)	3.26 (0.43)	6.45 (0.83)
Projection	2.78 (0.58)	2.52 (0.63)	5.38 (1.15)
Pseudoaltruism	2.92 (1.11)	2.83 (1.03)	5.79 (1.13)
Acting out	1.80 (0.57)	2.00 (0.56)	3.74 (1.10)
Rationalization	2.68 (0.44)	2.70 (0.46)	5.39 (0.85)
Intellectualization	2.82 (0.65)	2.73 (0.70)	5.54 (1.26)
Fantasy	3.33 (0.51)	2.71 (0.55)	6.07 (0.84)
Psychotic denial	2.88 (0.64)	2.75 (0.46)	5.57 (1.13)
Undoing	3.18 (0.63)	3.05 (0.77)	6.24 (1.25)
Passive aggression	2.71 (0.54)	2.69 (0.42)	5.40 (0.88)
Repression	2.78 (0.78)	2.38 (0.66)	5.12 (1.38)
Neurotic denial	2.36 (0.41)	2.37 (0.36)	4.77 (0.69)
Grandiosity	2.66 (0.63)	2.70 (0.73)	5.33 (1.30)
Turning against others	2.67 (0.69)	2.63 (0.63)	5.29 (1.22)
Idealization	3.00 (0.91)	2.85 (0.62)	5.94 (1.45)
Mean defense score	2.82	2.74	5.57
Mean scale score	20.90 (2.55)	20.57 (2.27)	41.51 (4.74)

Table 2.3 Multiple Regression Analysis of Borderline Personality Inventory Variables onto Defense-Q Adaptive Defense Profile similarity score and Adaptiveness of Defenses Scale Total Score for Male Inmates

Variable	B	SE B	β	R	R^2	ΔR^2
BPI total score						
Step 1 ADP similarity score	-13.58	5.97	-0.31*	0.31	0.10	0.10
Step 2 ADP similarity score	-11.06	7.72	-0.25			
ADS total score	-0.19	0.37	-0.09	0.32	0.10	0.00
BPI Identity diffusion						
Step 1 ADP similarity score	-2.15	1.38	-0.21	0.21	0.04	0.04
Step 2 ADP similarity score	-3.09	1.75	-0.30			
ADS total score	-0.07	0.08	0.15	0.24	0.06	0.02
BPI Primitive defenses						
Step 1 ADP similarity score	-3.71	1.29	-0.37**	0.37	0.14	0.14
Step 2 ADP similarity score	-3.62	1.63	-0.36**			
ADS total score	-0.01	0.08	-0.01	0.37	0.14	0.00
BPI Intact reality testing						
Step 1 ADP similarity score	-0.41	0.56	-0.10	0.10	0.01	0.01
Step 2 ADP similarity score	-0.38	0.71	-0.09			
ADS total score	0.00	0.03	-0.01	0.10	0.01	0.00
BPI Fear of fusion						
Step 1 ADP similarity score	-2.29	1.42	-0.22	0.22	0.05	0.05
Step 2 ADP similarity score	-1.72	1.80	-0.16			
ADS total score	-0.04	0.09	-0.09	0.23	0.05	0.00
BPI Cut-20						
Step 1 ADP similarity score	-6.45	2.82	-0.31	0.31	0.10	0.10
Step 2 ADP similarity score	-6.34	3.58	-0.30			
ADS total score	-0.01	0.17	-0.01	0.31	0.10	0.00

*$p>0.05$, **$p>0.01$

Table 2.4 Multiple Regression Analysis of Psychopathy Checklist-Revised Variables onto Defense-Q Adaptive Defense Profile Similarity Score and Adaptiveness of Defenses Scale Total Score for Male Inmates

Variable	B	SE B	β	R	R^2	Δ R^2
PCL-R Total score						
Step 1 ADP similarity score	-3.73	3.67	-0.13	0.13	0.02	0.02
Step 2 ADP similarity score	2.41	4.73	0.08			
ADS total score	-0.44	0.22	-0.33*	0.28	0.08	0.06
PCL-R Affective/interpersonal (Factor 1)						
Step 1 ADP similarity score	-0.04	2.09	-0.00	-0.00	0.00	0.00
Step 2 ADP similarity score	4.57	2.62	0.28			
ADS total score	-0.33	0.12	-0.43*	0.33	0.11	0.11
PCL-R Interpersonal (Facet 1)						
Step 1 ADP similarity score	2.30	1.27	0.23	0.23	0.05	0.05
Step 2 ADP similarity score	5.00	1.60	0.49*			
ADS total score	-0.19	0.07	-0.41*	0.38	0.15	0.10
PCL-R Affective (Facet 2)						
Step 1 ADP similarity score	-1.57	1.03	-0.19	0.19	0.04	0.04
Step 2 ADP similarity score	0.77	1.28	0.09			
ADS total score	-0.17	0.06	-0.44*	0.38	0.15	0.11
PCL-R Social deviancy (Factor 2)						
Step 1 ADP similarity score	-3.29	2.16	-0.19	0.19	0.04	0.04
Step 2 ADP similarity score	-2.87	2.87	-0.17			
ADS total score	-0.03	0.13	-0.04	0.19	0.04	0.00
PCL-R Antisocial lifestyle (Facet 3)						
Step 1 ADP similarity score	-1.43	1.14	-0.16	0.16	0.03	0.03
Step 2 ADP similarity score	-2.32	1.51	-0.26			
ADS total score	0.06	0.07	0.15	0.20	0.04	0.01
PCL-R Criminality (Facet 4)						
Step 1 ADP similarity score	-2.20	1.27	-0.22	0.22	0.05	0.05
Step 2 ADP similarity score	-0.13	1.64	0.01			
ADS total score	-0.15	0.08	-0.31	0.32	0.10	0.06

*$p>0.05$, **$p>0.01$

Table 2.5 Multiple Regression Analysis of Propensity for Abusiveness Scale Variables onto Defense-Q Adaptive Defense Profile Similarity Score and Adaptiveness of Defenses Scale Total Score for Male Inmates

Variable	B	SE B	β	R	R^2	Δ R^2
PAS Total score						
Step 1 ADP similarity score	-32.35	11.26	-0.42**	0.42	0.18	0.18
Step 2 ADP similarity score	-33.39	14.14	-0.44**			
ADS total score	0.09	0.72	0.02	0.42	0.18	0.00
PAS Recalled negative parental treatment (factor one)						
Step 1 ADP similarity score	-7.90	7.59	-0.16	0.16	0.03	0.03
Step 2 ADP similarity score	-7.07	9.52	-0.14			
ADS total score	-0.07	0.48	-0.03	0.16	0.03	0.00
PAS Affective instability (factor two)						
Step 1 ADP similarity score	-20.82	6.60	-0.40**	0.40	0.16	0.16
Step 2 ADP similarity score	-22.68	8.41	-0.44**			
ADS total score	0.14	0.40	0.06	0.41	0.17	0.00
PAS Trauma symptoms (factor three)						
Step 1 ADP similarity score	-3.97	2.42	-0.22	0.22	0.05	0.05
Step 2 ADP similarity score	-1.84	3.03	-0.10			
ADS total score	-0.17	0.14	-0.20	0.27	0.07	0.03

