**COMPREHENSIVE ASSESSMENT OF PSYCHOPATHIC PERSONALITY
DISORDER-INSTITUTIONAL RATING SCALE
(CAPP-IRS) – VALIDATION**

By

Natalia L. Nikolova
Bachelor of Arts, University of California, Los Angeles, 2004

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Name: Natalia L. Nikolova

Degree: Master of Arts (Department of Psychology)

Title of Thesis: Comprehensive Assessment of Psychopathic Personality Disorder-Institutional Rating Scale (CAPP-IRS) – Validation

Examining Committee:

Chair: Dr. Cathy McFarland
Professor

_____

Kevin S. Douglas
Senior Supervisor
Associate Professor

_____

Stephen D. Hart
Supervisor
Professor

_____

External Examiner: Dr. Raymond Corrado
School of Criminology
Simon Fraser University

Date Defended: September 11, 2009

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ABSTRACT

This study evaluated the psychometric properties of the Comprehensive Assessment of

Psychopathic Personality-Institutional Rating Scale (CAPP-IRS): Staff Rating Scale,

designed for use by staff at secure institutions. Ratings of psychopathy measured by the

CAPP-IRS were evaluated against the FFM, as well as a theoretically defined

nomological network of factors. Due to the small sample size it is unclear whether the

CAPP-IRS as whole is suitable to assess psychopathy. Nevertheless, there is support that

at least a couple of the CAPP-IRS domains have good psychometric properties. The

concurrent validity of the CAPP-IRS was well established. There is support for its

internal consistency reliability; however, its interrater reliability needs to be further

evaluated. Practical implications related to implementing the CAPP-IRS in correctional

facilities are discussed. Further research is needed to establish the overall psychometric

properties of the CAPP-IRS and to determine whether its implementation could enhance

the MH-screening process at correctional facilities.

Keywords: Psychopathy; risk assessment; utility, reliability; construct validity;

concurrent validity.

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TABLE OF CONTENTS

vi

COMPREHENSIVE ASSESSMENT OF PSYCHOPATHIC PERSONALITY DISORDER (CAPP-IRS) – VALIDATION

Comprehensive conceptualization of the psychopathy construct has been the main focus of interest for numerous studies over the past several decades. Is a two, three or four factor model of psychopathy most appropriate? There appears to be lack of a unanimous agreement between experts with respect to this question. However, before we can find the answer to it, we need to ensure that we have assessment instruments which are sufficiently representative of the construct of psychopathy and are suitable for a variety of settings. The aim of the present study was to evaluate the utility, as well as reliability, construct and concurrent validity of a new measure of psychopathy— Comprehensive Assessment of Psychopathic Personality Disorder – Institutional Rating Scale (CAPP-IRS). This measure was developed by Cooke, Hart, and Logan (2005) to reflect a conceptualization of the construct different from what has been widely accepted in the existing literature. Following a review of prominent models of psychopathy, the construct as conceptualized by the CAPP-IRS will be evaluated in terms of the Five Factor Model (FFM) of personality to determine to what extent it maps onto a structural model of personality. Further, to examine the construct validity of the CAPP-IRS, a nomological network of factors was established based on what different theoretical models identify as external factors that should relate to the constructs underlying the CAPP-IRS. Subsequently, the relationship between the nomological network and the symptomatology domains of psychopathy captured by the CAPP-IRS will be reviewed.

Conceptualizations of Psychopathy

One of the most prominent conceptualizations of psychopathy was first introduced in Cleckley's book *The Mask of Sanity* (1941), where psychopathic individuals were described as lacking the connection between emotional experience and cognitive emotional processing, as well as exhibiting deep emotional deficits. Cleckley's criteria for psychopathy included the following characteristics: Superficial charm, good intelligence, no delusions or irrationality, lack of nervousness or neuroticism, lack of remorse or shame, poor judgment, untruthfulness or insincerity (Cleckley, 1941, 1976). Psychopathic individuals show pathological egocentricity and incapacity for love, poverty in major affective relations, lack of insight, unresponsiveness in interpersonal relationships, trivial sex life, and failure to follow any life plan. Cleckley's clinical description of psychopathy has been very influential in research conducted in North America (Hare & Neumann, 2006).

As a result of rigorous research on psychopathy, our understanding of the underlying dynamics of this construct has evolved, which has led to modifications in its definition. Psychopathy is now defined as a personality disorder characterized by affective, interpersonal and behavioral deficits, evident through unstable and impulsive behavior and lifestyle, associated with a tendency to violate social norms, as well as egocentricity and grandiosity, callousness, lack of empathy, remorse or guilt, shallow affect, short-temper, manipulativeness and irresponsibility (Hare, 2006). It is conceptualized as a more extreme variation of Antisocial Personality Disorder (American Psychiatric Association, 2000, p. 703), and is considered to be stable across interpersonal and social domains, and the life span.

Over the past decade experts in the field appear to be engaging in an ongoing debate regarding the proper conceptualization of psychopathy. One conceptualization of psychopathy was reflected in the traditional two-factor model (Harpur, Hare, & Hakstian, 1989), and was reflected in the *Psychopathy Checklist – Revised* (PCL-R, Hare, 1991 version). In this model, Factor 1 was described as a constellation of personality traits, considered to be the core of psychopathy: Selfish, callous, and remorseless use of others. Factor 2 was described as various behaviors indicative of social deviance, chronic instability, and anti-social lifestyle.

An alternative three-factor model was proposed by Cooke and Michie (2001), in which Factor 1 captures manipulative, deceitful and superficial interpersonal lifestyle, thus it was named Arrogant and Deceitful Interpersonal Lifestyle. Factor 2 is characterized by lack of emotional and affective depth, and is described as a combination of deficient affective experiences, which is also reflected in its name (i.e., Deficient Affective Experiences). Finally, Factor 3 is marked by impulsivity, boredom and parasitic lifestyle, and it is called Impulsive and Irresponsible Behavioral Style. In response to this alternative three-factor model, Hare (2003) proposed a four-facet amendment of the original two-factor model of psychopathy, where each of the original factors was divided into two nested facets: Factor 1 encompassing the Interpersonal and Affective facets, and Factor 2 consisting of the Lifestyle and Antisocial facets. In the four-factor model, the psychopathy construct "reflects the covariation of the four factors, and not simply one of the factors in isolation, or in a subordinate relation to the others" (Hare & Neumann, 2006, p. 84).

Although both structural models of psychopathy – the three- and the four-factor models –tap overlapping parts of the same construct, the main difference between them is how they conceptualize the relationship between antisocial/socially deviant behavior and psychopathy (Douglas, Vincent, & Edens, 2006). Hare (2003) believes that antisocial behavior is a characteristic feature of psychopathy, which differentiates it from other personality disorders. Therefore, items associated with overt behavioral deviance and criminal behaviors are encompassed in his fourth facet (i.e., antisocial). On the contrary, as a result of item response theory and confirmatory factor analyses, Cooke and Michie (2001) excluded items associated with antisocial and socially deviant behavior from their three-factor model, since it did not appear as though such items were adding unique information about the underlying traits of psychopathy. Consequently, they conceptualized that behavioral deviance was a consequence rather than a part of the underlying personality traits of psychopathy (Cooke, Michie, Hart and Clark, 2004). After all, although the existing literature on psychopathy reflects a strong association between criminality and psychopathy, psychopaths comprise only a small minority of those who engage in criminal acts (Widiger, 2006).

Hare's main criticism of conceptualizing psychopathy based solely on personality traits without reference to antisocial behavior pertains to the fact that often the defining characteristics of psychopathy are derived from antisocial/socially deviant behaviors (Hare & Neumann, 2006). Thus, excluding such behaviors from the diagnostic criteria would be impossible unless there were a way to "tap directly into relevant biophysiological processes" (Hare & Neumann, 2006, p. 60).

4

With respect to their position regarding whether antisocial behavior is a consequence rather than an underlying feature of psychopathy, Cooke et al. (2004) proposed the "consequence hypothesis," based on theoretical and empirical arguments. First, the authors indicated that antisocial behavior is not included as a central figure or symptom of the disorder in classical clinical descriptions of psychopathy (e.g. Arieti, 1963; Gough, 1948; Karpman, 1961; McCord & McCord, 1964). In addition, they stated that "there are rational reasons to argue that psychopathic features may play a causal role in regard to antisocial behavior" (Cooke et al., 2006, p. 97). Possessing the core interpersonal and affective deficits underlying psychopathy – grandiosity, glibness, lack of empathy and anxiety, shallow affect – in and of itself can serve as a predisposition leading to engagement in deviant social behavior. Further, they emphasized the qualitative difference between antisocial/socially deviant behavior and general personality traits underlying psychopathy, and as proposed by Blackburn (1988), argued that "diagnosing personality disorders in terms of both, traits and acts, is to mix criteria from two distinct conceptual domains" (Cooke et al., 2006, p. 97). As a final argument for the consequence hypothesis the authors pointed out that according to general theories on crime, antisocial behavior can result through a variety of biological, psychological and social factors. Thus, possessing personality traits underlying the psychopathy construct is only one of numerous possible venues leading up to socially deviant behavior.

Cooke et al. (2004) also drew attention to an inherent problem associated with the prediction of future social deviance based primarily on past social deviance, which is often undertaken in clinical-forensic practice. There is no doubt that an individual's capabilities and potential to engage in certain acts can very well be determined based on

their past behavior. However, whether he/she will endorse the same patterns of behavior in the future is a question that cannot be answered with certainty. Thus, employing independent measures of psychopathic personality features and antisocial/socially deviant behavior can help avoid such tautology. Further, the authors warned against the dangers of having limited number of settings as well as mono-operation bias in assessing psychopathy, which may lead to serious construct underrepresentation (Cooke et al., 2006). Therefore, Cooke et al. (2004) emphasized the need for a "purified" measure of psychopathy, which does not reflect socially deviant behavior directly, and is not limited to predicting personality deviance based primarily on a history of antisocial/socially deviant behavior. Utilizing such a measure can augment sensitivity and specificity of risk assessment, and facilitate our understanding of the complex interaction of various factors that can lead up to social deviance.

CAPP-IRS -- Description

The CAPP-IRS was developed by Cooke, Hart, and Logan (2005) to address the need for such a "purified" measure of psychopathic personality disorder (PPD). This new instrument was created based on a modification of Cooke's three-factor structural model of psychopathy, and is intended to capture symptoms and underlying personality traits of the construct. The CAPP-IRS consists of a family of tests, including a Staff Rating Scale and a Life-Time Version. The primary difference between the two versions is the method of administration. The Life-Time version is to be administered by trained professionals, and ratings are based on an interview. The Staff Rating Scale, on the other hand, is intended for use by staff members at secure treatment facilities (e.g., forensic or civil

psychiatric hospitals, or correctional facilities), and was used in this study. Ratings of psychopathic symptoms are based on observations over a 6-month time frame, during which the participant has been residing at the facility. The CAPP-IRS differs from other assessment instruments of psychopathy in three main aspects. First, due to the fact that it covers six domains of PPD, the CAPP-IRS is optimized for use in a variety of settings— at secure treatment facilities as well as the community—instead of being limited for use in a single setting. In addition, the CAPP-IRS is designed to assess not only lifetime severity of symptoms, but also changes in severity over discrete periods of time, and as such can be useful when the temporal stability of symptom severity is of interest. Furthermore, unlike most other assessment instruments, one of the versions of the CAPP-IRS (i.e., the CAPP-IRS: Staff Rating Scale) allows ratings to be completed by paraprofessionals at secure treatment facilities (i.e., correctional or nursing staff), and therefore imposes fewer demands for training prior to its use. In addition, it takes only 35 to 40 minutes to complete ratings on the Staff Rating Scale, which represents a minimal time and resource burden for staff at secure treatment facilities. By comparison, the Psychopathy Checklist Revised (PCL-R), which is the most commonly used instrument for assessment of psychopathy, takes approximately three hours to complete, and the ratings must be completed by a trained professional, which is not always viable. Therefore, evaluating the utility of the CAPP-IRS: Staff Rating Scale so that it could be introduced and potentially implemented in correctional facilities may make screening for psychopathy feasible within such settings.

The CAPP-IRS captures six domains of psychopathic symptomatology: attachment (A), behavioral (B), cognitive (C), dominance (D), emotional (E) and self (S).

The attachment domain is geared toward assessing potential problems with forming close, intimate relationships, and establishing connection with others. The behavioral domain reflects problems with behavior regulation, the ability to come up with appropriate strategies to handle daily tasks, and with completing goal-directed activities. The cognitive domain signifies potential problems with a person's ability to encode, process and organize information. It points toward problems with focusing and sustaining attention, as well as lack of mental flexibility and adaptation to one's environment. The dominance domain indicates problems with power and control in interpersonal relationships. The emotional domain captures problems with aptness of one's affective responses and mood regulations. Finally, the self domain was developed to assess potential problems with one's identity or personality. It reflects one's accurate understanding of one's own personality traits, abilities, and qualities.

Research on the CAPP-IRS

Although currently there are no published studies on the CAPP-IRS, unpublished data provides preliminary support for its psychometric properties. Two prototypicality studies on the CAPP-IRS suggested good content validity of the instrument (Hoff, 2008, Kreis, et al., 2007). In addition, scholars at Simon Fraser University and the University of the Fraser Valley, BC, Canada, conducted a joint study evaluating the reliability and validity of the CAPP-IRS with a sample of violent young offenders (see Corrado et al., 2006, Corrado et al, 2007, McCormick et al., 2008; Watkinson et al., 2007). Initial results yielded interrater reliability scores, absolute agreement type for single ratings (i.e., ICC_1), ranging from .36 (for domain B) to .95 (for domain A) (see Corrado et al., 2006).

Subsequent results (based on a different subsample) revealed good to excellent interrater reliability, with scores ranging from .69 (95% CI, .44-.84) for domain S to .86 (95% CI, .73-.93) for domains A and B (see Watkinson et al., 2007). Internal consistency scores (i.e., Cronbach's alphas) ranged from .67 for domain E to .85 for domain A. Interdomain correlations ranged from .26 (i.e., between domains B and S) and .85 (i.e., between domains A and E). Their results also indicated that the CAPP-IRS total score (which was calculated by adding the symptom severity ratings for all of the domains) correlated positively with the PCL-R total score, r =.67, p < .001. In addition, they found support for the association between violence and some of the items on the CAPP-IRS (i.e., "suspicious" and "lack of emotional depth" were positively correlated with violence (r =.459 for both). Nevertheless, contrary to theoretical conceptualizations and existing research on psychopathy, one of the items on the CAPP-IRS (i.e., "garrulous") was negatively correlated with violence (r =-.525).

Further, Hart (2008) evaluated the construct validity of the CAPP-IRS and found that some of the items currently included in the CAPP-IRS (e.g., "lack of concentration" included in domain C, and "lack of pleasure" included in domain E) may not be representative of the construct. Results were consistent across different locations (i.e., Canada, Denmark and the UK). Furthermore, the psychometric properties of the CAPP-IRS with female samples have also been evaluated, and results indicated that the CAPP-IRS may capture psychopathy in women, although some adjustments may be necessary (see Kreis & Cooke, 2008). Finally, to examine the discriminant and convergent validity of the CAPP-IRS, symptoms of psychopathy included in the instrument were evaluated in relation to other personality disorders. Higher severity ratings of CAPP-IRS symptoms

were given to patients with a diagnosis of a Cluster B personality disorder, providing preliminary support for the discriminant and convergent validity of the CAPP-IRS (see Strub, Kreis, & Hart, 2008).

Current Study

This study was designed to further the validation of the CAPP-IRS—IRS: Staff Rating Scale. Determining the psychometric soundness of a newly developed measure is in and of itself crucial. In addition, keeping in mind the differences in training of psychologists and staff members at secure treatment facilities, it is important to determine whether the assessment procedure of having staff members at such facilities administer the CAPP-IRS is feasible. This issue was addressed by evaluating the interrater reliability of the CAPP-IRS, as well as examining whether there were any missing items.

Further, to evaluate the construct validity of the psychopathy construct conceptualized by the CAPP-IRS, two primary construct validation approaches were taken. First, to evaluate the extent to which the CAPP-IRS maps onto a structural model of personality in a theoretically meaningful manner, the relationship between the symptomatology domains of the CAPP-IRS and the five factor model of personality (FFM, McCrae & Costa, 1990) was examined. Although there are two other prominent structural models of personality, Eysenck's (1977) Psychoticism-Extraversion-Neuroticism (PEN) model and Tellegen's (1985) three-factor model (T-3), the FFM appears to be the most encompassing model, emphasizing human interactions and communications as a means of identifying personality traits. An extensive body of research suggests that the FFM and other measures of psychopathy relate to one another

in conceptually meaningful ways (see Lynam & Derefinko, 2006). Therefore, it was important to determine whether the same holds true about the construct of psychopathy as it is captured by the CAPP-IRS.

Second, as suggested by Cronbach and Meehl (1955), "to validate a claim that a test measures a construct, a nomological net surrounding the concept must exist" (p. 11). A nomological network, in turn, is described by the authors as an "interlocking system" of concepts of interest, their apparent manifestations, and the interconnections between them (Cronbach & Meehl, 1955). The question then becomes how a nomological network should be defined. One way of doing so is to employ a prototypicality approach where the help of experts is used to determine whether or not items should be included in a nomological network. An alternative approach is to rely on theory and empirical research while defining the nomological network. Both of these approaches are well accepted, and while it is possible that one is superior to the other, there is currently no evidence to support or refute such an assumption (see Kane, 2001). The current study employed the latter approach, where variables theoretically hypothesized to be related to personality traits underlying the construct of psychopathy as presented by the CAPP-IRS were included in the nomological network.