*$p > 0.05$, **$p > 0.01$

Table 2.6 Comparison of Defense-Q Mean Scores for Male Undergraduate Students and Male Inmates

Defense	Student mean (SD) n=88	Inmate mean (SD) n=64	t(df)
Sublimation	4.68 (0.90)	3.38 (0.86)	9.00 (150)**
Reaction formation	4.47 (0.88)	3.69 (0.55)	6.76 (146.85)**
Displacement	3.88 (0.60)	3.80 (0.48)	0.97 (148.44)
Dissociation	3.46 (0.54)	3.34 (0.66)	1.34 (150)
Isolation	3.14 (0.90)	3.74 (1.49)	-2.91 (95.86)**
Splitting	2.94 (0.53)	3.49 (0.62)	-5.87 (150)**
Regression	3.58 (0.71)	3.40 (0.58)	1.71 (150)
Devaluation	4.72 (0.82)	4.62 (0.58)	0.86 (147.93)
Humour	3.97 (0.77)	3.29 (0.80)	5.30 (150)**
Identification	3.68 (0.60)	3.91 (0.58)	-2.38 (150)**
TAS	4.14 (0.96)	3.13 (0.92)	6.49 (150)**
Projection	4.03 (0.46)	4.32 (0.56)	-3.42 (119.60)**
Pseudoaltruism	3.68 (0.75)	2.95 (0.68)	6.13 (150)**
Acting out	2.95 (0.99)	5.44 (0.92)	-15.77 (150)**
Rationalization	5.43 (0.75)	5.38 (0.68)	0.381 (150)
Intellectualization	4.52 (0.87)	4.34 (1.22)	1.02 (107.49)
Fantasy	4.28 (0.68)	3.97 (0.53)	3.05 (150)**
Psychotic denial	1.35 (0.36)	2.37 (0.90)	-8.62 (78.23)**
Undoing	4.41 (0.70)	4.26 (0.64)	1.30 (150)
Passive aggression	4.48 (0.83)	4.76 (0.67)	-2.19 (150)*
Repression	3.83 (0.84)	3.68 (0.77)	1.10 (150)
Neurotic denial	5.25 (0.87)	5.37 (0.58)	-1.04 (148.90)
Grandiosity	5.07 (1.06)	5.16 (1.00)	-0.50 (150)
Turning against others	3.91 (0.73)	4.44 (0.58)	-4.77 (150)**
Idealization	4.13 (0.71)	3.76 (0.72)	3.15 (150)**

$p<0.05$, **$p<0.01$

Table 2.7 Comparison of Adaptiveness of Defenses Scale Social/Occupational Functioning Means for Male Undergraduate Students and Male Inmates

Defense	Student mean (SD)	Inmate mean (SD)	t(df)
Sublimation	4.02 (0.58)	3.14 (0.53)	6.47 (97)**
Reaction formation	4.28 (0.57)	3.25 (0.57)	6.86 (70)**
Displacement	3.87 (0.61)	2.56 (0.62)	7.59 (57)**
Dissociation	4.33 (0.66)	3.30 (0.49)	4.99 (31)**
Isolation	3.58 (0.58)	2.48 (0.64)	6.61 (58)**
Splitting	4.17 (0.72)	2.72 (0.58)	5.92 (26)**
Regression	4.22 (0.58)	2.73 (0.80)	6.44 (40)**
Devaluation	3.86 (0.59)	2.69 (0.55)	11.18 (120)**
Humour	4.58 (0.54)	3.60 (0.91)	4.09 (21.72)**
Identification	3.91 (0.55)	2.13 (0.71)	12.15 (63)**
TAS	4.02 (0.51)	3.32 (0.43)	4.00 (49)**
Projection	4.49 (0.51)	2.81 (0.60)	13.93 (83)**
Pseudoaltruism	4.55 (0.47)	2.92 (1.01)	6.26 (32)**
Acting out	3.78 (0.77)	1.79 (0.57)	10.33 (24.46)**
Rationalization	4.09 (0.41)	2.70 (0.48)	4.00 (49)**
Intellectualization	4.14 (0.62)	2.82 (0.64)	13.93 (83)**
Fantasy	4.16 (0.59)	3.35 (0.52)	6.26 (32)**
Psychotic denial	N/A	2.85 (0.69)	N/A
Undoing	3.96 (0.61)	3.16 (0.60)	6.28 (97)**
Passive aggression	3.87 (0.53)	2.73 (0.57)	11.61 (123)**
Repression	4.33 (0.72)	2.76 (0.75)	8.07 (58)**
Neurotic denial	3.79 (0.55)	2.38 (0.42)	17.59 (144.94)**
Grandiosity	4.09 (0.60)	2.64 (0.63)	13.68 (137)**
Turning against others	3.98 (0.62)	2.67 (0.69)	8.89 (79)**
Idealization	4.42 (0.56)	3.04 (0.91)	7.83 (69)**

* $p<0.05$, ** $p<0.01$

The t-test results in boxes are for defenses that were not rated as statistically different between the two samples.

Table 2.8 Comparison of Means of Adaptiveness of Defenses Scale Psychological Functioning Scale for Male Undergraduate Students and Male Inmates

Defense	Student mean (SD)	Inmate mean (SD)	t(df)
Sublimation	4.16 (0.58)	3.12 (0.61)	7.52 (97)**
Reaction formation	4.32 (0.58)	3.15 (0.62)	7.43 (70)**
Displacement	3.78 (0.62)	2.36 (0.45)	8.71 (57)**
Dissociation	4.33 (0.75)	3.07 (0.50)	5.82 (29.64)**
Isolation	3.64 (0.56)	2.28 (0.58)	8.95 (58)**
Splitting	4.33 (0.65)	2.81 (0.54)	6.73 (26)**
Regression	4.31 (0.53)	2.90 (0.88)	6.19 (40)**
Devaluation	3.89 (0.67)	2.76 (0.49)	10.77 (119)**
Humour	4.68 (0.42)	3.28 (0.66)	6.88 (22.43)**
Identification	3.92 (0.72)	2.57 (0.54)	8.74 (63)**
TAS	3.92 (0.52)	3.13 (0.57)	4.20 (49)**
Projection	4.42 (0.56)	2.57 (0.66)	13.89 (83)**
Pseudoaltruism	4.70 (0.47)	2.57 (0.66)	7.41 (32)**
Acting out	4.12 (0.77)	1.99 (0.56)	11.13 (24.44)**
Rationalization	3.94 (0.50)	2.69 (0.47)	15.42 (146)**
Intellectualization	4.17 (0.71)	2.72 (0.66)	10.83 (107)**
Fantasy	3.79 (0.68)	2.72 (0.54)	7.02 (76)**
Psychotic denial	N/A	2.71 (0.49)	N/A
Undoing	4.03 (0.62)	3.06 (0.77)	6.89 (97)**
Passive aggression	3.67 (0.60)	2.67 (0.42)	10.84 (118.29)**
Repression	3.96 (0.61)	2.33 (0.72)	9.35 (58)**
Neurotic denial	3.89 (0.61)	2.39 (0.37)	18.54 (139.89)**
Grandiosity	4.08 (0.69)	2.69 (0.73)	11.38 (137)**
Turning against others	3.96 (0.60)	2.63 (0.64)	9.53 (79)**
Idealization	4.40 (0.63)	2.90 (0.65)	9.30 (69)**

* $p<0.05$, **$p<0.01$

The t-test results in boxes are for defenses that were not rated as statistically different between the two samples.

Table 2.9 Comparison of Adaptiveness of Defenses Scale Total Score Means for Male Undergraduate Students and Male Inmates

Defense	Student mean (SD)	Inmate mean (SD)	t(df)
Sublimation	8.15 (1.05)	6.26 (0.96)	7.84 (97)**
Reaction formation	8.61 (1.03)	6.39 (0.99)	8.24 (32.97)**
Displacement	7.65 (1.09)	4.92 (0.83)	9.53 (57)**
Dissociation	8.67 (1.28)	6.43 (0.92)	5.63 (31)**
Isolation	7.22 (1.00)	4.76 (1.12)	8.54 (58)**
Splitting	8.50 (1.24)	5.59 (0.90)	7.19 (26)**
Regression	8.53 (1.00)	5.63 (1.54)	6.96 (40)**
Devaluation	7.75 (1.71)	5.39 (0.98)	11.85 (120)**
Humour	9.26 (0.89)	7.08 (1.48)	5.59 (21.78)**
Identification	7.84 (1.08)	4.70 (0.98)	12.20 (63)**
TAS	7.94 (0.85)	6.45 (0.83)	5.01 (49)**
Projection	8.91 (0.85)	5.38 (1.15)	16.02 (83)**
Pseudoaltruism	9.25 (0.68)	5.79 (1.93)	7.87 (32)**
Acting out	7.90 (1.38)	3.74 (1.10)	13.44 (77)**
Rationalization	8.03 (0.80)	5.39 (0.85)	19.35 (146)**
Intellectualization	8.32 (1.21)	5.54 (1.26)	11.59 (107)**
Fantasy	7.95 (1.10)	6.07 (0.84)	7.75 (76)**
Psychotic denial	N/A	5.57 (1.13)	N/A
Undoing	7.98 (1.09)	6.24 (1.25)	7.35 (97)**
Passive aggression	7.55 (0.99)	5.40 (0.88)	12.70 (123)**
Repression	8.29 (0.96)	5.12 (1.38)	10.51 (58)**
Neurotic denial	7.68 (1.02)	4.77 (0.69)	20.65 (143.59)**
Grandiosity	8.16 (1.22)	5.33 (1.30)	13.18 (137)**
Turning against others	7.94 (1.03)	5.29 (1.22)	10.37 (79)**
Idealization	8.83 (1.06)	5.94 (1.45)	9.46 (69)**

*p<0.05, **p<0.01

The t-test results in boxes are for defenses that were not rated as statistically different between the two samples.

Table 3.1 Techniques of Neutralization (Sykes & Matza, 1957)

Technique of neutralization	Explanation
Denial of responsibility	The offender denies agency in the offence, for example saying it was an accident
Denial of injury	The offender denies that the offence caused any harm, for example because the victim had insurance, or because no one was physically injured
Denial of the victim	The offender denies that anyone was victimized, for example in robbing an insured household
Appeal to higher loyalties	The offender justifies an offence by saying it was his duty, for example avenging the honour of his family or friends
Condemning the condemners	The offender denies the moral authority of those who condemn his crimes, for example saying the police are just another gang

Table 3.2 Comparison of Age and Criminal Histories for Aboriginal and Non-Aboriginal Male Inmates

	Aboriginal mean rank	Non-Aboriginal mean rank	U
Age	27.01	42.98	231.50***
Total number of convictions	29.80	37.66	348.50†
Theft	30.99	35.39	389.50
Robbery	33.13	31.30	435.00
Drugs	31.26	34.86	410.00
Assault	32.76	32.00	451.00
Domestic Assault	33.13	31.30	435.00
Murder	33.12	31.32	436.00
Domestic Murder	32.26	32.95	452.00
Weapons Offenses	31.31	34.77	412.00
Sexual Assault	29.98	37.32	356.00*
Domestic Sexual Assault	32.50	32.50	462.00
Driving Offenses	31.00	35.36	399.00
Fraud	28.49	40.16	293.50**
Escape	34.55	28.59	376.00
Kidnapping	31.24	34.91	409.00†
Domestic Kidnapping	32.76	32.00	451.00
Arson	32.50	32.50	462.00
Domestic Arson	32.50	32.50	462.00
Obstruction of Justice	32.86	31.82	447.00
Crimes Against the State	32.50	32.50	462.00
Miscellaneous	30.81	35.73	391.00

Aboriginal N=42, non-Aboriginal N=22

Table 3.3 Comparison of Defense-Q Means for Aboriginal and Non-Aboriginal Male Inmates

Defense	Non-Aboriginal mean (SD) N=20	Aboriginal mean (SD) N=41	t(df)
Sublimation	3.36 (0.71)	3.48 (0.89)	-0.54 (59)
Reaction formation	3.60 (0.57)	3.74 (0.54)	-0.99 (59)
Dissociation	3.74 (0.51)	3.79 (0.71)	-0.38 (59)
Displacement	3.23 (0.71)	3.42 (0.63)	-1.06 (59)
Isolation	3.45 (1.38)	3.94 (1.55)	-1.19 (59)
Splitting	3.57 (0.72)	3.43 (0.57)	0.80 (59)
Regression	3.53 (0.60)	3.35 (0.58)	1.10 (59)
Devaluation	4.48 (0.63)	4.69 (0.54)	-1.34 (59)
Humour	3.38 (0.68)	3.26 (0.86)	0.52 (59)
Identification (with the aggressor)	3.81 (0.72)	3.96 (0.52)	-0.93 (59)
Turning against self	3.13 (1.02)	3.10 (0.89)	0.14 (59)
Projection	4.23 (0.49)	4.28 (0.55)	-0.12 (59)
Pseudoaltruism	3.13 (0.77)	2.85 (0.63)	1.52 (59)
Acting out	5.10 (1.26)	5.57 (0.68)	-1.56 (24.51)
Rationalization	5.54 (0.72)	5.32 (0.66)	1.21 (59)
Intellectualization	4.65 (1.34)	4.17 (1.18)	1.42 (59)
Fantasy	3.93 (0.56)	3.97 (0.54)	0.23 (59)
Psychotic denial	2.42 (0.72)	2.26 (0.76)	0.77 (59)
Undoing	4.30 (0.64)	4.22 (0.66)	0.45 (59)
Passive aggression	4.83 (0.76)	4.76 (0.61)	0.43 (59)
Repression	3.63 (0.72)	3.74 (0.83)	-0.53 (59)
Neurotic denial	5.39 (0.64)	5.38 (0.55)	0.06 (59)
Grandiosity	5.27 (1.07)	5.15 (1.00)	0.40 (59)
Turning against others	4.48 (0.51)	4.41 (0.62)	0.48 (59)
Idealization	3.79 (0.72)	3.76 (0.72)	0.14 (59)