Nomological Network

The nomological net includes a list of traits derived based on prominent conceptualizations of psychopathy (see Harpur, Hare, & Hakstian, 1989; Cooke & Michie, 2001; Hare, 2003). The identified traits are as follows: Stability of self-concept, intolerance, cognitive inflexibility, impulsivity, stimulation seeking, social deviance, and

11

emotional stability. Impulsivity, stimulation seeking and social deviance were the only items in the nomological network not directly incorporated in the CAPP-IRS, yet incorporated in well-established models on psychopathy (e.g., Hare, 2003). Given that they appear to be closely related to some of the items included in the Behavioral domain (e.g., reckless, restless, disruptive), they were used to evaluate the construct as well as concurrent validity of the CAPP-IRS. The rest of the items (i.e., self-concept, intolerance, cognitive inflexibility, and emotional stability) were used to evaluate the construct validity of the CAPP-IRS; they were assessed by instruments that measure conceptually related constructs.

Further, some additional items which appear in the CAPP-IRS and in existing measures of psychopathy (e.g., PCL-R), but seemed to be related differentially to the construct of psychopathy presented in those measures (i.e., CAPP-IRS vs. PCL-R), were also incorporated in the nomological network. This was done in consideration of existing theoretical and empirical evidence, according to which these items form an adequate representation of the underlying traits of psychopathy, and as such were used to examine the construct and concurrent validity of the CAPP-IRS. They are as follows: Egocentricity, dominance, attachment style, anxiety reactivity and pleasure. Finally, in addition to the items identified above, four external constructs—the concept of mindfulness, the tendency to carry out suicide, warmth as well as treatment rejection— although not contained by existing models of psychopathy nor the CAPP-IRS, were also included in the nomological network. Those construct were used to evaluate the construct validity of the CAPP-IRS, although they have not been included in existing models of

psychopathy, they are theoretically related to the construct. What follows is an overview of each of the constructs incorporated in the nomological network of factors.

Stability of Self-Concept. Little is known about the stability of self-concept of psychopaths. The authors of the CAPP-IRS conceptualize psychopaths as labile, and having a chaotic and incomplete sense of self (Cooke et al., 2005, p. 34). Such combination of factors makes for an unstable sense of self. From a theoretical standpoint, such conceptualization is indisputably reasonable. However, considering that the stability of self-concept of psychopaths has not been addressed by existing prominent models of the construct, obtaining empirical validation of this conceptualization was deemed important.

Cognitive Inflexibility and Intolerance. The concept of cognitive inflexibility relates to psychopaths' tendency to be stubborn, rigid, and uncompromising (Cooke et al., 2005, p. 34). It goes hand in hand with the tendency to be intolerant of others, which the authors of the CAPP-IRS describe as being narrow-minded, bigoted and hypocritical (Cooke et al., 2005, p. 34). Once again, these characteristics have not been explicitly incorporated in existing conceptualization of psychopathy. However, based on information gathered by Cooke et al. (2005) for the development of the CAPP-IRS these characteristics appeared to be central to psychopaths' cognitive functioning style, and as such required some attention.

Attachment Style, Emotional Stability and Pleasure. Although extensive research has been done on the affective experiences of psychopaths, the CAPP-IRS captures these features from a slightly different perspective, incorporating dimensions of their attachment style as well as emotional stability and pleasure into distinct domains (i.e.

Attachment and Emotional domains respectively). According to Cooke, Hart and Logan (2005), psychopathic individuals are rather detached (i.e. remote, distant and cold), uncommitted (i.e. unfaithful, undevoted and disloyal), unempathic (i.e. uncompassionate, cruel and callous), as well as uncaring (i.e. inconsiderate, thoughtless and neglectful) (p. 22). They are also described as emotionally unstable (i.e. temperamental, moody, and irritable), and lacking the ability to experience pleasure—in other words, they are pessimistic, gloomy, and unenthusiastic (p. 48). Unlike other models on psychopathy (e.g., Four-factor model), where the affective characteristics and experiences of psychopaths appear to be spread across the symptomatology spectrum (i.e., across multiple factors on the PCL-R), on the CAPP-IRS they are clustered together with other closely related items, and form two distinct domains—Attachment and Emotional. Thus, further examination of the relationship between these features and PPD was warranted.

Anxiety Reactivity and Impulsivity. Prior research has addressed the concepts of anxiety reactivity and impulsivity of psychopaths. The traditional belief is that psychopathic individuals in general are low-anxious, highly impulsive and tend to carry out suicide rarely (e.g., Cleckley, 1976; Millon, Simonsen, & Birket-Smith, 1998). This belief, however, appears to be overlooking the distinction between what some scholars consider to be two distinct categories of psychopaths – primary vs. secondary. Primary psychopaths have been described as individuals exhibiting characteristics associated primarily with deficits in the interpersonal and affective aspects of psychopathy. Secondary psychopaths, on the other hand, have been described as individuals who show deficits primarily linked to the lifestyle and antisocial features of the construct (Hare, 1968). Given that there is some disagreement regarding the existence of those categories,

it was deemed necessary to determine whether such disparity in the underlying

characteristics of psychopathy can be captured by the CAPP-IRS.

Egocentricity, Dominance, Stimulus Seeking and Social Deviance. The concepts

of egocentricity (i.e., selfish, self-absorbed, self-centered), dominance (arrogant,

overbearing, and controlling), stimulus seeking (i.e., needs environmental stimulation,

prone to boredom) and social deviance have also been addressed by prior research.

Although, there appears to be an agreement that all of those characteristics are closely

related to psychopathy (e.g., Cleckley, 1976; Cooke et al. 2005; Hare, 2003), existing

models of the construct place different emphasis on their importance in terms of

assessing psychopathy. Namely, similarly to Cleckley's (1976) model, Cooke et al.

(2005) included egocentricity and stimulus seeking as direct manifestations of

psychopathy, while conceptualizing social deviance as a secondary symptom (i.e., a

consequence) of the disorder. Hare (2003), however, argues that all three, egocentricity,

stimulus seeking and social deviance are primary symptoms (i.e. direct manifestations of

the disorder) of psychopathy. Considering that further clarification of the way these

constructs relate to psychopathy is highly desirable, their inclusion in the nomological

network was considered to be well justified.

Mindfulness. The first external construct incorporated in the nomological

network—the concept of mindfulness—pertains to the idea of being aware of one's

surrounding and experiences at any given moment. It is postulated to comprise four main

components: Observing, describing, acting with awareness, and accepting without

judgment (Baer, Smith, & Allen, 2004). Although there is essentially no research on the

extent to which mindfulness relates to psychopathy, the concept of mindfulness appeared

15

to be closely related to aspects of cognitive functioning captured by the CAPP-IRS. Considering that the cognitive domain on the CAPP-IRS is rather novel and unique in comparison to preexisting conceptualizations of psychopathy, including mindfulness in the nomological network was deemed appropriate.

Suicidality. The second external construct included in the nomological network— suicidality—although not explicitly incorporated in the CAPP-IRS, has been addressed in relation to the PPD. Looking back at Cleckley's (1976) conceptualization of psychopathy, suicide is assumed to be rarely carried out. Despite the lack of empirical support for this notion, there appears to be a unanimous agreement with Cleckley's conceptualization with respect to this issue. However, recent research on this topic reveals that behavioral/impulsive features of psychopathy relate differentially to suicide than do affective/interpersonal features (Verona, Hicks, & Patrick, 2005; Verona, Patrick, & Joiner, 2001). Further research along the same lines indicates that it is difficult to pinpoint a specific relationship between psychopathy and suicide, but that such relationship is most likely influenced by context and methodological factors (i.e. type of assessment instruments, and sample composition) (Douglas, Herbozo, Poythress, Belfrage, & Edens, 2006). Thus, considering that obtaining evidence for a relationship (or lack thereof) between psychopathy and suicitality depends on what characteristics of psychopathy have been taken into consideration, including the concept of suicidality in the nomological network was regarded as sensible.

Warmth. Warmth is an overarching construct, encompassing the tendency to be supportive and empathic in interpersonal relationships, and as such appears to be inversely related to characteristics underlying the symptomatology of psychopathy. Even

16

though empathy alone has been addressed by existing models of psychopathy, warmth, being a more inclusive construct, is not directly incorporated in existing models of psychopathy or the CAPP-IRS. Research indicates that psychopaths are unempathic and are capable of forming only shallow or superficial relationships (Hare, 2006). Keeping in mind that theoretically there appears to be a strong inverse relationship between warmth and psychopathy, for the purposes of construct validation of the CAPP-IRS, the inclusion of warmth in the nomological network was considered reasonable.

Treatment Rejection. Finally, the fourth external construct included in the nomological network is treatment rejection. This concept is reflective of attitudes and motivation (or lack thereof) to implement changes in one's life that are of psychological or emotional nature. The need to make such change is usually driven by feelings of distress and disturbance, as well as willingness to accept responsibility for one's actions. Although not directly encompassed by the CAPP-IRS, some of the underlying elements of treatment rejection (e.g. accepting responsibility, proneness to distress) have been addressed by existing models of psychopathy (i.e., the Four-Factor model) as well as the CAPP-IRS. The literature reveals somewhat contradictory findings in terms of treatment response of psychopathic individuals. On the one hand, it has been generally accepted that there is no evidence that psychopaths are capable of benefiting from treatment (Babik, & Hare, 2006). At the same time, some recent studies indicated that the opposite is in fact true, namely, given the appropriate dosage of treatment psychopaths can benefit as much as non-psychopathic individuals in terms of decreasing subsequent violence (Skeem, Monahan, & Mulvey, 2002). Also, treatment of adolescents with psychopathic features was found to be associated with lower rates of violent recidivism (Caldwell,

Skeem, Salekin, & Van Rybroek, 2006). Therefore it is important to further examine psychopaths' response to treatment, and particularly, the extent to which it is driven by their tendency to rarely experience distress and disturbance, in addition to their failing to take responsibility for their own actions.

Research Questions

To fulfill the goals of the present study, five research questions were examined:

Research Question 1: Reliability of the CAPP-IRS.

The internal consistency and interrater reliability of the CAPP-IRS were examined, which was essential in and of itself, considering its psychometric properties are yet to be established.

Research Question 2: Construct Validity with Respect to the FFM.

It was expected that the construct of psychopathy as conceptualized by the CAPP-IRS will be related to the structural model of personality as presented by the FFM. Overall, in accordance with prior research, it was expected that neuroticism (N), extraversion (E) and openness (O) will be weakly related to psychopathy, while conscientiousness(C) and agreeableness (A) will be strongly related to psychopathy (Lynam & Derefinko, 2006, p. 138). In particular, it was predicted that N will be related positively to the Behavioral, Cognitive and Dominance domains (i.e. high scores on N will be associated with high scores on the specified CAPP-IRS domains), and negatively to the Emotional and Self domains (i.e. high scores on N will be associated with low scores on the specified domains on the CAPP-IRS). It was expected that E will be related positively to the Behavioral, Dominance and Self domains (i.e. high scores on E will be

associated with high scores on the specified CAPP-IRS domains), and negatively to the

Attachment, Cognitive and Emotional domain (i.e. high scores on E will be associated

with low scores on the specified domains on the CAPP-IRS). It was also expected that O

and A will be related negatively to all domains on the CAPP-IRS (i.e. high scores on O

and A will be associated with low scores on the CAPP-IRS domains). Furthermore, it was

predicted that C will be related negatively to the Behavioral, Cognitive, and Self domains

(i.e. high scores on C will be associated with low scores on the specified domains on the

CAPP-IRS; see Lynam, Caspi, Moffitt, Raine, Loeber, & Stouthamer-Loeber, 2005;

Paulhus & Williams, 2002; Salekin, Leistico, Trobst, Schrum, & Lochman, 2005; Skeem,

Miller, Mulvey, Tienmann, & Monahan, 2005; Widiger & Lynam, 1998).

Research Question 3: Construct Validity with Respect to the Nomological

Network of Factors.

Factors included in the nomological network were expected to relate in a specific

way to the domains of the CAPP-IRS (see Table 2). Measures of insecure attachment

(i.e., detached, uncommitted, unempathic, and uncaring) and warmth were expected to

map onto the Attachment domain. Some dimensions of attachment (i.e., confidence,

discomfort with closeness, and relationships as secondary) were expected to be related

positively to the psychopathy construct (i.e., high scores on these constructs will be

associated with high scores on the specified CAPP-IRS domain). The rest of the

attachment style dimensions (i.e., need for approval and preoccupation with

relationships) along with warmth were expected to be related negatively to the

Attachment domain (i.e., high scores on those constructs will be associated with low

scores on that domain). In addition, impulsivity, treatment rejection, social deviance and

stimulation seeking were predicted to be captured by the Behavioral domain and to be related positively to the psychopathy construct (i.e., high scores on these constructs will be associated with high scores on the specified CAPP-IRS domain). Further, measures of intolerance, impulsivity, and cognitive inflexibility were expected to relate positively (i.e., high scores on those constructs will be associated with high scores on the specified CAPP-IRS domain), while measures of mindfulness were anticipated to relate negatively to the Cognitive domain (i.e., high scores on mindfulness will be associated with low scores on the specified CAPP-IRS domain).

Measures of dominance (i.e., controlling, arrogant, and overbearing) were expected to be related positively to the Dominance domain on the CAPP-IRS (i.e., high scores on dominance will be associated with high scores on the specified CAPP-IRS domain). Anxiety reactivity, as well as emotional stability and ability to experience pleasure were anticipated to map onto the Emotional domain and to yield negative correlations (i.e., high scores on those constructs will be associated with low scores on the specified CAPP-IRS domain). Stability of self-concept and egocentricity were expected to be related to items on the Self domain, where stability of self-concept was predicted to be related negatively to the psychopathy construct (i.e., high scores on stability of self-concept will be associated with low scores on the specified CAPP-IRS domain), while egocentricity was expected to yield positive correlations (i.e., high scores on egocentricity will be associated with high scores on the specified CAPP-IRS domain). Finally, considering that suicidality is theoretically linked with identity or individuality problems, it was expected to be most closely associated with items on the Self domain,

and to be negatively correlated to those items (i.e., being suicidal, or having a history of suicidality, will be associated with low scores on the specified CAPP-IRS domain).

Research Question 4: Concurrent Validity of the CAPP-IRS.

The concurrent validity of the CAPP-IRS was evaluated based on its associations with the PPI-R and the PAI_Antisocial Features scale or selected subscales. Overall, positive associations between the CAPP-IRS and the specified measures were expected. In addition, given prior research it was expected that domain B will be more differentially strongly related to the Self-Centered Impulsivity factor of the PPI-R and Antisocial Behaviors subscale of the PAI (see Douglas et al, 2007; Edens, et al., 2008).

Research Question 5: Utility of the CAPP-IRS.

This version of the CAPP-IRS, intended to be rated by staff at treatment or secure facilities, is novel and unique, and thus far there is no evidence supporting its suitability for assessment of psychopathy. Therefore, it was important to establish whether having staff complete psychopathy ratings is at all feasible. To address this question the rate of completion of CAPP-IRS ratings as well as missing data were taken into consideration.

Method

Participants

Participants for this study were recruited from two correctional facilities in the Greater Vancouver area, BC. The study included two samples—one sample comprised inmates serving less than a two year sentence, while the other one consisted of staff members at those facilities. In addition, considering the inverse relationship between ratings of psychopathy as measured by the PCL-R and age (Hare, 2003), participation in this study was also limited by age. Thus, study participants were recruited if they were

between the age of 19 and 50, able to communicate in English, and not exhibiting acute psychotic symptoms (e.g., delusions, hallucinations, disorganized cognition or behaviour, etc.), which could have potentially impeded data collection. A total of 101 participants, 51 men and 50 women, were recruited for the correctional sample. Majority of the participants were Caucasian (i.e., 70.3%), followed by Aboriginal (i.e., 16.8%), East Indian (i.e., 5%), other (i.e., 4%), Black (i.e., 3%), and Asian (i.e., 1%). Their average age was 32.91 (SD= 8.35). Most of the participants (i.e., 56.4%) had no high school diploma or GED (see Table 3).

To allow evaluation of the interrater reliability of the CAPP-IRS: Staff Rating Scale, a correctional staff sample was recruited to complete ratings on the Staff Rating Scale for the inmates who had agreed to participate. The goal was to recruit two staff members per every offender that had been interviewed. The only exclusion criterion for this sample pertained to their employment status, namely, only permanent employees at the correctional sites were recruited in consideration of the extent of their contact with inmates. There were 27 main raters, who completed between 1 and 11 ratings each, and 10 second raters, who completed between 1 and 5 ratings each. Only two cases were rated by the same main and second rater. Unfortunately, due to the lack of time and resources within the correctional sites, double ratings were obtained for only 17 cases (i.e., 16.8%).