Table 3.4 Adaptiveness of Defenses Scale Social Functioning Means for Aboriginal and Non-Aboriginal Male Inmates

Defense	Non-Aboriginal mean (SD)	Aboriginal mean (SD)	T(df)
Sublimation	2.80 (0.45) (n=5)	3.24 (0.52) (n=18)	-1.72 (21)
Reaction formation	3.21 (0.39) (n=7)	3.29 (0.69) (n=11)	-0.26 (16)
Isolation	2.42 (0.80) (n=11)	2.51 (0.58) (n=25)	-0.35 (34)
Devaluation	2.52 (0.60) (n=17)	2.81 (0.48) (n=35)	-1.90 (50)†
Identification (with the aggressor)	2.15 (0.43) (n=12)	2.17 (0.67) (n=24)	-0.07 (34)
Projection	2.90 (0.43) (n=15)	2.81 (0.69) (n=25)	0.49 (37.87)
Acting out	1.94 (0.68) (n=16)	1.76 (0.52) (n=41)	1.01 (55)
Rationalization	2.53 (0.56) (n=20)	2.80 (0.42) (n=41)	-2.16 (59)*
Intellectualization	2.56 (0.77) (n=14)	2.96 (0.55) (n=28)	-1.97 (40)†
Fantasy	3.57 (0.45) (n=7)	3.25 (0.52) (n=18)	1.43 (23)
Undoing	3.09 (0.63) (n=13)	3.24 (0.61) (n=24)	-0.69 (35)
Passive aggression	2.65 (0.48) (n=18)	2.77 (0.62) (n=38)	-0.72 (54)
Repression	3.00 (0.80) (n=8)	2.63 (0.72) (n=15)	1.12 (21)
Neurotic denial	2.30 (0.48) (n=19)	2.41 (0.40) (n=41)	-0.98 (58)
Grandiosity	2.37 (0.60) (n=17)	2.79 (0.61) (n=39)	-2.34 (54)*
Turning against others	2.88 (0.69) (n=15)	2.62 (0.70) (n=27)	1.14 (40)
Idealization	3.19 (0.69) (n=7)	2.98 (1.04) (n=15)	0.49 (20)
Scale total	20.57 (2.71) (n=20)	21.37 (2.59) (n=41)	-1.23 (59)

†$p<0.10$, *$p< 0.05$

Note: Dissociation, displacement, splitting, regression, humour, turning against self, pseudoaltruism, and psychotic denial had fewer than 20 cases, so no comparisons were made with these defenses.

Table 3.5 Adaptiveness of Defenses Scale Psychological functioning Means for Aboriginal and Non-Aboriginal Male Inmates

Defense	Non-Aboriginal mean (SD)	Aboriginal mean (SD)	T(df)
Sublimation	3.20 (0.45) (n=5)	3.09 (0.66) (n=18)	0.34 (21)
Isolation	2.29 (0.62) (n=11)	2.25 (0.57) (n=25)	0.16 (34)
Devaluation	2.61 (0.55) (n=17)	2.85 (0.44) (n=35)	-1.72 (50)†
Identification (with the aggressor)	2.47 (0.45) (n=12)	2.63 (0.58) (n=24)	-0.80 (34)
Projection	2.68 (0.59) (n=15)	2.56 (0.71) (n=25)	0.54 (38)
Acting out	2.15 (0.80) (n=16)	1.96 (0.44) (n=41)	0.87 (18.62)
Rationalization	2.57 (0.46) (n=20)	2.76 (0.48) (n=41)	-1.47 (59)
Intellectualization	2.46 (0.70) (n=14)	2.86 (0.63) (n=28)	-1.83 (40)†
Fantasy	2.71 (0.39) (n=7)	2.75 (0.60) (n=18)	-0.15 (23)
Undoing	2.94 (0.75) (n=13)	3.15 (0.81) (n=24)	0.80 (35)
Passive aggression	2.66 (0.43) (n=18)	2.69 (0.42) (n=38)	-0.26 (54)
Repression	2.63 (0.69) (n=8)	2.18 (0.71) (n=15)	1.46 (21)
Neurotic denial	2.34 (0.35) (n=19)	2.44 (0.38) (n=41)	-0.99 (58)
Grandiosity	2.41 (2.84) (n=17)	2.84 (0.75) (n=39)	-2.03 (54)*
Turning against others	2.74 (0.65) (n=15)	2.56 (0.66) (n=27)	0.90 (40)
Idealization	3.05 (0.45) (n=7)	2.89 (0.71) (n=15)	0.54 (20)
Scale total	20.26 (2.04) (n=20)	20.90 (2.40) (n=41)	-1.03 (59)

†*p*<0.10, **p*< 0.05

Note: Dissociation, displacement, splitting, regression, humour, turning against self, pseudoaltruism, and psychotic denial had fewer than 20 cases, so no comparisons were made with these defenses.

Table 3.6 Adaptiveness of Defenses Scale Total Functioning Means for Aboriginal and Non-Aboriginal Male Inmates

Defense	Non-Aboriginal mean (SD)	Aboriginal mean (SD)	T(df)
Sublimation	6.00 (0.71) (n=5)	6.34 (1.03) (n=18)	-0.68 (21)
Isolation	4.71 (1.36) (n=11)	4.76 (1.07) (n=25)	-0.11 (34)
Devaluation	5.13 (1.07) (n=17)	5.58 (0.90) (n=35)	-1.60 (50)
Identification (with the aggressor)	4.63 (0.64) (n=12)	4.79 (1.14) (n=24)	-0.47 (34)
Projection	5.58 (0.90) (n=15)	5.37 (1.29) (n=25)	0.54 (38)
Acting out	4.08 (1.45) (n=16)	3.66 (0.93) (n=41)	1.09 (20.02)
Rationalization	5.09 (0.91) (n=20)	5.56 (0.80) (n=41)	-2.04 (59)*
Intellectualization	5.02 (1.42) (n=14)	5.82 (1.13) (n=28)	-1.97 (40)†
Fantasy	6.29 (0.70) (n=7)	6.00 (0.94) (n=18)	0.73 (23)
Undoing	6.03 (1.32) (n=13)	6.39 (1.26) (n=24)	-0.82 (35)
Passive aggression	5.31 (0.82) (n=18)	5.46 (0.92) (n=38)	-0.59 (54)
Repression	5.69 (1.36) (n=8)	4.81 (1.33) (n=15)	1.50 (21)
Neurotic denial	4.63 (1.15) (n=19)	4.85 (0.65) (n=41)	-1.13 (58)
Grandiosity	4.78 (1.15) (n=17)	5.62 (1.30) (n=39)	-2.31 (54)*
Turning against others	5.62 (1.22) (n=15)	5.18 (1.26) (n=27)	1.11 (40)
Idealization	6.24 (0.98) (n=7)	5.87 (1.67) (n=15)	0.54 (20)
Scale score	40.97 (4.31) (n=20)	42.16 (4.79) (n=41)	-0.90 (59)

†$p<0.10$, *$p< 0.05$

Note: Dissociation, displacement, splitting, regression, humour, turning against self, pseudoaltruism, and psychotic denial had fewer than 20 cases, so no comparisons were made with these defenses.

Table 3.7 Comparison of History of Offending Index Scores for Aboriginal and Non-Aboriginal Male Inmates

HOI category	Non-Aboriginal mean rank (n=22)	Aboriginal mean rank (n=42)	U
Total HOI			
Community	31.45	33.05	439.00
Incarceration	31.86	32.83	448.00
HOI general violence			
Community	31.93	32.80	449.50
Incarceration	29.25	34.20	390.50
HOI domestic violence			
Community	31.80	32.87	446.50
Incarceration	31.68	32.93	444.00
HOI total violence			
Community	29.82	33.90	403.00
Incarceration	29.25	34.20	390.50

Table 3.8 Comparison of Program Outcomes for Aboriginal and Non-Aboriginal Male Inmates

Program type and outcome	Non-Aboriginal mean rank (n=21)	Aboriginal mean rank (n=42)	U
Violence program			
Successful	34.67	30.67	385.00
Unsuccessful	34.26	30.87	393.50
Other	34.12	30.94	396.50
Substance Abuse program			
Successful	32.69	31.65	426.50
Unsuccessful	29.12	33.44	380.50
Other	30.79	32.61	415.50
Other program			
Successful	38.98	28.51	294.50*
Unsuccessful	40.45	27.77	263.50*
Other	33.86	31.07	402.00

*$p<0.05$

Table 3.9 Comparison of Urinalysis Outcomes for Aboriginal and Non-Aboriginal Male Inmates

Urinalysis reason and outcome	Non-Aboriginal mean rank (n=21)	Aboriginal mean rank (n=42)	U
Reason			
Grounds	36.43	29.79	348.00†
Random	36.05	29.98	356.00
Other	33.50	31.25	409.50
Outcome			
Positive	34.43	30.79	390.00
Negative	39.45	28.27	284.50*
Other	35.71	30.14	363.00*
Refused	34.45	30.10	361.00

†$p<0.10$, *$p<0.05$

Table 3.10 Comparison of Incidents of Institutional Behaviour for Aboriginal and Non-Aboriginal Male Inmates

Type of behaviour	Non-Aboriginal mean rank (n=21)	Aboriginal mean rank (n=42)	U
Inmate violence			
Instigator	38.50	28.75	304.50*
Victim	38.57	28.71	303.00*
Associate	34.00	31.00	399.00
Staff violence (instigator)	38.60	28.70	302.50**
Other incident			
Instigator	41.12	27.44	249.50*
Victim	38.48	28.76	305.00*
Associate	36.98	29.51	336.50*
Self-harm	35.10	30.45	376.00†

†$p<0.10$, *$p<0.05$, **$p<0.01$

Table 3.11 Comparison of Number of Institutional Charge Outcomes for Aboriginal and Non-Aboriginal Male Inmates

Type of charge and outcome	Non-Aboriginal mean rank (n=21)	Aboriginal mean rank (n=24)	U
Minor			
Guilty	37.00	29.50	336.00
Not guilty	39.93	28.04	274.50*
Other	40.21	27.89	268.50*
Serious			
Guilty	38.90	28.55	296.00*
Not guilty	40.07	27.96	271.50**
Other	39.19	28.40	290.00**

†$p<0.10$, *$p<0.05$, **$p<0.01$

Table 3.12 Multiple Regression Analysis of History of Offending Index Variables onto Defense-Q General Aggressor Profile Similarity Score and Adaptiveness of Defenses Scale Total Scores for Aboriginal and Non-Aboriginal Male Inmates

Aboriginal	B	SE B	β	R	R^2	ΔR^2
HOI total						
Step 1 GAP similarity score	1.64	0.72	0.34*	0.34	0.12	0.12
Step 2 GAP similarity score	1.43	0.89	0.30†			
ADS total score	-0.01	0.03	-0.08	0.35	0.12	0.00
HOI general violence						
Step 1 GAP similarity score	0.25	0.43	0.09	0.09	0.01	0.01
Step 2 GAP similarity score	-0.18	0.51	-0.07			
ADS total score	-0.02	0.02	-0.28	0.25	0.06	0.05
HOI domestic violence						
Step 1 GAP similarity score	0.04	0.08	0.07	0.07	0.01	0.01
Step 2 GAP similarity score	-0.04	0.10	-0.08			
ADS total score	-0.00	0.00	-0.28	0.24	0.06	0.05
HOI total violence						
Step 1 GAP similarity score	0.29	0.41	0.11	0.11	0.01	0.01
Step 2 GAP similarity score	-0.22	0.49	-0.08			
ADS total score	-0.03	0.01	-0.34†	0.30	0.09	0.08

Non-Aboriginal	B	SE B	β	R	R^2	ΔR^2
HOI total						
Step 1 GAP similarity score	-1.26	1.17	-0.25	0.25	0.06	0.06
Step 2 GAP similarity score	-2.41	1.20	-0.47†			
ADS total score	0.07	0.03	-0.50*	0.51	0.26	0.20
HOI general violence						
Step 1 GAP similarity score	-0.78	0.88	-0.20	0.20	0.04	0.04
Step 2 GAP similarity score	-1.63	0.90	-0.43†			
ADS total score	-0.05	0.02	-0.50*	0.49	0.24	0.20
HOI domestic violence						
Step 1 GAP similarity score	-0.01	0.14	-0.02	0.02	0.00	0.00
Step 2 GAP similarity score	0.01	0.16	0.01			
ADS total score	0.00	0.00	0.07	0.06	0.00	0.00
HOI total violence						
Step 1 GAP similarity score	-0.79	0.86	-0.21	0.21	0.05	0.05
Step 2 GAP similarity score	-1.63	0.88	-0.44†			
ADS total score	-0.05	0.02	-0.50*	0.49	0.24	0.21

†$p<0.10$, *$p< 0.05$

Table 3.13 Logistic regression of General Aggressor Profile Similarity Score and Adaptiveness of Defenses Scale Total Score on Dichotomous Program Outcome Variables for Aboriginal and Non-Aboriginal Male Inmates