Measures

Primary measure

CAPP-IRS (Cooke, Hart & Logan, 2005), is a thirty three item test developed to assess symptoms associated with psychopathic personality disorder (PPD). Its scales and

research on the CAPP-IRS were described earlier. It was scored by correctional officers based on behavior observations or interactions with the participant they were rating. The authors of the CAPP-IRS have recommended that ratings are based on observations over the six months prior to the assessment. Nevertheless, there was quite a bit of variability in the length of time officers had known the offenders in this study, ranging from "three weeks" to "many years". The symptom severity was scored on a 7-point scale, ranging from 0 = "not present" to 6 = "very severe". Considering the recent development of this measure, only preliminary support for its psychometric properties is available (see Corrado et al., 2006; Corrado et al., 2007; Hart, 2008; Hoff, 2008; Kreis, et al., 2007; Kreis & Cooke, 2008; McCormick et al., 2008; Strub, Kreis, & Hart, 2008; Watkinson et al., 2007).

Validation measures

NEO – Five Factor Inventory (NEO-FFI, Costa & McCrae, 1992) was selected to measure the extent to which the construct of psychopathy underlying the CAPP-IRS maps on the FFM of personality, as well as to assess the items incorporated in the nomological network with the exception of social deviance, intolerance, inflexibility, and suicidality. In addition, it was used to evaluate the construct validity of the domains underlying the CAPP-IRS. It is a 60-item scale developed to measure normal adult personality based on the FFM. The NEO-FFI is the short form of the original 240-item NEO-Personality Inventory Revised (NEO-PI-R), assessing features of neuroticism (N), extraversion (E), openness to experience (O), agreeableness (A) and conscientiousness (C). Similar to the NEO-PI-R, the NEO-FFI measures five major domains of personality, however, it does not provide any facet information. The NEO-FFI has been well

validated, and has been used with civil psychiatric populations (e.g., Skeem, Miller, Mulvey, Tiemann, & Monahan, 2005). Although its reliability and validity have been reported to be slightly lower than the NEO-PI-R, for which domain level reliabilities range from .86 to .95 (Botwin & Juni, 1995), a great degree of correspondence between the NEO-PI-R and the NEO-FFI has been reported (average scale r = .87) (Skeem, Miller, Mulvey, Tiemann, & Monahan, 2005). In addition, research findings demonstrated satisfactory test-retest reliability ranging from .80 (A) to .87 (O) over a six-month period, and from .73 (A) to .86(O) over a 30-month period (Murray et al., 2003; see also Botwin & Juni, 1995). Internal consistency calculated using coefficient alphas ranged from .74 (A) to .89 (N) (average α = .80) in the development sample (Costa & McCrae, 1992). In addition, there is some support for the convergent and discriminant validity of the NEO-FFI in relation to other measures of personality, such as the Minnesota Multiphasic Personaltiy Inventoy – 2, and the Millon Clinical Multiaxial Inventory – II (Zeiger, 1996).

Goldberg 50 transperant Bipolar Rating Scale (50-BRS, Goldberg, 1992) is a 50-bipolar item scale designed to map onto the FFM of personality, and was also used to assess the construct validity of the CAPP-IRS with respect to the FFM. The measure contains five factors: Introversion-extroversion (50-BRS_E), pleasantness or agreeableness (50-BRS_A), conscientiousness or dependability (50-BRS_C), emotional stability (50-BRS_ES), and intellect or sophistication (50-BRS_I.S). Each factor contains 10 bipolar adjectives (e.g., introverted-extroverted, unenergetic-energetic), rated on a 9-point Likert scale (i.e., very (1), moderately (2 – 4), neither (5), moderately (6 – 8), very (9)). Research provides support for the psychometric properties of the 50-BRS.

Namely, its coefficient alpha reliability estimates range from .79 to .85. There is also support for the construct and discriminant validity of the 50-BRS – scores on this measure have been found to correlate with other measures of personality (such as the NEO-PI, Eynseck Personality Inventory), and its interdomain correlations range from .13 to .42 (see Goldberg, 1992; Smith & Snell, 1996).

Of note, both the NEO-FFI and the 50-BRS were used to assess the construct validity of the CAPP-IRS with respect to the FFM. The correspondence between those two measures, although pretty good, is not absolute. Specifically, while the Emotional Stability scale of the 50-BRS focuses on one's emotional state (e.g. being calm, relaxed, at ease, unemotional, guilt free, etc.), the Neuroticism scale on the NEO-FFI was designed to capture one's ability to experience anger, embarrassment, guilt, disgust, fear, and sadness. In addition, even though the correspondence between the Conscientiousness scales on the NEO-FFI and the 50-BRS is overall pretty good, there are some subtle differences between the characteristics being assessed by each scale. For instance, while the Conscientiousness scale on the 50-BRS includes characteristics such as being thrifty, cautious, and serious, the Conscientiousness scale on the NEO-FFI captures qualities such as being purposeful, strong-willed, and determined. As a result there are some differences in the predicted associations between each of those measures and CAPP-IRS (see Table 1 for details).

Personality Assessment Inventory (PAI, Morey, 1991) is a 344-item instrument, designed to assess abnormal personality and psychopathology features. It consists of 22 non-overlapping scales, including 4 validity scales, 11 clinical scales, 5 treatment scales, and 2 interpersonal scales. Items on the PAI are scored on a 4-point scale: "F" = False,

Not at all true, "ST" = Slightly True, "MT" = Mainly True, "VT" = Very True. Grade 4

reading level is required to complete the scale. Selected PAI scales and subscales were

used to evaluate the convergent and divergent validity of the CAPP-IRS, and to assess the

nomological network factors with the exception of intolerance, cognitive inflexibility,

pleasure and mindfulness. Following is a brief description of the scales and subscales

used in the present study.

The *Aggression* scale (AGG/18) is comprised of three subscales—*Aggressive*

Attitude (AGG-A/6 items), *Verbal Aggression* (AGG-V/6 items), and *Physical*

Aggression (AGG-P/6 items)—and reflects history of aggressive tendencies, anger and

hostility. The *Antisocial features scale* (ANT/24) is also comprised of three subscales:

Antisocial Behaviors (ANT-A/8 items), focusing on problems with authority and

involvement with illegal activities, *Egocentricity* (ANT-E/8 items), reflecting little regard

for others, egocentricity, lack of empathy and loyalty, and *Stimulus Seeking* (ANT-S/8

items) capturing excitement seeking, instability, and tendencies to engage in reckless

behavior. The entire scale or selected subscales were used to assess the concurrent

validity of the CAPP-IRS, as well as factors incorporated in the nomological network.

Items on the *Suicidal Ideation scale* (SUI/12) focus on suicidal ideation, which

could range from unspecific suicidal thoughts to concrete plans for carrying out suicide.

The *Treatment Rejection* (RXR/8) scale captures personal interest and motivation to

make changes in one's life, feelings of distress and dissatisfaction, as well as readiness to

accept responsibility for own actions. Items on the *Dominance* (DOM/12) scale measure

the tendency to be controlling in interpersonal relationships. The *Warmth scale*

(WRM/12) was designed to assess the extent to which people tend to be supportive and empathic in interpersonal relationships.

The *Borderline features scale* (BOR/24) is comprised of four subscales: *Affective Instability* (BOR-A/6 items), reflecting poor emotional control, labile affect, and anger, *Identity Problems* (BOR-I/6 items), assessing identity problems and confusion about self-worth, *Negative Relationships* (BOR-N/6 items), associated with a tendency to be involved in unstable and sometimes combative interpersonal relationships, and *Self-harm* (BOR-S/6 items), capturing impulsivity and tendency to hurt one self. The *Anxiety scale* (ANX/24) contains three subscales: *Cognitive Anxiety* (ANX-C/8 items) associated with excessive concerns over issues that are out of the person's control, *Affective Anxiety* (ANX-A/8 items), reflecting high levels of tension and inability to relax, and *Physiological Anxiety* (ANX-P/8 items), experienced and expressed in a somatic form.

Research provides support for adequate scale and subscale reliability of the PAI--Internal consistency for the 22 scales calculated using alpha coefficients ranged from .45 to .90 (median =.81) for the normative sample. Scale test-retest reliability over 3-4 weeks ranged from .31 to .92 (median .82), and subscale test-retest reliability ranged from .68 to .85 (median .78) (see Boyle & Kavan, 1995). Various studies provide support for the validity of the clinical and validity scales of the PAI with different samples (see Boyle & Kavan, 1995; Douglas et al., 2007; Douglas, Hart & Kropp, 2001; Edens et al., 2000; Morey, 2000). In addition, the convergent and discriminant validity of the PAI in relation to the Minnesota Multiphasic Personality Inventory (MMPI) and the Marlowe-Crowne Social Desirability scale have been examined and indicate weak to moderate correlations (Boyle & Kavan, 1995; Morey, 2001).

Psychopathic Personality Inventory – Revised (PPI-R, Lilienfeld & Widows, 2005), is a 154-items self-report measure designed to assess different facets of psychopathic personality. Along with the PAI_Antisocial Features scale it was used to assess the concurrent validity of the CAPP-IRS, as well as factors incorporated in the nomological network. It produces a total score, as well as eight content scores (i.e., Machiavellian Egocentricity, Social Influence, Coldheartedness, Carefree Nonplanfulness, Fearlessness, Blame Externalization, Rebellious Nonconformity, and Stress Immunity), and three factor scores (i.e., Self-Centered Impulsivity, Fearless Dominance, and Coldheartedness, which is the same as the Coldheartedness content score). There are also four validity scales: Virtuous Responding (VR), Deviating Responding (DR), and two Inconsistent Responding scales (i.e., a 15-item, IR15, or a 40-item scale, IR40). Items are scored on a 4-point Likert scale (i.e., "False", "Mostly False", "Mostly True", or "True"). Two normative samples were used to validate the PPI-R: Community/college (N = 985) and offender sample (N = 154), and results provide some support for the reliability of the measure. Internal consistency (i.e., alpha coefficients) for the total score were .92 in the community/college normative sample, and .84 in the offender normative sample. For the content scales, the mean alpha coefficient was .84 (ranging from .78 to .87) in the community/college sample, and .77 (ranging from .71 to .83) in the offender sample. For the three factor scores, the mean alpha coefficients were .87 for the community sample, and .82 for the offender sample. Test-retest reliability based on average of 19.9 days (ranging from 12 to 45) was .93 for the total score. The mean test-retest correlation for the content scales was .89 (ranging from .82 to .95), and .90 for the factor scores. Further, there is evidence for the convergent and

discriminant validity of the PPI-R (see DeMauro & Leung, 2005; Lilienfeld & Widows, 2005). Namely, the total, content and factor scores of the PPI-R were found to be correlated to the Levenson's Self-Report Psychopathy Scale (Levenson, Kiehl, & Fitzpatrick, 1995), the Self-Report Psychopathy Scale-II (SPR-II, Hare, 1991), the PAI (Morey, 1991), and the NEO-FFI (Costa & McCrae, 1992) (see DeMauro & Leung, 2005).

Attachment Style Questionnaire (ASQ, Feeney, Noller, & Hanrahan, 1994), was selected along with the NEO-FFI and the PAI to assess attachment/interpersonal style. It is a 40-item self-report questionnaire designed to assess attachment styles. It yields scores on 5 dimensions, one representing a secure attachment style, while the remaining four reflect various aspects of insecure attachment. They are as follows: Confidence, Need for Approval, Relationships as Secondary, Preoccupation with Relationships, and Discomfort with Closeness. Items are scored on a 6-point Likert scale ranging from "1" = "totally disagree" to "6" = "totally agree". Existing research indicates acceptable psychometric properties for this measure: Internal consistency for mean α's >.70, and test-retest reliability over a period of two weeks r >.70 (Rönnlund & Karlsson, 2006). The authors of the scale employed different methods of assessing the content and construct validity of the ASQ (i.e., association to previous measures of attachment style and family functioning, correlations between scales, factor analysis, and lack of correlations with the Lie scale on the Eysenck Personality Questionnaire), and were able to obtain statistically significant results (see Ng, Trusty, & Crawford, 2005).

Cognitive Flexibility Scale (CFS, Martin & Rubin, 1995), chosen to assess intolerance and inflexibility, was adapted for use by the staff members at the correctional

institution (see Appendix B). The CFS is a 12–item measure, scored on a 6-point Likert scale. It was designed to assess the three main components of cognitive flexibility: (a) being aware of the existence of alternatives in any situation, (b) willingness to be flexible, and (c) self-efficacy in being flexible. There is support for the reliability of the CFS: It had a Pearson test-retest correlation of .83, and the internal consistency for the total score calculated using α coefficient was .77. In addition, the authors reported statistically significant positive correlations of the CFS with ratings of communication flexibility (r = .53), attentiveness (r = .32), responsiveness (r = .42), perceptiveness (r = .51), extraversion (r = .36), acting (i.e., improvising, entertaining) (r = .18), as well as other-directedness (r = .32) (Martin & Rubin, 1995). They found negative correlations with rigidity (r = -.16), avoidance (r = -.41), and reward (r = -.43), which were also statistically significant (Martin & Rubin, 1995).

Mindfulness Attention Awareness Scale (MAAS, Brown & Ryan, 2003), is a 15-item self-report measure designed to assess mindfulness, and was used to measure this construct in relation to psychopathy. Items are scored on a 6-point Likert scale from 1 = "almost always" to 6 = "almost never", and higher scores indicate greater degree of mindfulness. The instrument yields only a single total score, reflecting a single factor structure. Participants were asked to respond to questions regarding their tendencies to be preoccupied and not paying attention to their surroundings at a given moment. The items aim at capturing participants' actual experiences, rather than what participants think their experiences should be. Existing research provides support for the scale's psychometric properties, reporting internal consistency of .82 (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). In addition, the MAAS has been correlated positively with measures of

self-awareness and well-being (e.g., the Positive Affect (PA), scale on the Positive and Negative Affect Schedule, PANAS, Watson, Clark & Tellegen, 1988, r = .30, p < .0001), and inversely with the negative affect (r = -.39, p < .0001) (Beitel, Ferrer, & Cecero, 2004). Further, the temporal stability of the MAAS over a 4-week period was reported to be ICC =.81, p < .0001 (Beitel, Clark, & Cecero, 2004).

Positive and Negative Affect Schedule (PANAS, Watson, Clark & Tellegen, 1988) was developed to assess the dimensions of affect, and along with the NEO-FFI_E scale it was used to assess the degree of pleasure experienced by psychopaths. Positive Affect (PA) captured by this measure is associated with degree to which people feel energetic, alert and enthusiastic, while Negative Affect (NA) reflects the tendency to experience distress and lack of pleasure. The PANAS is comprised of 20-items, ten aimed at assessing PA, and ten assessing NA. It is scored on a 5-point Likert Scale ranging from 1 = *"very slightly"* to 5 = *"very much"*, indicating the degree to which participants have been experiencing a given mood over a specified period of time. Both scales have high reliability, ranging from .86 to .90 for PA, and from .84 to .87 for NA, and appear to be largely uncorrelated: -.12 to -.23. In addition, these scales have high test-retest reliabilities of .81 for NA and .79 for PA, and have acceptable temporal stability over a 2-month period (Watson & Clark, 1988). To evaluate the validity of the PANAS, Watson, Clark and Tellegen (1988) employed factor analyses, and examined the correlations between the PANAS and related constructs such as state anxiety, depression, and general psychological distress. Their findings indicated that the PANAS NA is interchangeable with the Hopkins Symptom Checklist (HSCL; Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974), which has been frequently used to assess distress and dysfunction. The

PANAS has also been examined in relation to the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, & Erbaugh, 1961), widely used to assess symptoms of depression, and the State-Trait Anxiety Inventory, State Anxiety Scale (A-State; Spielberger, Gorsuch, & Lushene, 1970), used to assess people's responses to aversive events. The authors found that although correlated in the expected direction to the BDI and A-STATE, the PANAS showed advantage over those scales since it provided the opportunity of assessing PA and NA separately. For this study, ratings on the PANAS were collected for two time periods: Past week (wk) and past month (mos).

The MacArthur Risk Assessment Baseline Interview (MacArthur Research Network, 2001) was compiled by Monahan et al. (2001) and used in the MacArthur Violence Risk Assessment study—one of the most extensive studies on violence and mental disorders up to date. The Self-Harm portion of the MacArthur baseline interview, based on research on depression and suicide conducted by John Mann, M.D., was used in the present study along with the SUI/12 and the BOR-S on the PAI as a measure of suicidality. It addresses the intentions, attempts, and degree of self-harm sought by study participants over discrete time frames (i.e., the last two months prior to the interview). To fit the purposes of the present study, the Self-Harm portion of the MacArthur baseline interview was modified to address the extent of self-harm and suicidality during the six months prior to its administration.

Each of the instruments described above was selected to assess a specific construct of interest addressed in this study. However, given that these constructs are interrelated, it was expected that the relationship between the constructs of interest and the instruments employed would extend beyond what has been specified in the omnibus

hypotheses. Detailed information on what instruments (and what subscales of those instruments) are used to assess each construct examined in this study is provided in Table 2.

Although a multi-method procedure was used in this study (i.e., staff ratings, interview with participants, and questionnaires), a lot of the measures were self-report measures, which could be considered problematic with psychopaths who are not always inclined to tell the truth (Cooke, Hart, & Logan, 2005). It should be noted, however, that some of the selected instruments include validity scales which was helpful in determining the validity of participants' responses. Thus, there were no serious problems that emerged as a result of the extensive use of self-report questionnaires.

Procedure

The help of staff at the correctional facilities was used to identify individuals who were suitable for the study. It is a common practice at correctional facilities to evaluate inmates' mental health condition for psychiatric and substance use issues upon admission. Such evaluations are completed by trained staff (i.e., nurses), and individuals who are exhibiting symptoms are flagged in the system as they may require special care in terms of medications or substance abuse treatment (e.g., methadone treatment). Individuals who were flagged in the system as exhibiting acute mental health symptoms, which could have interfered with data collection, were not recruited for the study.