Aboriginal	B	SE B	Wald	B(Exp)	95% CI for B(Exp)
VOP- successful					
Step 1 GAP similarity score	-0.10	0.04	5.12*	0.91	0.84-0.99
Step 2 GAP similarity score	-0.09	0.05	2.95†	0.92	0.83-1.01
ADS total score	0.04	0.10	0.18	1.05	0.85-1.28
VOP- unsuccessful					
Step 1 GAP similarity score	-0.01	0.04	0.10	0.99	0.91-1.07
Step 2 GAP similarity score	-0.01	0.05	0.05	0.99	0.89-1.10
ADS total score	0.01	0.12	0.00	1.01	0.79-1.27
VOP- other outcome					
Step 1 GAP similarity score	-0.01	0.04	0.10	1.00	0.94-1.06
Step 2 GAP similarity score	-0.04	0.04	0.94	0.96	0.90-1.04
ADS total score	-0.13	0.09	2.33†	0.89	0.74-1.04
SAP- successful					
Step 1 GAP similarity score	-0.01	0.03	0.11	0.99	0.93-1.05
Step 2 GAP similarity score	0.01	0.04	0.03	1.01	0.94-1.08
ADS total score	0.06	0.08	0.62	1.07	0.91-1.25
SAP- unsuccessful					
Step 1 GAP similarity score	0.04	0.04	0.86	1.04	0.96-1.12
Step 2 GAP similarity score	0.05	0.05	1.26	1.05	0.96-1.16
ADS total score	0.07	0.10	0.42	1.07	0.88-1.30
SAP- other outcome					
Step 1 GAP similarity score	0.03	0.03	0.71	1.03	0.96-1.10
Step 2 GAP similarity score	0.01	0.04	0.01	1.01	0.93-1.09
ADS total score	-0.09	0.10	0.86	0.92	0.76-1.10
OP- successful					
Step 1 GAP similarity score	-0.01	0.06	0.02	0.99	0.89-1.11
Step 2 GAP similarity score	0.01	0.07	0.01	1.01	0.88-1.16
ADS total score	0.07	0.16	0.18	1.07	0.78-1.46
OP- unsuccessful					
Step 1 GAP similarity score	-0.01	0.06	0.02	1.04	0.96-1.12
Step 2 GAP similarity score	0.01	0.07	0.01	0.97	0.90-1.05
ADS total score	0.07	0.16	0.18	0.94	0.80-1.11

Non-Aboriginal	B	SE B	Wald	B(Exp)	95% CI for B(Exp)
VOP- successful					
Step 1 GAP similarity score	-0.07	0.06	1.20	0.94	0.83-1.05
Step 2 GAP similarity score	-0.18	0.10	3.36†	0.83	0.69-1.01
ADS total score	-0.41	0.21	3.94*	0.66	0.44-1.00
VOP- unsuccessful					
Step 1 GAP similarity score	0.04	0.06	0.36	1.04	0.92-1.17
Step 2 GAP similarity score	0.01	0.08	0.03	1.01	0.87-1.17
ADS total score	-0.28	0.20	1.89	0.76	0.51-1.12
VOP- other outcome					
Step 1 GAP similarity score	-0.11	0.08	2.13†	0.89	0.77-1.04
Step 2 GAP similarity score	-0.26	0.13	3.76*	0.76	0.60-1.00
ADS total score	-0.47	0.25	3.46†	0.62	0.38-1.03
SAP- successful					
Step 1 GAP similarity score	0.05	0.06	0.71	1.05	0.94-1.17
Step 2 GAP similarity score	0.05	0.06	0.65	1.05	0.93-1.19
ADS total score	0.02	0.12	0.02	1.02	0.80-1.30
SAP- unsuccessful					
Step 1 GAP similarity score	-0.03	0.07	0.12	0.98	0.84-1.13
Step 2 GAP similarity score	-0.02	0.09	0.05	0.98	0.83-1.16
ADS total score	0.02	0.16	0.02	1.03	0.75-1.41
SAP- other outcome					
Step 1 GAP similarity score	0.07	0.07	0.98	1.07	0.94-1.22
Step 2 GAP similarity score	0.03	0.08	0.18	1.03	0.89-1.21
ADS total score	-0.12	0.15	0.58	0.89	0.66-1.20
OP- successful					
Step 1 GAP similarity score	0.12	0.09	1.66	1.13	0.94-1.35
Step 2 GAP similarity score	0.05	0.12	0.17	1.05	0.84-1.32
ADS total score	-0.18	0.21	0.74	0.84	0.56-1.26
OP- unsuccessful					
Step 1 GAP similarity score	-0.08	0.09	0.83	0.92	0.77-1.10
Step 2 GAP similarity score	-0.08	0.10	0.59	0.93	0.76-1.13
ADS total score	0.19	0.23	0.71	1.21	0.78-1.88

†$p<0.10$, *$p< 0.05$

Table 3.14 Logistic Regression of Defense-Q General Aggressor Profile Similarity Score and Adaptiveness of Defenses Scale Total Score on Urinalysis Variables for Aboriginal and non-Aboriginal Male Inmates

Aboriginal	B	SE B	Wald	B(Exp)	95% CI for B(Exp)
Urinalysis for grounds					
Step 1 GAP similarity score	0.01	0.04	0.02	1.01	0.94-1.08
Step 2 GAP similarity score	-0.01	0.04	0.10	0.99	0.91-1.07
ADS total score	-0.08	0.10	0.60	0.93	0.76-1.13
Urinalysis: random					
Step 1 GAP similarity score	0.01	0.03	0.02	1.01	0.95-1.07
Step 2 GAP similarity score	0.00	0.04	0.00	1.00	0.93-1.08
ADS total score	-0.02	0.09	0.04	0.98	0.83-1.16
Urinalysis for other reason					
Step 1 GAP similarity score	0.03	0.04	0.63	1.01	0.95-1.07
Step 2 GAP similarity score	-0.01	0.04	0.02	0.99	0.92-1.08
ADS total score	-0.16	0.10	2.54†	0.85	0.70-1.04
Positive urinalysis findings					
Step 1 GAP similarity score	0.04	0.04	1.15	1.04	0.97-1.12
Step 2 GAP similarity score	0.02	0.04	0.28	1.02	0.94-1.11
ADS total score	-0.08	0.09	0.68	0.93	0.77-1.11
Negative urinalysis findings					
Step 1 GAP similarity score	0.00	0.03	0.00	1.00	0.94-1.06
Step 2 GAP similarity score	-0.02	0.04	0.21	0.98	0.92-1.06
ADS total score	-0.07	0.08	0.61	0.94	0.80-1.10
Other urinalysis findings					
Step 1 GAP similarity score	-0.01	0.05	0.03	0.99	0.89-1.10
Step 2 GAP similarity score	-0.01	0.07	0.04	0.99	0.87-1.13
ADS total score	-0.01	0.15	0.01	0.99	0.73-1.33
Refusal to provide a sample					
Step 1 GAP similarity score	0.01	0.04	0.08	1.10	0.93-1.10
Step 2 GAP similarity score	0.02	0.05	0.13	1.02	0.92-1.12
ADS total score	0.03	0.11	0.05	1.03	0.83-1.27