Overall, the assessments took place within two provincial jails in the lower mainland. A random sample of inmates who had been identified by staff as potential participants and had agreed to be approached for study participation were invited to take

part in the study. They were scheduled for a session, which lasted approximately half an hour. They were provided with informed consent, supplemented by a description of the study and clarification of its requirements and purpose. Participants were made aware of their rights as study participants, any potential risks associated with the administration of the study, and the benefits of the study for the field of psychology. In addition, participants were provided with a description of the procedures, and were made aware that they will be free to withdraw from the study at any time. Limits of confidentiality were discussed and they were notified that their standing with the correctional system would not be compromised by their decision to participate, or not to participate, in the study. Participants who agreed to participate were interviewed.

A semi-structured interview protocol was used to gather demographic information, as well as information about past antisocial behavior, mental health, treatment involvement, and social history. The MacArthur Risk Assessment Baseline interview protocol was used to assess self-harm and/or suicidal ideation or attempts. Subsequently, offenders were asked to complete self-report questionnaires (i.e., ASQ, MAAS, NEO-FFI, PAI, PANAS and PPI-R). As already described, self-report measures selected for use in this study assessed various aspects of personality, behavioural patterns and cognitive styles. These questionnaires were chosen as validation measures because they have demonstrated good reliability and validity. Of note, one of facilities where data was collected did not have sufficient interview space available for prolonged periods of time. Therefore, offenders were asked to complete the self-report measures at their cells and return them to the Records unit upon completion. The same procedure was followed in the second facility to ensure that there was no discrepancy between the facilities in

terms of the administration of the study. Participants were provided with a $20

honorarium for their participation in the study.

Once offenders were interviewed and had completed the self-report questionnaires,

correctional officers who had expressed interest in participating were asked to complete

ratings on the CAPP-IRS as well as the CFS for the offenders who had participated.

Correctional officers were provided with detailed instructions regarding completing

ratings on both measures. Ratings were based on staff observations and interactions with

inmates, which varied in length in this sample (i.e., from three weeks to several years).

As in the correctional sample, participants from this sample were notified that

participation is voluntary and would have no bearing on their employment. Initially, as a

token of appreciation participating officers were provided with a coffee gift card for

every rating they completed. Subsequently, a monetary donation was made to the

wellness fund of each of the correctional facilities where data was collected.

Ethics Approval

Ethics approval to conduct the proposed study was obtained from both, BC

Corrections and Simon Fraser University. The ethics approval request addressed the

nature, purpose and rationale of the study. It included a description of potential study

participants, selection criteria and ways of recruitment, as well as a summary of the tasks

that participants engaged in as part of the project. Research Ethics Boards of the

correctional agency and Simon Fraser University were provided with a hard or electronic

copy of the instruments that were used in the study. Participants in the proposed study

were not exposed to any risks of physical or psychological harm. Although it was not

expected that information obtained during the study administration would be subject to mandatory reporting, a consent form addressing the regulations for mandatory reporting was used for all participants. All identifying information of participants was kept confidential; it was not included on study materials or in databases created for the study.

Data Analyses

To test the omnibus hypotheses, correlational pattern hypothesis testing procedure based on the use of the Fisher r-to-z transforms was employed (Steiger, 1980). This procedure has been shown to have superior performance to other traditional procedures for small sample size studies. Zero-order correlations were computed for each of the CAPP-IRS domains and the FFM variables. The correlation coefficients for each domain were then entered as a correlation matrix, and the statistical significance of the entire matrix was examined. The same procedure was employed for the variables included in the nomological network. Subsequently, for every domain for which the null hypothesis was rejected the originally computed correlation coefficients were examined for significance to determine which of the characteristics of interest incorporated in the CAPP-IRS domains related to the FFM of personality or the factors incorporated in the nomological network. Further, correlations between the CAPP-IRS total score (calculated by summing the symptom severity ratings across domains) and the PPI-R total, factor and content scales, as well as the PAI_Antisocial Features scale and subscales, were computed as a way of evaluating the concurrent validity of the CAPP-IRS.

In addition to evaluating the construct and concurrent validity of the CAPP-IRS, it was also important to evaluate its reliability. Considering that one of the objectives of this

study was to evaluate the utility of the CAPP-IRS as an assessment measure of psychopathy used by staff members at secure treatment facilities, evaluating the interrater reliability of this instrument was crucial. The interrater reliability was evaluated based on a subsample of cases rated independently by a second staff person using intraclass correlations, absolute agreement type for single ratings (i.e. ICC_1). There are different guidelines for interpreting interclass correlations. Cicchetti and Sparrow (1981) recommended the following categories for reliability coefficients: "poor" (i.e., below .40), "fair" (i.e., .40 to .59), "good" (i.e., .60 to .74), and excellent (i.e., .75 or above). Landis and Koch (1977) suggested the following categories: "poor" (i.e., below .00), "slight" (i.e., .00 to .20), "fair" (i.e., .21 to .40), "moderate" (i.e., .41 to .60), "substantial" (i.e., .61 to .80), and "almost perfect" (i.e., .81 to 1.00). The scheme proposed by Landis and Koch (1977) was used in this study.

Further, the internal consistency reliability of the CAPP-IRS was evaluated by calculating Cronbach's alpha coefficients. In consideration of prior research, which has shown that not all of the items included in the CAPP-IRS are representative of the construct, the corrected-item-to-total correlations (CITC) were also examined to determine whether the internal consistency reliability for the CAPP-IRS domains would improve if specific items were deleted. The "Alpha if Item Deleted" index was used to address this issue. In addition, given that Cronbach's alpha coefficients are affected by the number and intercorrelations between items included in a scale, the mean interitem correlations (MIC) were examined for each of the domains. MIC values ranging at minimum from .15 to .50 are considered to be an indicator for satisfactory internal consistency reliability (Clark & Watson, 1995).

Results

Data Manipulation, Assessment of Assumptions and Data Analytic Issues

Of the original sample (i.e., N = 101), 70 individuals in total (i.e., 35 males and 35 females) produced valid responses on the self-report measures. To determine whether a profile was valid the random responding rules for both, the PPI-R and the PAI, were used in conjunction. Specifically, scores of 39 or higher on IR40 scale of the PPI-R occurred in less than 5% of the normative sample (see Lilienfeld & Widows, 2005), and were therefore deemed invalid in this study. Out of the total sample, 76 individuals (i.e., 39 males and 37 females) produced valid profiles on the PPI-R. As for the PAI, a t-score of 80 on two of the validity scales: Inconsistency (INC) and Infrequency (INF), has been recommended as a cut-off for random responding among correctional samples (see Edens & Ruiz, 2005). This rule was applied in the current study, and of the total sample 89 individuals (i.e., 45 males and 44 females) produced valid profiles. Of note, there was not much overlap between the protocols that were deemed invalid based on the PPI-R vs. the PAI, which ultimately led to excluding 30 percent of the original sample (i.e., 31 profiles).

Correctional officers completed a total of 56 CAPP-IRS ratings, some of which were completed for individuals whose responses were excluded from data analyses because they had responded randomly on the self-report measures. In addition, due to missing values some of the CAPP-IRS ratings were valid for some, but not all, of the CAPP-IRS domains. As a result, the total sample used for the analyses varied across domains: For Research Question 2 (i.e., association between CAPP-IRS and FFM) the total sample was 39 for domains A and E, 40 for domain B and C, 33 for domain D, and

37 for domain S. For the remaining research questions, the sample size was 38 for

domains A, B and C, 33 for domain D, 37 for domain E, and 35 for domain S.

In the case of missing data, subscale and total scores on the following measures

were prorated: CAPP-IRS: Staff Rating Scale, CFS, ASQ, MAAS, and NEO-FFI. As

recommended by the authors of the NEO-FFI, protocols containing 10 or more missing

values were deemed invalid and were not used in the analyses. For those with 9 or fewer

items left blank, neutral responses were used to replace missing responses. In addition, a

conservative approach was taken for any protocols for which there were more than four

missing items per domain – such protocols were considered invalid and were not

included in the analyses. There were no specified rules for the rest of the measures in

terms of how many items in total could be omitted before the measure should be

considered invalid. Therefore scores were prorated only for measures for which less than

25 percent of the item-level data were missing. Measures for which 25 percent or more of

the item-level data were missing from specific scales were not included in the analyses.

Assumptions for normality and linearity of the data were checked by evaluating

the skewness and kurtosis of each variable, as well as examining scatter plots for each of

the predicted correlations. Based on the produced scatter plots it was determined that the

assumption of linearity was not violated. Nevertheless, several of the variables were not

normally distributed; therefore, log, square root and inverse transformations were

computed. Computed transformed values were used in subsequent analyses for the

following variables: Global ratings of symptom severity on domains D, E, and S of the

CAPP-IRS, ASQ_Confidence and Preoccupation, PANAS Negative Affect (wk), all of

the PPI subscale scores, and some of the PAI scales: Suicidal ideation, Dominance,

Warmth, Antisocial Behaviors and Egocentricity. Subsequent to the transformations, the

data appeared normally distributed, except for the MacArthur Self-harm variable.

However, given that variable showed very little variability (i.e., only 4 out of 69

respondents replied "yes" to the question whether or not they have thought about harming

themselves), it was excluded from analyses.

Finally, the data were examined for potential measurement error by calculating a

Cronbach's Alpha coefficient for each of the validation measures. Aside for the NEO_O,

the internal consistency for the rest of the measures ranged from acceptable to good (i.e.,

α-coefficients ranging.620 to .941, MIC values ranging from .079 to .629; see Table 4).

The internal consistency for the NEO_O was $\alpha = .521$, MIC = .079, which is considered

to be marginally low. Overall, it could be concluded that the statistical power was not

affected by measurement error.

Descriptive Information

Measures of central tendency, error, range, and percentile were calculated for the

CAPP-IRS domains. Mean scores for each of the domains were as follows: 7.0 (SD =

6.46) for domain A, 11.6 (SD = 8.12) for domain B, 9.4 (SD = 6.93) for domain C, 10.7

(SD = 9.28) for domain D, 7.4 (SD = 5.93) for domain E, and 12.3 (SD = 10.61) for

domain S (see Table 5 for more details).

Research Question 1: Reliability of the CAPP-IRS

Internal Consistency Reliability

Cronbach's alpha coefficients were calculated as a measure of internal consistency reliability and were found to be satisfactory for all of the CAPP-IRS domains in this sample. Specifically, for domain A α = .915, for B α = .867, for C α = .842, for D α = .922, for E α = .765, and for S α = .925.

Corrected Item-to-Total Correlations and Mean Interitem Correlations

In addition, the corrected-item-to-total correlations (CITC) were examined. There were only a few items, however, which if removed would have led to improvement in the internal consistency reliability of the CAPP-IRS domains. Even so, the improvement would have been substantial only for domain E. Of note, even though the CITC values reported here were lower relative to those of other items within each of the domains, the CITC values for the CAPP-IRS were overall pretty high.

Specifically, for domain A, nearly all of the items performed satisfactory (i.e., CITC ranging from .702 to .870), and internal consistency would not have been enhanced substantially by item removal. Namely, the CITC for item A1 (i.e., detached) was .702, and its removal would have enhanced alpha only by .009 (i.e., from .915 to .924). For domain B, CITC for item B4 (i.e., restless) was .458. Nevertheless, its removal would have enhanced alpha only by .008 (i.e., from .867 to .875). For domain C, CITC for item C5 (i.e., lacks planfulness) was .493, and its removal would have enhanced alpha only by .005 (i.e., from .842 to .847). All items included in domain D performed satisfactory, and any item removal would have reduced alpha. The CITC for item E1 (i.e., lacks anxiety)

was .251, and its removal would have enhanced alpha for domain E by .047 (i.e., from .765 to .812). Finally, for domain S, CITC for items S3 (i.e., sense of uniqueness) and S7 (i.e., unstable self-concept) were .620 and .575 respectively. Their removal would have led to an increase in alpha only by .002 (i.e., from .925 to .927) and by .009 (i.e., from .925 to .934) respectively.

For all of the domains MIC values were within or above the recommended range of .15 -- .50 (i.e., ranging from .400 to .731).

Interrater Reliability

Interclass correlations (ICC) on a subsample of 13 to 17 cases across domains (i.e., an average of 36% to 46% of the total sample used for analyses) were computed to determine the interrater reliability of the CAPP-IRS domains. A two-way mixed model was used, where the effect of the measure was fixed, while the effect of raters was random. The absolute agreement type of ICC was used. Although, both the single measure ICC (i.e., ICC_1, which is based on the reliability of a single rater) and the averaged ICC (i.e., ICC_2, based on the average between two raters) are presented, the primary index of reliability was the single measure ICC. Results indicate that reliability was as follows: Fair for domains A ($ICC_1 = .365$) and S ($ICC_1 = .374$), and moderate for domains B ($ICC_1 = .556$), C ($ICC_1 = .487$), D ($ICC_1 = .558$), and E ($ICC_1 = .472$) (Landis & Koch, 1977; see Table 6).

Further, to evaluate whether the interrater reliability was affected by how well or for how long the officers had known the offenders, additional analyses were performed. Namely, only cases for which the officers had known the offender for more than three months or had indicated that they knew the offender at least "moderately well" were

included. Interclass correlations calculated as a function of the length of time the officers had known the offender were based on 10 to 12 cases across domains, and were as follow: Fair for domain S ($ICC_1 = .255$), moderate for domains A ($ICC_1 = .423$), C ($ICC_1 = .487$), D ($ICC_1 = .537$), and E ($ICC_1 = .457$), and substantial for domain B ($ICC_1 = .624$) (Landis & Koch, 1977). In terms of the ICC_1 values computed as a function of how well the officers had known the offender, they were based on 9 to 11 cases and were as follows: Fair for domains A ($ICC_1 = .360$), C ($ICC_1 = .212$) and S ($ICC_1 = .216$), and moderate for domains B ($ICC_1 = .576$), D ($ICC_1 = .470$), and E ($ICC_1 = .497$) (Landis & Koch, 1977). Given the small sample size, these results were considered to be only preliminary.

Research Question 2: Construct Validity with Respect to the FFM

To evaluate the construct validity of the CAPP-IRS with respect to the FFM at the omnibus level, correlational pattern hypothesis testing procedure, based on the use of the Fisher r-to-z transforms was employed. It tested whether the off-diagonal correlations were equal to zero (see equation 15 in Steiger, 1980). Essentially, for Research Question 2, all of the subscales on the NEO-FFI and 50-BRS used to assess the association between each of the CAPP-IRS domains and the FFM were entered as a correlation matrix (i.e., a total of six matrices – one for each domain). The overall association of each of the CAPP-IRS domains and their corresponding matrix was evaluated. The null hypothesis was not rejected for any of the domains (see Table 7).

For Research Question 2, even thought there were no significant correlations at the omnibus or matrix level, there were significant correlations at the bivariate level for

domains B, C, and S. Specifically, domain B was correlated positively with NEO_E (r =

.287), NEO_O (r = .278), and negatively with 50-BRS _Conscientiousness (r = -.313).

All those correlations were predicted except for the NEO_O, which was a positive

correlation whereas it was predicted to be correlated negatively with domain B.

Domain C was correlated positively with NEO_O (r =.332) and negatively with

50-BRS_Conscientiousness (r = -.273). The correlation with 50-BRS_Conscientiousness

was in the predicted direction. The NEO_O, however, was correlated positively with

domain C, while a negative correlation was expected.

Finally, domain S was correlated positively with NEO_O (r = .291), and

negatively with NEO_A (r = -.277). Again, associations between those scales and the

CAPP-IRS were expected, however, only the correlation with the NEO_A was in the

predicted direction. The NEO_O was expected to be inversely correlated with domain S,

while in fact it was correlated positively with domain S (see Table 8).

Research Question 3: Construct Validity with Respect to the Nomological Network of Factors

The same correlational pattern hypothesis testing procedure as in Research

Question 2 was applied to test Research Question 3. Namely, all of the measures used to

assess the associations between each of the CAPP-IRS domains and the nomological

network were entered as a correlation matrix (i.e., a total of six matrices), and the overall

association of each of the CAPP-IRS domains and their corresponding matrix was

evaluated. The null hypothesis was rejected only for domains B and C (see Table 9).

Specifically, looking at the bivariate level, there were significant correlations between

domains B and C of the CAPP-IRS and some of the variables included in the nomological network. Domain B was correlated positively with the PPI_Rebellious Nonconformity (r=.282), PPI_Fearless Dominance factor (r = .530), PPI_Stress Immunity (r=.360), PPI_Machiavellian Egocentricity (r=.323), PANAS Positive Affect (wk) (r=.310) and PANAS Positive Affect (mos) (r=.295). It was correlated negatively with MAAS (r=-.312). The direction of all of the significant correlations for domain B was predicted. Domain C was correlated positively with the PPI_Rebellious Nonconformity (r=.302), PPI_Machiavellian Egocentricity (r=.330), PPI_Self-Centered Impulsivity factor (r=.321), and PANAS Positive Affect (wk) (r=.273). It was correlated negatively with the CFS (r=-.673), and MAAS (r=-.436) (see Table 10). Five out of the six significant correlations for domain C were in the predicted direction. However, PANAS Positive Affect (wk) was correlated positively with domain C, whereas a negative correlation was expected.

In addition, even though there were no significant correlations at the omnibus or matrix level for domains A, D, E, and S, there were significant correlations at the bivariate level between domain D and the PPI-R. Namely, domain D was correlated positively with the Fearless Dominance factor (r = .396) as well as the Social Influence scale (r = .356). Both of those correlations were originally predicted, and in the predicted direction (see Table 10).

Research Question 4: Concurrent Validity of the CAPP-IRS

The PPI-R and the PAI_Antisocial Features scale or selected subscales were used to assess the concurrent validity of the CAPP-IRS. In terms of the associations between the CAPP-IRS total score (which was calculated by summing the symptom severity

ratings across domains) and the PPI-R total score as well as the PAI_Antisocial Features scale, there were no significant correlations. There were significant correlations, however, between the CAPP-IRS total score and the Fearless Dominance factor of the PPI-R (r=.379). Finally, there were significant correlations between the CAPP-IRS total score and one of the PPI-R content scale scores as well as one of the PAI_Antisocial Features subscale scores. Namely, the CAPP-IRS total score was correlated positively with the PPI_Machiavellian Egocentricity (.327), as well as the PAI_Antisocial Behaviors subscale (r=.301; see Table 11).

In addition, the associations between each of the CAPP-IRS domains and the PPI-R total and factor scores, as well as the PAI_Antisocial Features scale and subscales were also examined as a way of evaluating the concurrent validity of the CAPP-IRS. Results revealed significant correlations between those measures and domains A through E of the CAPP-IRS. Namely, domain A was correlated positively with the PPI_Fearless Dominance factor (r=.271), PPI_Self-Centered Impulsivity factor (r=.286), and the PAI_Antisocial Behaviors scale (r=.294). Domain B was correlated positively with the PPI-R total score (r=.351), and the Fearless Dominance factor (r=.530). Domain C was correlated positively with the PPI-R total score (r=.325), the Self-Centered Impulsivity factor (r=.321), and the Fearless Dominance factor (r=.393), as well as the PAI_Antisocial Behaviors scale (r=.281). Domain D was correlated positively with the PPI-R total score (r=.286), and the Fearless Dominance factor (r=.396). Finally, domain E was correlated negatively with the PAI_Stimulus Seeking subscale (r=-.278; see table 12).

Research Question 5: Utility of the CAPP-IRS

CAPP-IRS ratings were completed for 55% of the total sample (i.e., N = 56). Of them 35 ratings (i.e., 62.5%) contained missing data. Specifically, of the 56 ratings that were completed there were 20 ratings (i.e., 35.7%) with 1 missing item, 6 ratings (i.e., 10.7%) with 2 missing items, 7 rating (i.e., 12.5%) with 3 missing items, 1 rating (i.e., 1.8%) with 5 and another one (i.e., 1.8%) with 7 missing items. As a result the following number of cases per domain had to be excluded from the analyses: 2 (i.e., 3.6%) per domains A and B, 5 (8.9%) for domain C, 15 (26.8%) per domains D and S, and 11 (19.6%) for domain E.

Supplementary / Exploratory Analyses
Construct Validity Based on the Entire Sample

Given that a lot of cases were excluded from the final analyses due to random responding on the PPI-R or the PAI, Research Questions 2 and 3 were tested again at the omnibus level using the entire sample. This was done to determine whether the results would reveal the same pattern of association between the CAPP-IRS and the FFM as well as the nomological network of factors. These analyses showed that including the entire sample did not yield different findings other than for domain B, for which there were significant correlations with the FFM. Namely, for Research Question 2, the sample size per domain ranged from 49 to 54, and the null hypothesis was rejected only for domain B (i.e., $\chi^2 (10, N = 54) = 21.7990, p = .0162$). For Research Question 3, the sample size ranged from 48 to 54, and the null hypothesis was rejected for domains B (i.e., $\chi^2 (19, N = 54) = 50.1282, p = .0001$) and C (i.e., $\chi^2 (13, N = 53) = 66.5537, p = .0000$).

Non-Predicted Correlations

The construct validity of the CAPP-IRS was evaluated via a theoretically defined nomological network of factors. Although the nomological network was quite comprehensive, it is possible that factors related to the construct of psychopathy as measured by the CAPP-IRS, were not originally included in the nomological network. Therefore, bivariate correlations between each of the domains of the CAPP-IRS and all of the criterion measures were computed to determine whether there were any significant associations that were not predicted. In terms of correlations with the PPI-R and the PAI_Antisocial Features scale / subscales, used to evaluate the concurrent as well as the construct validity of the CAPP-IRS, domains A, B, and C yielded positive correlations, while domain E yielded a negative correlation. Namely, domain A was correlated with the PPI_Machiavellian Egocentricity (r = . 307), PPI_Rebellious Nonconformity (r = .287), PPI_Self-Centered Impulsivity factor (r = .286), and PPI_Fearless Dominance_factor (r = . 271), as well as PAI_Antisocial Behaviors (r = .294); domain B was correlated with PPI_Social Influence (r = . 509); domain C was correlated with PPI_Social Influence (r = .365), PPI_Fearlessness (r = .273), and PPI_Fearless Dominance factor (r = . 393), as well as PAI_Antisocial Behaviors (r = .281); domain E correlated negatively with PAI_Stimulus Seeking (r = -.278).

In terms of correlations with the rest of the validation measures, used to assess the construct validity of the CAPP-IRS, domain A was correlated negatively with MAAS (r = -.326), and positively with two of the PAI subscales: Aggression (r = .309), and Dominance (r = . 273). Domain B was correlated positively with Dominance (r = .488). Domain C was correlated positively with two of the PAI subscales: Aggression (r =

.303), and Self-harm (r = .265). Domain D was correlated positively with Aggression (r = .295). Finally, domains E and S were correlated negatively with MAAS (r = -.314 and r = -.387 respectively). Although not predicted, all of the observed correlations make sense theoretically.

Intermeasure Correlations

Intermeasure correlations were computed to examine whether all of the scales / subscales used in the analyses behaved as expected. For Research Question 2, bivariate correlations were computed for the NEO-FFI and 50-BRS. There were only a couple significant correlations between the subscales of those measures, which were in the expected direction (i.e., 50-BRS_Conscientiousness correlated positively with NEO_A, r = .202; 50-BRS_Emotional Stability correlated positively with NEO_E, r = .299). There were also a couple corrections, which were significant, however, the direction of the association was opposite of what was expected (i.e., 50-BRS_Extraversion correlated negatively with NEO_A, r = -.262; 50-BRS_Emotional Stability correlated negatively with NEO_O, r = -.231).

For Research Question 3, bivariate correlations were computed between the scales / subscales used to assess the variables included in the nomological network. The majority of the correlations were in the expected direction. Nevertheless, there were several significant correlations, which were in a direction opposite of what was expected. Namely, CFS correlated negatively with PANAS_Positive Affect (wk) (r = -.404); ASQ_Need for Approval correlated negative with PPI_Carefree Nonplanfulness (r = -.230) and positively with PAI_Antisocial Behaviors (r = .252). Further, ASQ_Preoccupation with Relationships correlated positively with PPI_Carefree

49

Nonplanfulness (r = .260) and Fearlessness (r = .228), and MAAS correlated positively

with PAI Treatment Rejection (r = .252). Further, PAI_Borderline Features correlated

positively with Fearlessness on the PPI-R, as well as the total score of the PPI-R (.494

and .449 respectively). PAI_Suicidal Ideation and PAI_Borderline Identity Problems

were correlated positively with PPI_Fearlessness (.315 and .372 respectively), while

PAI_Warmth was correlated positively with PPI_Fearless Dominance (r = .290).

PAI_Treatment Rejection was correlated negatively with PPI_Blame Externalization and

Carefree Nonplanfulness (-.346 and -.354 respectively). Finally, PAI_Stress was

correlated positively with PPI_Carefree Nonplanfulness and Fearlessness (.525 and .351

respectively), and negatively with Stress Immunity (r = -.209).

Discussion

This study was among the first to evaluate the reliability, construct and concurrent

validity of the CAPP-IRS: Staff Rating Scale, as well as its utility. It was conducted with

a correctional sample, where ratings of psychopathy measured by the CAPP-IRS were

evaluated against the FFM as well as a theoretically defined nomological network of

factors. They were also compared to ratings of psychopathy measured by the PPI-R as

well as the Antisocial Features scale of the PAI, as a way of evaluating the concurrent

validity of the CAPP-IRS. Based on results from this sample, it is unclear whether the

CAPP-IRS as a whole is suitable for assessment of psychopathy. Nevertheless, it was

established that at least some of the domains (i.e., domains B and C) of the CAPP-IRS:

Staff Rating Scale have tentatively good psychometric properties. In addition, the

concurrent validity of the CAPP-IRS was well established in this sample. There was

support for the internal consistency reliability of the CAPP-IRS. However, the interrater reliability was evaluated based on a small fraction of the sample, and needs to be further evaluated. Finally, it was concluded that implementation of the CAPP-IRS in correctional facilities might be challenging given their limited resources.

Research Question 1: Reliability of the CAPP-IRS

According to Nunnally and Bernstein (1994, pg. 264) alpha coefficients of .70 and higher are indicative of satisfactory reliability. Another way of evaluating the internal consistency reliability of a measure was recommended by Clark and Watson (1995), who suggested that mean interitem correlations, could be used instead of alpha coefficients, and values ranging between .15 and .50 should be considered an indication of satisfactory reliability. Following both of those guidelines, it was concluded that the internal consistency reliability of the CAPP-IRS was satisfactory for all the domains.

In addition, given that prior research has shown that not all items included in the CAPP-IRS may be representative of the construct (see Hart, 2008), the corrected item-to-total correlations were also examined. Results from this study were different from what has been shown by past research. Namely, while prior studies have found that internal consistency improved if "lack of concentration", and "lack of pleasure" were deleted, that was not the case for this study. Instead, based on this sample it appeared that "lack of anxiety" included in domain E, was overall correlated weakly to the rest of the items on that domain, and internal consistency would improve if that item were deleted. Of note, there were a few more items across three of the domains: "detached" (domain A), "restlessness" (domain B), "lacks planfulness" (domain C), as well as "sense of

51

uniqueness" and "unstable self-concept" (domain S), which were correlated moderately to substantially to the rest of the items in those domains, and their removal would result in improvement in the internal consistency of those domains. Nevertheless, the improvement would not be substantial. In light of these findings, more research is needed to determine whether all of the items incorporated in the CAPP-IRS are representative of the construct of psychopathy, and whether any of them need to be excluded from the measure.

Further, the interrater reliability in the current study was less than desirable. According to guidelines provided by Landis & Koch (1977), it ranged from fair to moderate, which was to an extent in line with results from a study conducted by Corrado et al., (2006), where the interrater reliability ranged from fair to almost perfect across domains. Given there was quite a bit of variability in the length of time the officers had known the offenders, as well as the extent to which they knew the offenders, some additional analyses were performed. The interrater reliability was higher for domains A (i.e., moderate) and B (i.e., substantial) once cases for which officers had known the offenders for less than three months were excluded. There was no improvement, however, once cases for which officers had indicated that they knew the offender only "slightly" were excluded. In fact, the reliability for domain C dropped from "moderate" to "fair". Of note, these results were based on a very small number of cases (i.e. 13 to 17 for the analyses based on all double ratings, 10 to 12 for the analyses conducted as a function of the length of time officers had known the offender, and 9 to 11 for the analyses conducted as a function of how well the officers knew the offender). Therefore more research is needed to further evaluate the interrater reliability of the CAPP-IRS.

Research Question 2: Construct Validity with respect to the FFM

This study did not find support for the association between the CAPP-IRS and the FFM at the omnibus hypothesis level. Nevertheless, there was support for the associations between some of the CAPP-IRS domains (i.e., domains B, C and S) and the FFM at the bivariate level. A quarter to a third of the predicted correlations between those domains and the FFM measures turned out to be significant, and most of them were in the predicted direction. For instance, as expected characteristics of psychopathy as captured by domain B were correlated positively with extraversion, and negatively with conscientiousness. As for characteristics captured by domain C, as expected they were correlated negatively with conscientiousness. Characteristics included in domain S were correlated negatively with agreeableness. Unlike predicted, characteristics captured by all of those domains were correlated positively (rather than negatively) with openness to experience. Despite the statistical significance of those correlations, however, they should be interpreted with less confidence because the omnibus tests were not significant.

The associations between the NEO-FFI and the CAPP-IRS found in this study are overall consistent with prior research. Prior research has shown that the most robust correlates of psychopathy were low conscientiousness and high antagonism (i.e., low agreeableness) (see Lynam & Derefinko, 2006; Skeem, et al., 2005). Those patterns of association were also evident in the current study; nevertheless, the magnitude of the relationship between psychopathy as measured by the CAPP-IRS and low conscientiousness as well as high antagonism was comparable to the rest of the significant correlations between the CAPP-IRS domains and the FFM. Further, findings

about the associations between psychopathy and neuroticism or extraversions have been less consistent, as psychopaths tend to be high on some dimensions of those factors of the FFM and low on others (i.e., angry hostility, and impulsiveness/urgency (high) vs. self-awareness (low) on Neuroticism, and excitement seeking (high) vs. warmth and positive emotions (low) on Extraversion). In this study, there were significant correlations only with extraversion. Finally, Hart & Hare (1994) have found a positive association between openness to experience and psychopathy, which was consistent with the current findings. As pointed out earlier, however, these results were contrary to the original theoretically formulated predictions, where a negative association between the CAPP-IRS and openness to experience was expected. Of note, thus far, there is no research that has evaluated the association between ratings of psychopathy and the 50-BRS.

Research Question 3: Construct Validity with Respect to the Nomological Network of Factors

There was support for the construct validity of domains B and C of the CAPP-IRS at the omnibus level based on associations with the measures of factors included in the nomological network. Namely, a third to a half of the predicted correlations for each of those domains turned out to be significant, and most of them were in the predicted direction. For instance, as expected characteristics of psychopathy as captured by domain B were correlated positively with rebellious noncomformity, fearless dominance, stress immunity, egocentricity and positive affect. They were correlated negatively with mindfulness. As for characteristics captured by domain C, they were correlated positively with rebellious noncomformity, egocentricity, and self-centered impulsivity, and

54

negatively with cognitive flexibility, and mindfulness. Unlike predicted, characteristics included in domain C were correlated positively (rather than negatively) with positive affect. In addition, there was support for the construct validity of domain D at the bivariate level based on associations with the PPI-R. Namely, characteristics captured by domain D were correlated positively with fearless dominance and social influence.

There is currently no research that has evaluated the relationship between psychopathy and ratings on the PANAS, MAAS, or the CFS, or between the CAPP-IRS and the PPI-R. A comparison between the results of the current study and research that has examined the relationship between the CAPP-IRS and other measures of psychopathy (e.g., the PCL-R) is presented in the next section.

Research Question 4: Concurrent Validity of the CAPP-IRS

The concurrent validity of the CAPP-IRS was evaluated by taking into consideration the extent to which various aspects of psychopathy as measured by the PPI-R and the Antisocial Features scale of the PAI relate to psychopathy as measured by the CAPP-IRS. Of note, some of the results discussed in this section were already presented under Research Question 3 above, as both, the PPI-R and the PAI, were also used as measures of factors included in the nomological network; they were included here simply to provide clarity and to emphasize the direct association between the CAPP-IRS and those measures.

The results from this study show support for the concurrent validity of the CAPP-IRS. Namely, the CAPP-IRS total score was correlated positively with the Fearless

Dominance factor on the PPI-R. It was also associated with egocentricity as measured by the PPI-R content scales, and antisocial behaviors as measured by the PAI.

Further, there was also support for the concurrent validity of some of the CAPP-IRS domains (i.e., for domains A through E) based on their associations with the PPI-R total, factor and content scores, as well as the PAI_Antisocial Features scale and subscales. Namely, there were positive correlations between domains B, C, and D, and the PPI-R total score, as well as between domain C and self-centered impulsivity as measured by the PPI-R. There were also positive correlations between domains A through D and fearless dominance as measured by the PPI-R. In addition, as already presented in the previous section, there was support for the concurrent validity of domains B, C and D as they were correlated positively with characteristics of psychopathy as measured by some of the content scales of the PPI-R (e.g., rebellious noncomformity, egocentricity, stress immunity, and social influence). Further, domains A and C were correlated positively with antisocial behaviors as measured by the PAI. Finally, domain E was correlated negatively with stimulus seeking as measured by the PAI.

Except for some slight differences, these findings are overall in line (indirectly) with prior validation research on the CAPP-IRS. Although currently there is no research on the direct association between the CAPP-IRS and the PPI-R, there is support for the association between the CAPP-IRS total score and the total score of another measure of psychopathy, namely the PCL-R (see Corrado et al., 2006, Corrado et al, 2007, McCormick et al., 2008; Watkinson et al., 2007). While the current study did not find support for such an association, there was a significant positive correlation between the

CAPP-IRS total score and the Machiavellian Egocentricity scale of the PPI-R, which based on research on the predecessor of the PPI-R—the PPI (Lilienfeld & Andrews, 1996)—has been found to be the scale that is most strongly correlated with the PCL-R total score (see Poythress et al., 1998).