Non-Aboriginal	B	SE B	Wald	B(Exp)	95% CI for B(Exp)
Urinalysis for grounds					
Step 1 GAP similarity score	0.06	0.06	0.87	1.06	0.94-1.19
Step 2 GAP similarity score	0.07	0.07	1.24	1.08	0.95-1.22
ADS total score	0.08	0.13	0.41	1.08	0.85-1.39
Urinalysis: random					
Step 1 GAP similarity score	-0.10	0.08	1.56	0.91	0.78-1.06
Step 2 GAP similarity score	-0.11	0.08	1.76	0.90	0.77-1.05
ADS total score	-0.06	0.16	0.14	0.94	0.68-1.29
Urinalysis for other reason					
Step 1 GAP similarity score	0.11	0.07	2.19†	1.12	0.97-1.29
Step 2 GAP similarity score	0.18	0.09	3.80*	1.19	1.00-1.43
ADS total score	0.28	0.17	2.63†	1.32	0.94-1.85
Positive urinalysis findings					
Step 1 GAP similarity score	0.05	0.06	0.80	1.06	0.94-1.19
Step 2 GAP similarity score	0.11	0.07	2.17†	1.11	0.97-1.29
ADS total score	0.22	0.14	2.31†	1.24	0.94-1.64
Negative urinalysis findings					
Step 1 GAP similarity score	-0.04	0.07	0.24	0.97	0.84-1.11
Step 2 GAP similarity score	-0.03	0.08	0.13	0.97	0.83-1.13
ADS total score	0.04	0.16	0.07	1.05	0.76-1.44
Other urinalysis findings					
Step 1 GAP similarity score	0.05	0.07	0.69	1.06	0.93-1.20
Step 2 GAP similarity score	0.09	0.07	1.46	1.09	0.95-1.26
ADS total score	0.15	0.14	1.12	1.17	0.88-1.55
Refusal to provide a sample					
Step 1 GAP similarity score	0.06	0.06	0.83	1.06	0.94-1.20
Step 2 GAP similarity score	0.04	0.07	0.41	1.05	0.91-1.19
ADS total score	-0.09	0.15	0.39	0.91	0.69-1.22

†*p*<0.10, **p*< 0.05

Table 3.15 Logistic Regression of Defense-Q General Aggressor Profile Similarity Score and Adaptiveness of Defenses Scale Total Score on Institutional Behaviour Variables for Aboriginal and Non-Aboriginal Male Inmates

Aboriginal	B	SE B	Wald	B(Exp)	95% CI for B(Exp)
Inmate violence- instigator					
Step 1 GAP similarity score	-0.02	0.03	0.25	0.98	0.93-1.05
Step 2 GAP similarity score	-0.04	0.04	0.99	0.96	0.89-1.04
ADS total score	-0.09	0.09	1.06	0.91	0.76-1.09
Inmate violence- victim					
Step 1 GAP similarity score	-0.02	0.04	0.17	0.98	0.91-1.06
Step 2 GAP similarity score	0.01	0.05	0.04	1.01	0.91-1.12
ADS total score	0.10	0.12	0.68	1.10	0.88-1.38
Inmate violence- associate					
Step 1 GAP similarity score	0.03	0.08	0.13	1.03	0.88-1.20
Step 2 GAP similarity score	0.01	0.09	0.01	1.01	0.85-1.20
ADS total score	-0.09	0.20	0.19	0.92	0.62-1.36
Staff violence					
Step 1 GAP similarity score	-0.09	0.08	1.35	0.92	0.79-1.06
Step 2 GAP similarity score	0.00	0.14	0.00	1.00	0.76-1.32
ADS total score	0.27	0.33	0.64	1.30	0.68-2.49
Other incident- instigator					
Step 1 GAP similarity score	-0.03	0.03	1.03	0.97	0.91-1.03
Step 2 GAP similarity score	-0.06	0.04	2.40†	0.94	0.87-1.02
ADS total score	-0.11	0.09	1.78	0.89	0.75-1.06
Other incident - victim					
Step 1 GAP similarity score	0.01	0.06	0.05	1.01	0.90-1.14
Step 2 GAP similarity score	0.03	0.07	0.17	1.03	0.89-1.19
ADS total score	0.07	0.16	0.17	1.07	0.78-1.46
Other incident - associate					
Step 1 GAP similarity score	-0.01	0.04	0.04	0.99	0.92-1.07
Step 2 GAP similarity score	-0.20	0.05	0.18	0.98	0.90-1.07
ADS total score	-0.05	0.10	0.21	0.96	0.78-1.16
Self-harm					
Step 1 GAP similarity score	0.02	0.07	0.05	1.02	0.88-1.18
Step 2 GAP similarity score	0.08	0.10	0.57	1.08	0.89-1.31
ADS total score	0.20	0.23	0.81	1.23	0.79-1.91

Non-Aboriginal	B	SE B	Wald	B(Exp)	95% CI for B(Exp)
Inmate violence- instigator					
Step 1 GAP similarity score	0.08	0.06	1.60	1.08	0.96-1.22
Step 2 GAP similarity score	0.09	0.07	1.72	1.10	0.96-1.26
ADS total score	0.06	0.13	0.19	1.06	0.82-1.36
Inmate violence- victim					
Step 1 GAP similarity score	0.01	0.05	0.01	1.01	0.90-1.12
Step 2 GAP similarity score	-0.02	0.06	0.07	0.98	0.87-1.11
ADS total score	-0.09	0.13	0.55	0.91	0.71-1.16
Inmate violence- associate					
Step 1 GAP similarity score	0.03	0.07	0.23	1.04	0.90-1.19
Step 2 GAP similarity score	0.03	0.08	0.15	1.03	0.89-1.20
ADS total score	-0.03	0.16	0.03	0.97	0.71-1.33
Staff violence					
Step 1 GAP similarity score	0.03	0.06	0.34	1.03	0.92-1.16
Step 2 GAP similarity score	0.19	0.06	0.08	1.02	0.90-1.15
ADS total score	-0.09	0.14	0.40	0.92	0.71-1.20
Other incident- instigator					
Step 1 GAP similarity score	0.07	0.07	0.94	1.07	0.94-1.22
Step 2 GAP similarity score	0.04	0.08	0.24	1.04	0.89-1.21
ADS total score	-0.09	0.15	0.38	0.91	0.68-1.22
Other incident - victim					
Step 1 GAP similarity score	0.08	0.06	1.50	1.08	0.95-1.22
Step 2 GAP similarity score	0.07	0.07	1.10	1.07	0.94-1.23
ADS total score	-0.04	0.14	0.11	0.96	0.73-1.25
Other incident - associate					
Step 1 GAP similarity score	0.17	0.09	3.69*	1.19	1.00-1.42
Step 2 GAP similarity score	0.18	0.10	3.02†	1.20	0.98-1.46
ADS total score	-0.27	0.30	1.44	0.76	0.49-1.19
Self-harm					
Step 1 GAP similarity score	0.05	0.08	0.48	1.05	0.91-1.22
Step 2 GAP similarity score	0.04	0.09	0.18	1.04	0.88-1.23
ADS total score	-0.23	0.21	1.21	0.80	0.53-1.20