In addition, prior research on the concurrent validity of the PPI and the PPI-R has shown that they correlate with characteristics of psychopathy as measured by the PCL-R (including both, personality traits and behavioral aspects of the disorder) and impulsivity respectively (see Poythress et al, 1998; Ray et al., 2009, Skeem & Lilienfeld, 2004). Of note, while some studies have reported stronger associations between the PPI and the core personality characteristics of psychopathy as measured by the PCL-R (i.e., Factor 1), others have found stronger associations with the behavioral aspects of the disorder (i.e., Factor 2; see Poythress, et al., 1998, vs. Skeem & Lilienfeld, 2004). In this study, characteristics of psychopathy as measured by the PPI-R were correlated positively with domains A through D on the CAPP-IRS, which include both, core personality traits and behavioral aspects of the disorder. Two of those domains, the Behavioral and Cognitive, include characteristics that are closely related to impulsivity. Further, selected subscales of the PPI (i.e., Machiavellian Egocentricity, Social Potency, Coldheartedness, and Impulsive Noncomformity) have been reported to be associated with the PCL-R total score as well as factor scores. Similar patterns were evident in the current study as well, where the CAPP-IRS total and domain scores were correlated with Machiavellian Egocentricity, Rebellious Noncomformity, and Social Influence on the PPI-R.

Further more, prior research has demonstrated that the PPI Factor 1 (which includes the Social Potency, Fearlessness, and Stress Immunity subscales) was correlated

strongly with the PCL-R Factor I, while the PPI Factor II (which consists of the Machiavellian Egocentricity, Impulsive Noncomformity, Blame Externalization, and Carefree Nonplanfulness) was associated strongly with Factor II of the PCL-R. Consistent with existing research, in this study there were stronger correlations between the domains of the CAPP-IRS and the Fearless Dominance Factor of the PPI-R (i.e., equivalent to Factor 1 of the PPI) in comparison to the Self-Centered Impulsivity Factor (i.e., equivalent to Factor 2 of the PPI). These findings are not surprising given the CAPP-IRS was based on Cooke's Three Factor model of psychopathy, which focuses primarily on the personality aspects of the disorder.

In terms of the associations between the CAPP-IRS and the antisocial behaviors subscale of the PAI, this study's findings are consistent with previous research (see Douglas et al., 2007). The negative association between stimulus seeking as measured by the PAI and the Emotional domain of the CAPP-IRS makes sense theoretically, as characteristics such as being unenthusiastic, pessimistic, irritable, or gloomy do not go hand in hand with craving stimulation or excitement, or being bored by routine and convention. Of note, with the exception of the correlations between domains A and C and fearless dominance as measured by the PPI-R as well as antisocial behaviors as measured by the PAI, all of the correlations that turned out to be significant were predicted and in the expected direction. Finally, the strength of the associations between the CAPP-IRS and the concurrent validity measures was moderate (i.e., average r = .38), which is on par with the associations between self-report and observer ratings reported in prior research (i.e., r = .3 to .5; see Lilienfeld & Fowler, 2006). This speaks to the fact that results from

this study were likely not affected by assessment mode (i.e., self-report vs. observer ratings) covariance.

Research Question 5: Utility of the CAPP-IRS

The implementation of the CAPP-IRS in correctional facilities could essentially have an impact on the focus and curriculum of treatment programs offered at Provincial Corrections, and therefore it is essential to determine whether or not that would be feasible. While the importance of using state of the art screening and assessment tools is well recognized by Corrections BC, who approved this study, there are practical limitations to this process. Namely, the secure facilities where data was collected had very limited resources – while they were often understaffed, they were operating at capacity in terms of the number of inmates they were housing, which ultimately resulted in low completion rate for the CAPP-IRS, and a fair number of CAPP-IRS protocols with missing data. The lack of resources essentially affected officers' willingness to participate in the project, which was evident given officer recruitment rates and the number of completed CAPP-IRS. In addition, it had an impact on the quality of the data evidenced by the number of ratings which contained missing data or were completed incorrectly. This in and of itself has implications for the likelihood of implementing a new screening measure, regardless of whether or not its overall psychometric properties are well established. Unless there is sufficient time to complete the measure, there would be no guarantee for the consistency in rating completion or for the quality of the ratings. In addition, rates of rating completion are likely to be dependent on whether or not the measure is perceived as being a useful and effective decision making tool.

Given these challenges, how can one go about implementing the CAPP-IRS at correctional facilities? One approach would be to introduce it to staff who are most likely to benefit from its implementation, such as probation or parole officers, rather than proposing a site-wide implementation. That is because a site-wide implementation is very likely to be met with resistance by staff who would have little use for the measure. Therefore, approaching individuals who have the authority to make policy decisions and introducing the CAPP-IRS to them might be a good first step. Subsequently, based on their experience with the measure, they could be asked to introduce it to appropriate personnel. Such approach is likely to produce more favorable results than having researchers directly approach personnel who could benefit from the using the measure, simply because of the credibility associated with the frequency of communications and familiarity between staff, which adds a personal tone to their interactions (see Grewal, Cline & Davies, 2003).

The next question that needs to be addressed is when it would be appropriate to administer the CAPP-IRS. While completing medical and mental health screening for every individual upon admission is crucial, as is it important to know whether they would need to be put on medication or whether they are likely to engage in self-harming behavior, that is not necessarily the case when it comes to the CAPP-IRS. Knowing whether an individual exhibits psychopathic characteristics/tendencies, while important in terms of institutional infractions, is of particular relevance for parole, probation or conditional discharge decisions. In addition, from a practical point of view completing ratings for every new admission would not be feasible as it would create a lot of additional work for staff, who are already overburdened. Therefore, recommending

60

completion of CAPP-IRS ratings prior to release may be optimal. Alternatively, should officers be interested in using the CAPP-IRS as an aid in managing institutional infractions, completing ratings within the first month of admission may be useful.

Another important issue to keep in mind is the time it takes to complete the ratings, as well as the amount of information about the person being evaluated needed to rate the CAPP-IRS. Even thought the CAPP-IRS contains only 33 items in total, there is specific information that needs to be coded for each item, which ultimately leads to a fairly lengthy protocol (i.e., 35 pages). Such protocols are often likely to lead to resistance and essentially low completion rates, especially by staff who are just being introduced to them. Therefore introducing abbreviated rating forms as an alternative way of scoring the CAPP-IRS might be useful at the initial stages of implementation. That of course is likely to come at the expense of the quality/usefulness of the final ratings, as the accuracy of such ratings is contingent upon having sufficient information about the person being evaluated. Therefore the use of an abbreviated version of the CAPP-IRS would only be possible if raters are fairly familiar with the person being evaluated.

This brings up another question, namely whether recommending a file review as part of the assessment process is reasonable. There is no question that the more information a rater relies on while completing the CAPP-IRS, the more accurate his/her ratings would be. Nevertheless, incorporating a file review as part of the assessment process would come at the expense of time needed to complete an assessment, which is essentially one of the advantage of the CAPP-IRS over other psychopathy measures. It currently takes trained raters only 30 to 40 minutes to complete the CAPP-IRS based solely on observations and personal interactions with the person being evaluated. Adding

a file review component to the assessment process, however, would require on average

additional couple of hours and would take away from the efficacy associated with the use

of the CAPP-IRS vs. other psychopathy measures. Therefore recommending the

incorporation of a file review component to the assessment process would not be

reasonable unless future research is able to clearly show that the benefits associated with

it would outweigh the cost associated with the extra time that would be needed to

complete each assessment.

Discrepant Findings

Although the discrepancy in the direction of predicted vs. obtained correlations

for the NEO_O and the PANAS is not consistent with theory and existing research, it

could be understood in the context of this study. It is reasonable to expect some degree of

incongruence between respondents' self image and how they could be seen by

correctional officers. For instance, descriptors such as "strong," "determined," and

"excited" included in the PANAS could have different connotation depending on the

context, and therefore could be interpreted in a positive way by respondents, but in a

negative way by correctional officers, giving them high scores on both, the

PANAS_Positive Affect and domain C.

Similarly, characteristics such as being inconsistent in the ways one accomplishes

things (e.g., "Once I find the right way to do something, I stick to it", which is reverse

scored) or being in a way nonconforming (e.g., I believe we should look to our religious

authorities for decisions on moral issues", which is also reverse scored) included in the

NEO-FFI could be interpreted in a positive way by respondents, which ultimately would

give them high score on the NEO_O. Nevertheless, in the eyes of correctional officers, such characteristics might be an indication of the lack of perseverance or concentration, or being unruly, undependable, or unsystematic, which essentially would give them high scores on domains B and C. Such discrepancy is not notable, however, when ratings of psychopathy are completed based on other measures of psychopathy such as the PCL: SV for instance (see Skeem et al., 2005). Perhaps a reasonable explanation for that phenomenon is the fact that there is a difference in terms of who completes ratings on the CAPP-IRS: Staff Rating Scale (i.e., correctional officers for this study) vs. the PCL: SV (i.e., trained clinicians). On the one hand, there is power differential between correctional officers and inmates, which most likely has an impact on the quality of the interactions between them, ultimately affecting how inmates are perceived by officers. In addition, officers typically interact with inmates on a continuous basis, and given they see inmates repeatedly cycling through the system, there is a possibility that they might form negative biases. Clinicians completing ratings on the PCL-R, on the other hand, interact with inmates once or twice for a total of several hours. Even though the power differential also exists in this context, it is likely to be less noticeable, and therefore is less likely to evoke negative reactions in inmates, which in turn could affect how they are perceived by clinicians. Further, it is reasonable to assume that just because their interactions with inmates are rather short, clinicians are less likely to form biases. Even so, it cannot be assumed that clinicians are altogether free of biases; in fact some research has shown the opposite (see Boccacini, Turner, & Murrie, 2008; Murrie et al., 2008). Overall, positive impression management by inmates is more likely to occur while inmates are interacting with clinicians (rather than with correctional officers), not only

63

because of the length and nature/quality of their interactions, but also because generally there is more at stake for inmates when they are being evaluated for court. This is also the case in research settings where inmates are paid for their participation, which ultimately is likely to serve as an incentive for positive impression management.

While the correlations found to be significant in this study make sense theoretically, the lack of association where expected is a bit more puzzling. There could be a number of reasons for such findings. First, most of the criterion measures, although selected due to their good psychometric properties, were not designed specifically for use with correctional samples. Therefore, their performance in this sample might have been significantly different in comparison to the validation sample. For instance, the topics covered by those instruments may not have been necessarily relevant to individuals who are incarcerated. Therefore, those measures may not have been necessarily suitable for use with a correctional sample.

In addition, although for the most part the associations between the validation measures were as expected, there were some associations which were rather puzzling. For instance the association between the NEO-FFI and the 50-BRS, both of which were designed as measures of the FFM, was weak or in a direction opposite from what was expected. One possible explanation for such findings is the format of administration – while the NEO-FFI is a self-report measure completed by offenders, the 50-BRS was completed by the researcher based on observations formed during a very short interview. Another possible explanation is the fact that the 50-BRS was used in a context that may not have been optimal, simply because there was no direct way of scoring many of the

items (e.g., energetic, generous, flexible, organized, thrifty, envious, creative, refined, etc.).

Further, there were some unexpected associations between PAI and the PPI-R (e.g., borderline features and suicidal ideation were correlated positively with fearlessness; warmth was correlated positively with fearless dominance; treatment rejection was correlated negatively with blame externalization and carefree nonplanfulness; and stress was correlated positively with carefree nonplanfulness and fearlessness, and negatively with stress immunity). There were also unexpected associations between cognitive flexibility and positive affect (i.e., negative), need for approval and nonplanfulness (i.e., negative) as well as antisocial behaviors (i.e., positive), preoccupations with relationships with nonplanfulness and fearlessness (i.e., positive), as well as mindfulness and treatment rejection (i.e., positive). It is possible that these measures captured different constructs or focused on different aspects of a given construct. Despite these findings, none of these measures was excluded from the analyses as the majority of the associations between them were as expected. Nevertheless, further research is needed to determine whether these findings were specific to the sample used in this study, or whether they were overall reflective of the actual associations between the validation measures, which could have implications for future validation studies on the CAPP-IRS.

It is also possible that the lack of support for the expected associations was affected by the sample composition (i.e., the sample was nearly equally split by gender), especially given the small sample size. As pointed out by Forouzan and Cooke (2005), even though the construct of psychopathy in women has not been clearly defined, there

appear to be differences between males and females in terms of how psychopathy is expressed behaviorally, the degree of symptom severity that is needed before their existence becomes apparent, as well as the meaning/interpretation of specific behaviors across genders. Therefore, it possible that there were differences in the patterns of associations between the criterion measures and the CAPP-IRS for male and female respondents, which might have neutralized each other in the analyses based on the entire sample. Unfortunately, formal evaluation of the possible moderating effects of gender (by examining statistical interactions between gender and the CAPP-IRS in terms of their relationship to external variables) was not possible in the current study due to the small sample size.

In addition, the degree of disclosure and honesty of inmates while completing questionnaires is likely to be different from that of the general population. Namely, it is reasonable to expect that inmates would be less than forthcoming due to possible repercussion, even though their confidentiality was assured prior to and during the project administration (see Jackson & Richards, 2007). In addition, as pointed out by Cooke et al. (2005), participants with psychopathic features "often lack insight into their adjustment problems" (p. 15) and are expected to under-report symptom severity. Unfortunately, for most of those measures (with the exception of the PAI, PPI-R, and the NEO-FFI), there is currently no research to support or refute such assumptions.

Exploratory Analyses

Given the CAPP-IRS: Staff Rating Scale is a newly developed measure, which is currently being evaluated to establish its psychometric properties, some exploratory analyses were performed. Since a lot of cases were excluded from the main analyses due

66

to invalid PPI-R and PAI profiles, Research Questions 2 and 3 were tested at the omnibus level based on the entire sample to determine whether the results would reveal similar patterns of associations between the CAPP-IRS domains and the validation measures. The results from these analyses were identical in terms of the CAPP-IRS in relation to the nomological network, but there was also support for the construct validity of the CAPP-IRS in relation to the FFM, which was not revealed based on the original analyses. Namely, there was support for the construct validity of domain B of the CAPP-IRS when tested against the FFM. There was also support for the construct validity of domains B and C of the CAPP-IRS when tested against the nomological network of factors. The downside of this approach is clearly associated with the fact that invalid cases were included in the analyses along with valid ones, which ultimately precludes any definite conclusions based on the results. Nevertheless, given the patterns of associations between the CAPP-IRS and the validation measures, which were similar to those yielded by the original analyses, it could be assumed that this study could have benefited from a larger sample size in terms of finding overall support for the construct validity of the CAPP-IRS.

In addition, exploratory analyses were conducted to determine whether there were any associations between the CAPP-IRS and the validation measures, which although not predicted a priori, could be interpreted as a preliminary indication of support for the construct or concurrent validity of the CAPP-IRS. Associations which were not originally predicted were found between the CAPP-IRS and MAAS, the PAI, and the PPI-R. Specifically, there was further support for the construct validity of the CAPP-IRS based on its associations with MAAS and the PAI. Results indicated that domains A, E

67

and S were negatively associated with mindfulness, which makes sense conceptually. Further, as in other studies where ratings of psychopathy measured by the PCL-R or the PCL: SV were associated with ratings on the PAI, the current study found support for the association between ratings of psychopathy as measured by the CAPP-IRS and the PAI (see Douglas et al., 2007; Edens, et al., 2000; Kucharski, et al., 2008; Walters & Duncan, 2005). There were differences, however, in terms of the specific way the PAI was correlated with the PCL-R / PCL: SV vs. the CAPP-IRS. Namely, while in prior studies aggression and antisocial features assessed with the PAI were correlated primarily with the behavioral aspects of psychopathy on the PCL-R /PCL: SV, in the current study they were associated with the A, C, D and E domains of the CAPP-IRS (see Douglas et al,. 2007; Edens, et al., 2000; Kucharski, et al., 2008; Walters & Duncan, 2005). In addition, there were positive correlations between dominance and self-harm measured by the PAI and the CAPP-IRS, which have not been reported in prior research. These findings are not surprising given psychopathy is conceptualized differently by the CAPP-IRS and PCL-R/PCL: SV. In fact, they speak to a disagreement between scholars, which has been addressed in the literature regarding the association between psychopathy and social deviance. As discussed in the Introduction, Cooke et al. (2005) proposed that social deviance is a manifestation of the psychopathy construct, while Hare (2003) suggested that it is rather a primary symptom. The results from this study provide preliminary support for the former notion, given social deviance appeared to be associated with multiple domains on the CAPP-IRS (i.e., domains A and C), rather than being confined to one particular domain. Of note, there are currently no published or unpublished studies that have evaluated the association between the CAPP-IRS and the PAI.

Finally, there was also further support for the concurrent validity of the CAPP-IRS based on its association with the PPI-R ratings. Namely, domain A was associated with egocentricity, rebellious noncomformity, self-centered impulsivity, and fearless dominance; domain B was also associated positively with social influence; and domain C was also associated positively with social influence, fearlessness, and fearless dominance.

Limitations

One of the main limitations of this study was the small sample size, which was due in part to invalid PPI-R or PAI profiles, and in part to incomplete CAPP-IRS ratings. Although, a statistical procedure developed for use with small sample studies was employed, the number of predictors used to establish the reliability and validity of the CAPP-IRS domains was rather large (i.e., ranging from 8 to 19 per domain), which ultimately made the rejection of the null hypotheses difficult. Thus, it is possible that significant associations were not detected simply due to the small sample size.

Further, due to limited space for the administration of the study and staff available to provide coverage at one of the correctional facilities where data was collected, inmates could not complete the questionnaires in my presence. Instead, they were asked to complete them in their cells. To ensure there was no discrepancy in the study protocol depending on where data was collected, inmates from the second facility were also asked to complete the questionnaires at their cells. There is no question that this process was far from optimal as it opened the door for random responding, since there was no way of monitoring how inmates were filling out questionnaires. In fact, approximately 30 percent of the sample was excluded from analyses due to random responding, although

different participants were excluded based on the PPI-R and PAI, a quite conservative approach. It is worth mentioning, however, that this mode of administration (i.e., completing questionnaires not in the presence of the researcher) is quite common in other research settings (e.g., online studies, longitudinal studies, mail-in surveys), and overall there appear to be no major issues with the quality of the data (see Denscombe, 2006; Fox, Murrey, & Warm, 2001; Hawthorne, 2003; Testa, Levingston, &VanZile-Tamsen, 2005). In addition, regardless of the process that was employed in this study, random responding appears to be common in studies conducted with offenders (see Jackson & Richards, 2007), with rates likely to be higher than those of the general population given their antisocial tendencies.

Another limitation of the study is the fact that there was great variability in terms of the length of time correctional officers had known the offenders for – it varied from approximately "three weeks" to "many years." This was primarily due to the fact that it was nearly impossible to recruit only officers who had known offenders for a certain amount of time. Unfortunately, controlling for that statistically was not feasible given the sample size was very small and therefore excluding cases where the officers had known the offenders for a relatively short period of time was not really an option.

Further, it is important to highlight that this study was completed in real-life settings, by correctional officers whose main priority was the safety and security of their colleagues as well as inmates at their facility, and who unlike researchers, did not necessarily have the time to focus on filling out measures. While Provincial Corrections, BC, were interested in the study, given it addressed questions of relevance to their operations, there was a notable lack of resources at their facilities, which overall had a

significant impact on the conduct of this study. Given the lack of resources, it is possible that correctional officers were not fully invested in filling out the CAPP-IRS. For instance, even though they were given instructions on how to complete rating on the CAPP-IRS there were quite a few ratings with missing data. This might be an indication of the lack of time to complete the CAPP-IRS as required, lack of familiarity with the scoring format of the CAPP-IRS, or for some, it might have been simply lack of interest in participating.

Another important caveat for this study is the fact that only the Staff Rating Scale was used to complete ratings on psychopathy. In other words, information needed to complete the ratings was based solely on observations and interactions between correctional officers and inmates in the context of the institution, without file review or an interview, which may or may not be sufficient, given the CAPP-IRS was designed to be very comprehensive. The primary reason for using the Staff Rating Scale exclusively was to evaluate whether the Staff Rating Scale alone is suitable for assessment of psychopathy within correctional settings.

As a result it is likely that the lack of support for domains A, E, and S is linked to the type of information about inmates available to officers. Namely, they may not have had enough information regarding various areas of inmates' life related to their interpersonal affiliation (i.e., domain A), emotional stability (i.e., domain E) and problems with individuality (i.e., domain S). The lack of support of domain D is a little bit more peculiar, as characteristics such as status-seeking and assertiveness are likely easily notable in day-to-day interactions. Thus, the proposed explanation for the results for domains A, E, and S, does not seem to be applicable for domain D. Instead, it is

71

important to mention that while the correlation matrix as a whole did not reach

significance, there were some significant and expected correlations for domain D at the

bivariate level (i.e., it was positively correlated with fearless dominance and social

influence as measured by the PPI-R). While it is possible that those correlations were

significant due to chance, it is also possible that the combination of the small sample size

and the large number of predictors might have made the rejection of the null hypothesis

difficult. The same applies to domain S, which yielded significant correlations at the

bivariate level with openness to experience (positively correlated) and agreeableness

(negatively correlated), both of which were measured with the NEO-FFI.

Future Research

Given this is one of the first studies to evaluate the validity and reliability of a

new measure of psychopathy, there are a number of questions that need to be addressed.

First, to determine whether the findings of this study are generalizable, it needs to be

replicated with a larger sample. It is also important to keep in mind that the nomological

network of factors used to validate the construct validity of the CAPP-IRS was

established theoretically. This process resulted in a large number of predictions, which

when combined with the small sample size might have made the rejection of the null

hypotheses difficult, ultimately yielding insufficient support for the psychometric

properties of the CAPP-IRS. An alternative approach to defining the nomological

network could include the help of experts in the field. Specifically, similar to

prototypicality studies, individuals who have substantial knowledge and experience in

working with psychopaths in applied or research settings can be asked to evaluate the

factors included in the nomological network, and provide suggestions for revisions. The newly defined nomological network can then be used to evaluate the psychometric properties of the CAPP-IRS.

In addition, the interrater reliability needs to be re-investigated based on a larger sample. Another important question that needs to be addressed is how ratings on the CAPP-IRS: Staff Rating Scale alone compare to ratings on the CAPP-IRS based on the combination of an interview, file review and the Staff Rating Scale. Addressing this question is important if the measure is to be implemented in correctional facilities, as it could have great practical implications given their limited resources.

Further, the predictive validity of the CAPP-IRS also needs to be evaluated as currently there is only preliminary information regarding the utility of the CAPP-IRS: Staff Rating Scale in terms of establishing the likelihood of institutional infractions or recidivism (see Pedersen et al., 2008). Finally, it is important to compare the utility of the CAPP-IRS: Staff Rating Scale in terms of assessing psychopathy among males vs. females, especially given that the construct of psychopathy as it applies to females is yet to be clearly defined.

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APPENDICES

Appendix A

Table 1.

Expected Correlations between the Symptomatology Domains on the CAPP-IRS and the FFM

CAPP-IRS Domains	Direction of the Relationship	FFM Scales (NEO-FFI and 50-BRS)
Attachment	N/A	NEO_N
	negative	50-BRS-ES
	negative	NEO_E / 50-BRS_E
	negative	NEO_O / 50-BRS_I.S
	negative	NEO_A / 50-BRS_A
	N/A	NEO_C
	negative	50-BRS_C
Behavioral	positive	NEO_N
	negative	50-BRS-ES
	positive	NEO_E / 50-BRS_E
	negative	NEO_O / 50-BRS_I.S
	negative	NEO_A / 50-BRS_A
	negative	NEO_C / 50-BRS_C
Cognitive	positive	NEO_N
	negative	50-BRS_ES
	negative	NEO_E / 50-BRS_E
	negative	NEO_O / 50-BRS_I.S
	negative	NEO_A / 50-BRS_A
	negative	NEO_C / 50-BRS_C

(Table 1 continued)

CAPP-IRS Domains	Direction of the Relationship	FFM Scales (NEO-FFI and 50-BRS)
Dominance	positive	NEO_N
	negative	50-BRS_ES
	positive	NEO_E / 50-BRS_E
	negative	NEO_O / 50-BRS_I.S
	negative	NEO_A / 50-BRS_A
	N/A	NEO_C / 50-BRS_C
Emotional	negative	NEO_N / 50-BRS_ES
	negative	NEO_E / 50-BRS_E
	negative	NEO_O / 50-BRS_I.S
	negative	NEO_A / 50-BRS_A
	N/A	NEO_C
	negative	50-BRS_C
Self	negative	NEO_N
	N/A	50-BRS_ES
	positive	NEO_E / 50-BRS_E
	negative	NEO_O / 50-BRS_I.S
	negative	NEO_A / 50-BRS_A
	negative	NEO_C / 50-BRS_C

Note. NEO = NEO Five Factor Inventory; NEO_N = Neuroticism; NEO_E = Extraversion; NEO_O = Openness to Experience; NEO_A = Agreeableness; NEO_C = Conscientiousness; 50-BRS = 50 transparent Bipolar Rating Scale; 50-BRS_ES = Emotional Stability, 50-BRS_E = Extraversion; 50-BRS_I.S = Intellect/Sophistication, 50-BRS_A = Pleasantness/Agreeableness; 50-BRS_C = Conscientiousness.

Table 2.

Expected Correlations between the Symptomatology Domains on the CAPP-IRS and the Nomological Network

CAPP-IRS Domains	Direction of the Relationship	Nomological Network Constructs / Scales
Attachment		Attachment Style
	positive	ASQ_Confidence
	positive	ASQ_Discomfort
	positive	ASQ_Relationships as Secondary
	negative	ASQ_Need for Approval
	negative	ASQ_Preoccupation
		Warmth and related constructs
	negative	WRM/12
	positive	PPI_C
	positive	ANT-E/8
	positive	BOR-N/6
Behavioral		Impulsivity, Stimulus Seeking and related constructs
	positive	ANT-S
	positive	PPI_CN

92

(Table 2 continued)

CAPP-IRS Domains	Direction of the Relationship	Nomological Network Constructs / Scales
	positive	PPI_F
	positive	PPI_SCI
	positive	PPI_STI
	positive	PANAS.PA_wk
	positive	PANAS.PA_ mos
	negative	PANAS.NA_wk
	negative	PANAS.NA_ mos
	negative	ANX-C/8
	positive	PPI_FD
		Treatment Rejection and related constructs
	positive	RXR/8
	negative	MAAS
	positive	BOR-S/6
		Social deviance and related constructs
	positive	ANT-A

93

(Table 2 continued)

CAPP-IRS Domains	Direction of the Relationship	Nomological Network Constructs / Scales
	positive	AGG/18
	positive	PPI_RN
	positive	PPI_ME
	positive	PPI_BE
Cognitive		Intolerance, Cognitive Inflexibility and related constructs
	negative	CFS
	positive	PPI_ME
	negative	ASQ_Confidence
	negative	ASQ_Need for Approval
	positive	ASQ_Discomfort
	negative	ASQ_Preoccupation
		Mindfulness and related constructs
	negative	MAAS
	positive	PPI_RN
	positive	PPI_SCI

(Table 2 continued)

CAPP-IRS Domains	Direction of the Relationship	Nomological Network Constructs / Scales
	positive	PPI_CN
	negative	PANAS.PA_wk
	negative	PANAS.PA_ mos
	negative	ANX-C/8
Dominance		Dominance and related constructs
	positive	DOM/12
	positive	PPI_FD
	positive	PPI_ME
	positive	PPI_C
	positive	PPI_RN
	positive	PPI_SCI
	positive	PPI_SOI
	negative	BOR-N/6
	negative	PANAS.NA_wk
	negative	PANAS.NA_ mos

(Table 2 continued)

CAPP-IRS Domains	Direction of the Relationship	Nomological Network Constructs / Scales
Emotional		Anxiety Reactivity and related constructs
	negative	ANX-C/8
	negative	ANX-A/8
	negative	ANX/24
	negative	STR/8
	positive	PPI_F
	positive	PPI_STI
	positive	PPI_FD
		Emotional/Affective Stability and related constructs
	positive	BOR-A/6
	positive	ASQ_Confidence
	negative	ASQ_Need for Approval
	positive	ANT-E/8
	positive	PPI_BE
	positive	PPI_C

(Table 2 continued)

CAPP-IRS Domains	Direction of the Relationship	Nomological Network Constructs / Scales
		Pleasure and related constructs
	positive	PANAS.PA_wk
	positive	PANAS.PA_ mos
	negative	PANAS.NA_wk
	negative	PANAS.NA_ mos
	positive	ASQ_Relationships as Secondary
	negative	ASQ_Preoccupation
Self		Stability of Self-Concept and related constructs
	positive	BOR-I
	positive	ASQ_Confidence
	negative	ASQ_Need for Approval
	positive	ASQ_Relationships as Secondary
	negative	ASQ_Preoccupation
		Egocentricity and related constructs
	positive	ANT-E

97

(Table 2 continued)

CAPP-IRS Domains	Direction of the Relationship	Nomological Network Constructs / Scales
	positive	PPI_ME
	positive	PPI_RN
	positive	PPI_BE
	positive	PPI_SOI
	positive	PPI_F
	positive	PPI_STI
Suicidality and Affect		
	negative	SUI/12
	positive	BOR-S
	negative	MacArthur Self Harm
	negative	PANAS.NA_wk
	negative	PANAS.NA_mos

Note. AGG/18 = Aggression; ANT-A/8 = Antisocial Behaviors; ANT-E/8 = Egocentricity; ANT-S/8 = Stimulus Seeking; ANX/ 24 = Anxiety; ANX-A/8 = Affective Anxiety; ANX-C/8 = Cognitive Anxiety; ASQ = Attachment Style Questionnaire; BOR-A/6 = Affective Instability; BOR-I/6 = Identity Problems; BOR-N/6 = Negative Relationships; BOR-S/6 = Self Harm; CFS = Cognitive Flexibility Scale; DOM/12 = Dominance; MAAS = Mindfulness Attention Awareness Scale; PANAS = Positive and Negative Affect Schedule; PANAS.NA_mos = Negative Affect past month; PANAS.NA_wk = Negative Affect past week; PANAS.PA_mos = Positive Affect past month; PANAS.PA_wk = Positive Affect past week; PPI_BE =

(Table 2 continued)

Blame Externalization; PPI_C = Coldheartedness; PPI_CN = Carefree Nonplanfulness; PPI_F = Fearlessness; PPI_FD = Fearless Dominance; PPI_ME = Machiavellian Egocentricity;

PPI_RN = Rebellious Nonconformity; PPI_SCI = Self-Centered Impulsivity; PPI_SOI = Social Influence; PPI_STI = Stress Immunity; RXR/8 = Treatment Rejection; STR/8 = Stress;

SUI/12 = Suicidal Ideation; WRM/12 = Warmth.

Table 3.

Demographic Characteristics of Study Sample

Characteristics		Total Sample (N = 101)	
		n or Range	%
Gender			
	Male	51	50.5
	Female	50	49.5
Ethnicity			
	Caucasian	71	70.3
	Black	3	3.0
	Asian	1	1.0
	Aboriginal	17	16.8
	East Indian	5	5.0
	Other	4	4.0
Education			
	High school not completed	57	56.4
	High school diploma or GED	28	27.7
	Some college	9	8.9
	Post-secondary degree	7	6.9

Table 4.

Internal Consistency Reliability of the Validation Measures

	Cronbach's Alpha	MIC
CFS	.801	.250
50-BRS_ES	.620	.125
50-BRS_E	.941	.629
50-BRS_I.S	.846	.349
50-BRS_A	.860	.382
50-BRS_C	.818	.308
ASQ_Confidence	.764	.295
ASQ_Discomfort with Closeness	.715	.204
ASQ_Relationships as Secondary	.709	.259
ASQ_Need for Approval	.649	.210
ASQ_Preoccupation	.669	.205
PANAS.PA_wk	.868	.390
PANAS.NA_wk	.853	.369
PANAS.PA_mos	.891	.453
PANAS.NA_mos	.915	.518
MAAS	.884	.339
NEO_N	.804	.252
NEO_E	.767	.226
NEO_O	.521	.079
NEO_A	.686	.154
NEO_C	.800	.266
BOR/24	.888	.248

(Table 4 continued)

	Cronbach's Alpha	MIC
ANT/24	.842	.171
SUI/12	.900	.496
AGG/18	.911	.362
STR/8	.697	.235
RXR/8	.633	.181
DOM/12	.831	.286
WRM/12	.759	.208
PPI_ME	.861	.238
PPI_SOI	.870	.273
PPI_F	.853	.293
PPI_RN	.825	.220
PPI_C	.851	.274
PPI_STI	.820	.264
PPI_CN	.820	.196
PPI_BE	.865	.294

Note. CFS = Cognitive Flexibility Scale; 50-BRS = 50 transparent Bipolar Rating Scale; 50-BRS_ES = Emotional Stability; 50-BRS_E = Extraversion; 50-BRS_I.S = Intellect/Sophistication; 50-BRS_A = Pleasantness/Agreeableness; 50-BRS_C = Conscientiousness; ASQ = Attachment Style Questionnaire; PANAS = Positive and Negative Affect Schedule; PANAS.PA_wk = Positive Affect past week; PANAS.NA_wk = Negative Affect past week; PANAS.PA_mos = Positive Affect past month; PANAS.NA_mos = Negative Affect past month; MAAS = Mindfulness Attention Awareness Scale; NEO_N = Neuroticism; NEO_E = Extraversion; NEO_O = Openness to Experience; NEO_A = Agreeableness; NEO_C = Conscientiousness; BOR/24 = Borderline Features; ANT/24 = Antisocial Features; SUI/12 = Suicidal Ideation; AGG/18 = Aggression; STR/8 = Stress; RXR/8 = Treatment Rejection; DOM/12 = Dominance; WRM/12 = Warmth; PPI_ME = Machiavellian Egocentricity; PPI_SOI = Social Influence; PPI_F = Fearlessness; PPI_RN = Rebellious Nonconformity; PPI_C = Coldheartedness; PPI_STI = Stress Immunity; PPI_CN = Carefree Nonplanfulness; PPI_BE = Blame Externalization; MIC = mean inter item correlation.

Table 5.