†$p<0.10$, *$p< 0.05$

Table 3.16 Logistic Regression of Defense-Q General Aggressor Profile Similarity Score and Adaptiveness of Defenses Scale Total Score onto Institutional Charge Variables for Aboriginal and Non-Aboriginal Male Inmates

Aboriginal	B	SE B	Wald	B(Exp)	95% CI for B(Exp)
Minor charge- guilty					
Step 1 GAP similarity score	0.01	0.03	0.02	1.01	0.95-1.07
Step 2 GAP similarity score	-0.06	0.05	1.52	0.95	0.87-1.03
ADS total score	-0.23	0.10	4.80*	0.80	0.65-0.98
Minor charge- not guilty					
Step 1 GAP similarity score	0.03	0.05	0.34	1.03	0.94-1.13
Step 2 GAP similarity score	-0.01	0.05	0.01	1.00	0.90-1.11
ADS total score	-0.16	0.13	1.45	0.86	0.67-1.10
Minor charge- other					
Step 1 GAP similarity score	0.02	0.04	0.33	1.02	0.95-1.10
Step 2 GAP similarity score	-0.03	0.05	0.48	0.97	0.89-1.06
ADS total score	-0.27	0.12	4.82*	0.76	0.60-0.97
Serious charge- guilty					
Step 1 GAP similarity score	0.03	0.03	1.05	1.03	0.97-1.10
Step 2 GAP similarity score	0.02	0.04	0.34	1.02	0.95-1.10
ADS total score	-0.04	0.08	0.28	0.96	0.81-1.13
Serious charge- not guilty					
Step 1 GAP similarity score	-0.05	0.06	0.85	0.95	0.85-1.06
Step 2 GAP similarity score	-0.20	0.14	2.24†	0.82	0.63-1.07
ADS total score	-0.59	0.42	1.97	0.55	0.24-1.27
Serious charge- other					
Step 1 GAP similarity score	-0.21	0.04	0.30	0.98	0.91-1.05
Step 2 GAP similarity score	-0.03	0.05	0.28	0.98	0.89-1.07
ADS total score	-0.02	0.11	0.02	0.99	0.80-1.21

Non-Aboriginal	B	SE B	Wald	B(Exp)	95% CI for B(Exp)
Minor charge- guilty					
Step 1 GAP similarity score	-0.03	0.08	0.16	0.97	0.83-1.13
Step 2 GAP similarity score	-0.02	0.09	0.04	0.98	0.82-1.17
ADS total score	0.11	0.20	0.31	1.12	0.76-1.64
Minor charge- not guilty					
Step 1 GAP similarity score	0.09	0.07	1.97	1.10	0.96-1.24
Step 2 GAP similarity score	0.11	0.07	2.10†	1.11	0.96-1.28
ADS total score	0.06	0.13	0.22	1.06	0.82-1.37
Minor charge- other					
Step 1 GAP similarity score	-0.01	0.06	0.05	0.99	0.88-1.11
Step 2 GAP similarity score	-0.04	0.07	0.45	0.96	0.84-1.09
ADS total score	-0.13	0.13	1.00	0.88	0.68-1.13
Serious charge- guilty					
Step 1 GAP similarity score	0.10	0.07	2.15†	1.11	0.97-1.27
Step 2 GAP similarity score	0.09	0.08	1.30	1.09	0.94-1.27
ADS total score	-0.06	0.14	0.16	0.95	0.72-1.25
Serious charge- not guilty					
Step 1 GAP similarity score	0.01	0.05	0.02	1.01	0.91-1.12
Step 2 GAP similarity score	-0.03	0.06	0.16	0.98	0.86-1.10
ADS total score	-0.16	0.14	1.42	0.85	0.65-1.11
Serious charge- other					
Step 1 GAP similarity score	0.00	0.05	0.01	1.00	0.90-1.11
Step 2 GAP similarity score	-0.03	0.06	0.25	0.97	0.86-1.10
ADS total score	-0.20	0.13	0.88	0.89	0.69-1.14

†$p<0.10$, *$p< 0.05$

Table 3.17 T-tests of Personality and Self-report Measures for Aboriginal and Non-Aboriginal Male Inmates

Scale	Aboriginal Mean (SD)	Non-Aboriginal Mean (SD)	T(df)
PCL-R total score	21.62 (6.67) (N=42)	24.03 (6.74) (N=22)	3.00(62)**
PCL-R Factor 1 interpersonal/affective	6.47 (3.31) (N=42)	9.18 (3.66) (N=22)	2.83(62)**
PCL-R facet 1 interpersonal	2.00 (1.98) (N=42)	3.59 (2.42) (N=22)	1.53(62)†
PCL-R facet 2 affective	4.76 (1.83) (N=42)	5.50 (1.81) (N=22)	-0.53(62)
PCL-R Factor 2 social deviancy	13.35 (3.91) (N=42)	12.77 (4.52) (N=22)	-0.90(62)
PCL-R facet 3 social deviancy	6.79 (2.07) (N=42)	6.27 (2.35) (N=22)	-0.64(62)
PCL-R facet 4 antisocial lifestyle	6.81 (2.30) (N=42)	6.41 (2.48) (N=22)	1.37(62)
BPI total score	20.11 (9.12) (N=37)	18.55 (12.29) (N=11)	-0.46(46)
BPI identity diffusion	2.38 (2.06) (N=39)	2.14 (2.77) (N=14)	-0.34(51)
BPI primitive defenses	2.67 (2.12) (N=39)	1.71 (2.30) (N=14)	-1.41(51)
BPI intact reality testing	0.41 (0.91) (N=39)	0.38 (0.87) (N=13)	-0.09(50)
BPI fear of fusion	3.38 (2.18) (N=39)	2.36 (2.47) (N=14)	-1.46(51)
BPI cut-20	7.32 (4.38) (N=37)	6.07 (5.47) (N=14)	-0.85(49)
PAS total score	70.20 (16.92) (N=30)	70.89 (16.06) (N=9)	0.11(37)
PAS recalled negative parental treatment	32.72 (10.78) (N=32)	31.30 (8.41) (N=10)	-0.38(40)
PAS affective instability	31.47 (10.84) (N=38)	30.57 (11.88) (N=14)	-0.26(50)
PAS trauma symptoms	6.10 (3.41) (N=40)	7.62 (4.96) (N=13)	1.24(51)

†$p<0.10$, *$p<0.05$, **$p<0.01$