Descriptive Characteristics of the CAPP-IRS Domains

		CAPP-IRS Domains					
		A	B	C	D	E	S
N	Valid	39	40	40	35	39	37
	Missing	31	30	30	35	31	33
Mean		7.0	11.6	9.4	10.7	7.4	12.3
SE_M		1.0	1.3	1.1	1.6	0.9	1.7
Mode		.00	4.00	.00[a]	6.00	4.00[a]	3.00[a]
SD		6.46	8.12	6.93	9.28	5.93	10.61
Variance		41.79	65.88	48.09	86.16	35.17	112.66
Skewness		.640	.731	.316	.825	.654	.786
SE_{SKEW}		.378	.374	.374	.398	.378	.388
Kurtosis		-.861	-.335	-1.248	-.518	-.710	-.550
SE_{KURT}		.741	.733	.733	.778	.741	.759
Range		20	31	21	32	20	37

103

(Table 5 continued)

		CAPP-IRS Domains					
		A	B	C	D	E	S
Minimum		0	0	0	0	0	0
Maximum		20	31	21	32	20	37
Percentiles	10	0	4	0	1	1	1
	25	1	4	5	4	3	3
	50	6	9	7	6	6	8
	75	13	19	17	17	13	22
	90	17	24	20	26	16	29

Note. A = Attachment; B = Behavioral; C = Cognitive; D = Dominance; E = Emotional; S = Self.

a = Multiple modes exist. The smallest value is shown.

Table 6.

Interrater Reliability of the CAPP-IRS Domains

			95% Confidence Interval	
		Intraclass Correlation[a]	Lower Bound	Upper Bound
Domain A	Single Measures	.365[b]	-.150	.716
	Average Measures	.535[c]	-.353	.835
Domain B	Single Measures	.556[b]	.131	.811
	Average Measures	.714[c]	.231	.896
Domain C	Single Measures	.487[b]	.001	.786
	Average Measures	.655[c]	.002	.880
Domain D	Single Measures	.558[b]	.080	.827
	Average Measures	.716[c]	.148	.905
Domain E	Single Measures	.472[b]	.016	.769
	Average Measures	.641[c]	.031	.869
Domain S	Single Measures	.374[b]	-.228	.760
	Average Measures	.544[c]	-.591	.863

Note. A = Attachment; B = Behavioral; C = Cognitive; D = Dominance; E = Emotional; S = Self.

Two-way mixed effects model was used where people effects are random and measures effects are fixed.

a = Type A intraclass correlation coefficients using an absolute agreement definition.

b = The estimator is the same, whether the interaction effect is present or not.

c = This estimate is computed assuming the interaction effect is absent, because it is not estimable otherwise.

Table 7.

Associations between the CAPP-IRS and the FFM at the Omnibus Level

	CAPP-IRS Domains					
	A	B	C	D	E	S
Chi-Square	9.9998	14.6297	13.6364	5.4975	4.1748	8.0448
df	8	10	10	8	9	9
Asymp. Sig. (1-Sided)	0.2650	0.1462	0.1902	0.7033	0.8995	0.5296
N	39	40	40	33	39	37

Note. A = Attachment; B = Behavioral; C = Cognitive; D = Dominance; E = Emotional; S = Self.

Table 8.

Bivariate Correlations between the CAPP-IRS and the FFM

Measures	CAPP-IRS Domains					
	A	B	C	D	E	S
NEO_N	-.015†	-.150	.069	.032	-.124	.005
NEO_E	.080	.287*	.172	.152	.006	-.021
NEO_O	.259	.278*	.332*	.073	.232	.291*
NEO_A	-.231	-.207	-.260	-.202	.019	-.277*
NEO_C	-.061†	-.015	-.100	-.279†	.061†	-.191
50-BRS_ES	.071	.007	.105	.157	-.001	-.104†
50-BRS_E	.185	.182	.154	.131	.040	-.024
50-BRS_I.S	-.073	-.126	-.020	.052	-.039	.045
50-BRS_A	.206	.068	.139	.252	.112	.158
50-BRS_C	-.246	-.313*	-.273*	.017†	-.167	-.008

Note. A = Attachment; B = Behavioral; C = Cognitive; D = Dominance; E = Emotional; S = Self; NEO = NEO Five Factor Inventory; NEO_N = Neuroticism; NEO_E = Extraversion; NEO_O = Openness to Experience; NEO_A = Agreeableness; NEO_C = Conscientiousness; 50-BRS = 50 transparent Bipolar Rating Scale; 50-BRS_ES = Emotional Stability, 50-BRS_E = Extraversion; 50-BRS_I.S = Intellect/Sophistication, 50-BRS_A = Pleasantness/Agreeableness; 50-BRS_C = Conscientiousness.

*. Correlation is significant at the 0.05 level (1-tailed).

†. Correlation was not predicted.

Table 9.

Associations between the CAPP-IRS and the Nomological Network of Factors at the Omnibus

Level

	CAPP-IRS Domains					
	A	B	C	D	E	S
Chi-Square	4.6451	45.1376	50.065	15.9557	3.1037	5.3481
df	9	19	13	10	19	16
Asymp. Sig						
(1-sided)	0.8641	0.0007	0.0000	0.1009	0.9999	0.9937
N	38	38	38	33	37	35

Note. A = Attachment; B = Behavioral; C = Cognitive; D = Dominance; E = Emotional; S = Self.

Table 10.

Bivariate Correlations between the CAPP-IRS and the Nomological Network of Factors

Measure	CAPP-IRS Domains					
	A	B	C	D	E	S
ASQ_Confidence	-.140	.059†	-.071	-.139†	-.060	-.202
ASQ_Discomfort	.103	.028†	.095	.077†	-.139†	.096†
ASQ_Relationships.as.Secondary	-.078	.031†	.120†	.170†	-.077	.102
ASQ_Need.for.Approval	-.054	-.039†	.156	.000†	-.036	-.006
ASQ_Preoccupation	.080	.065†	.193	.063†	-.043	.034
CFS	-.696**†	-.637**†	-.673**	-.448**†	-.503**†	-.389*†
MAAS	-.326*†	-.312*	-.436**	-.264†	-.314*†	-.387*†
PANAS.PA_wk	.072†	.310*	.273*	.244†	.107	.033†
PANAS.NA_wk	.054†	-.047	-.018†	-.132	.004	.004†
PANAS.PA _mos	.106†	.295*	.095	.094†	-.035	-.100†
PANAS.NA_mos	.041†	-.014	.094†	.049	.102	.063†
ANX/24	.032†	-.040†	.111†	.050†	.022	.085†
BOR/24	.140†	.049†	.172†	.064†	-.107†	.111†
ANT/24	.164†	.138†	.189†	.073†	-.150†	.004†
AGG/18	.309*†	.247	.303*†	.295*†	.093†	.123†
SUI/12	.047†	.126†	.066†	.076†	.023†	.164†
STR/8	.123†	-.076†	.060†	-.020†	-.012	.087†
RXR/8	.014†	.130	-.054†	-.069†	.093†	-.066†
DOM/12	.273*†	.488**†	.262†	.224	.149†	.134†
WRM/12	.053	.216†	.111†	.120†	.081†	.073†
ANX-C/8	-.055†	-.069	-.003	-.069†	-.034	.008†

(Table 10 continued)

Measure	CAPP-IRS Domains					
	A	B	C	D	E	S
ANX-A/8	.122[†]	-.044[†]	.184[†]	.100[†]	.062	.167[†]
BOR-A/6	.157[†]	.100[†]	.194[†]	.130[†]	.031	.133[†]
BOR-I/6	-.049[†]	-.156[†]	-.049[†]	-.129[†]	-.255[†]	-.084
BOR-N/6	.189	.183[†]	.208[†]	.089	.017[†]	.247[†]
BOR-S/6	.213[†]	.086	.265[*†]	.159[†]	-.119[†]	.128[†]
ANT-A/8	.294[*†]	.156	.281[*†]	.216[†]	-.037[†]	.129[†]
ANT-E/8	.139	.178[†]	.211[†]	.090[†]	.008	.029
ANT-S/8	.038[†]	.060	.059[†]	-.067[†]	-.278[*†]	-.118[†]
PPI_ME	.307[*†]	.323[*]	.330[*]	.194	.008[†]	.095
PPI_RN	.287[*†]	.282[*]	.302[*]	.158	-.070[†]	.150
PPI_BE	.122[†]	.170	.141[†]	-.042[†]	-.099	-.002
PPI_CN	.250[†]	.089	.232	.201[†]	-.005[†]	.272[†]
PPI_SOI	.192[†]	.509[**†]	.365[*†]	.356[*]	.136[†]	.128
PPI_F	.207[†]	.249	.273[*†]	.204[†]	-.015	.052
PPI_STI	.182[†]	.360[*]	.183[†]	.139[†]	.149	.080[†]
PPI_C	.165	.177[†]	.123[†]	.210	-.046	-.019[†]
PPI-R.TOTAL score	.242[†]	.351[*†]	.325[*†]	.286[*†]	-.058[†]	.094[†]
PPI_SCI factor	.286[*†]	.261	.321[*]	.167	-.062[†]	.125[†]
PPI_FD factor	.271[*†]	.530[**]	.393[**†]	.396[**]	.118	.113[†]
PPI_C factor	.165	.177[†]	.123[†]	.210	-.046	-.019[†]

Note. A = Attachment; B = Behavioral; C = Cognitive; D = Dominance; E = Emotional; S = Self; ASQ = Attachment Style Questionnaire; CFS = Cognitive Flexibility Scale; MAAS = Mindfulness Attention Awareness Scale; PANAS = Positive and Negative Affect Schedule; PANAS.PA_wk = Positive Affect past week; PANAS.NA_wk = Negative Affect past week; PANAS.PA_mos = Positive Affect past month; PANAS.NA_mos = Negative Affect past month; ANX/ 24 = Anxiety;

(Table 10 continued)

BOR/24 = Borderline Features; ANT/24 = Antisocial Features; AGG/18 = Aggression; SUI/12 = Suicidal Ideation; STR/8 =

Stress; RXR/8 = Treatment Rejection; DOM/12 = Dominance; WRM/12 = Warmth; ANX-C/8 = Cognitive Anxiety; ANX-

A/8 = Affective Anxiety; BOR-A/6 = Affective Instability; BOR-I/6 = Identity Problems; BOR-N/6 = Negative Relationships;

BOR-S/6 = Self Harm; ANT-A/8 = Antisocial Behaviors; ANT-E/8 = Egocentricity; ANT-S/8 = Stimulus Seeking; PPI-R=

Psychopathic Personality Inventory-Revised; PPI_ME = Machiavellian Egocentricity; PPI_RN = Rebellious Nonconformity;

PPI_BE = Blame Externalization; PPI_CN = Carefree Nonplanfulness; PPI_SOI = Social Influence; PPI_F = Fearlessness;

PPI_STI = Stress Immunity; PPI_C = Coldheartedness; PPI.TOTAL score = PPI-R total score; PPI_SCI factor = Self-

Centered Impulsivity factor; PPI_FD factor = Fearless Dominance factor; PPI_C factor = Coldheartedness factor.

*. Correlation is significant at the 0.05 level (1-tailed).

**. Correlation is significant at the 0.01 level (1-tailed).

[†]. Correlation was not predicted.

Table 11

Bivariate Correlations between the CAPP-IRS, the PPI-R, and the PAI_Antisocial Features scale

Measures	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. CAPP.IRS total score	--																
2. ANT/24	.152	--															
3. PPI-R total score	.291	.674**	--														
4. PPI.SCI_factor	.260	.799**	.828**	--													
5. PPI.FD_factor	.379*	.315*	.748**	.394**	--												
6. PPI.C_factor	.234	.220*	.621**	.343**	.392**	--											
7. PPI.ME	.327*	.720**	.811**	.918**	.461**	.396**	--										
8. PPI.RN	.292	.712**	.810**	.875**	.521**	.376**	.791**	--									
9. PPI.BE	.033	.494**	.507**	.682**	.166	.043	.546**	.486**	--								
10. PPI.CN	.201	.523**	.574**	.694**	.156	.423**	.503**	.551**	.305**	--							
11. PPI.SOI	.254	.116	.493**	.147	.824**	.134	.277*	.222*	.046	-.119	--						
12. PPI.F	.291	.658**	.738**	.721**	.614**	.370**	.640**	.774**	.425**	.494**	.189	--					

112

(Table 11 continued)

Measures	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
13. PPI.STI	.263	-.147	.301**	-.042	.674**	.340**	.080	.106	-.117	-.060	.498**	.135	--				
14. PPI.C	.234	.220*	.621**	.343**	.392**	1.000**	.396**	.376**	.043	.423**	.134	.370**	.340**	--			
15. ANT-A/8	.301*	.809**	.511**	.665**	.139	.220*	.594**	.569**	.343**	.541*	.002	.475**	-.209*	.220*	--		
16. ANT-E/8	.150	.763**	.569**	.604**	.351**	.212*	.652**	.537**	.403**	.256*	.189	.477**	.095	.212*	.416**	--	
17. ANT-S/8	-.012	.893**	.602**	.709**	.307**	.148	.574**	.660**	.473**	.464**	.112	.664**	-.203*	.148	.607**	.547**	--

Note. ANT/24 = Antisocial Features; PPI-R = Psychopathic Personality Inventory; PPI.SCI_factor = Self-Centered Impulsivity factor; PPI.FD = Fearless Dominance factor; PPI.C = Coldheartedness factor; PPI_ME = Machiavellian Egocentricity; PPI_RN = Rebellious Nonconformity; PPI_BE = Blame Externalization; PPI_CN = Carefree Nonplanfulness; PPI_SOI = Social Influence; PPI_F = Fearlessness; PPI_FD = Fearless Dominance; PPI_STI = Stress Immunity; PPI_C = Coldheartedness; ANT-A/8 = Antisocial Behaviors; ANT-E/8 = Egocentricity; ANT-S/8 = Stimulus Seeking.

*. Correlation is significant at the 0.05 level (1-tailed).

**. Correlation is significant at the 0.01 level (1-tailed).

113

Table 12.

Bivariate Correlations between the CAPP-IRS Domains, the PPI-R Total and Factor Scores, and the PAI_Antisocial Features Scale and Subscales

Measures	CAPP-IRS Domains					
	A	B	C	D	E	S
PPI-R total score	.242	.351*	.325*	.286*	-.058	.094
PPI.SCI_factor	.286*	.261	.321*	.167	-.062	.125
PPI.FD_factor	.271*	.530**	.393**	.396**	.118	.113
PPI.C_factor	.165	.177	.123	.210	-.046	-.019
ANT/24	.164	.138	.189	.073	-.150	.004
ANT-A/8	.294*	.156	.281*	.216	-.037	.129
ATN-E/8	.139	.178	.211	.090	.008	.029
ANT-S/8	.038	.060	.059	-.067	-.278*	-.118

Note. PPI-R = Psychopathic Personality Inventory; PPI.SCI_factor = Self-Centered Impulsivity factor; PPI.FD = Fearless Dominance factor; PPI.C = Coldheartedness factor;

PPI_ME = Machiavellian Egocentricity; ANT/24 = Antisocial Features; ANT-A/8 = Antisocial Behaviors; ANT-E/8 = Egocentricity; ANT-S/8 = Stimulus Seeking.

* Correlation is significant at the 0.05 level (1-tailed).

**. Correlation is significant at the 0.01 level (1-tailed).

114

Cognitive Flexibility Scale

Adapted for use by staff members of treatment facilities

The following statements deal with the patient's beliefs and feelings about their own behavior. Read each statement and respond by identifying what best represents your agreement with each statement as it pertains to the patient's communication style and habits.

Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
6	5	4	3	2	1

_____ 1. He/she can communicate an idea in many different ways.

_____ 2. He/she avoids new and unusual situations.

_____ 3. He/she feels like he/she never gets to make decisions.

_____ 4. In any given situation, he/she is able to act appropriately.

_____ 5. He/she can find workable solutions to seemingly unsolvable problems.

_____ 6. He/she acts as though he/she seldom has options to choose from when deciding how to behave.

_____ 7. He/she is willing to work at creative solutions to problems.

_____ 8. His/her behavior is a result of conscious decisions that he/she makes.

_____ 9. He/she realizes that there are many possible ways of behaving in any given situation.

_____10. He/she has difficulty using his/her knowledge on a given topic in real life situations.

_____11. He/she is willing to listen and consider alternatives for handling a problem.

_____ 12. He/she has the self-confidence necessary to try different ways of behavior.

* Items 2 3 6 10 are recoded

MacArthur Self-Harm Instrument

Adapted from the MacArthur Risk Assessment Study Baseline Interview

1. In the last six months, have you at all thought of hurting yourself?

0 = No *(discontinue)*
1 = Yes
7 = Refused
8 = NA
9 = Don't know

2. How often?

1 = Rarely
2 = Sometimes
3 = Often
4 = Almost always
7 = Refused
8 = NA
9 = Don't know

3. In the last six months, have you at all attempted to hurt yourself?

0 = No *(discontinue)*
1 = Yes
7 = Refused
8 = NA
9 = Don't know

3a How many times?

CODE NUMBER OF TIMES
96 = 96 or more
97 = Refused
98 = NA
99 = Don't know

4. How did you try to hurt yourself?

00 = No Valid Attempt
01 = Gun
02 = Knife / razor

03 = Pills / drugs / alcohol
04 = Hanging
05 = Suffocated
06 = Jump from high place
07 = Throw self in front of moving vehicle
08 = Starvation
09 = Fire / burning
10 = Drowning
11 = Vehicular suicide
12 = Other
13 = Gun and pills/drugs/alcohol
14 = Knife/razor and pills/drugs/alcohol
15 = Gun and other
16 = Knife/razor and other
17 = Pills/drugs/alcohol and other
18 = Other multiple
97 = Refused
98 = NA
99 = Don't know

5a Degree of Self-Harm Sought

0 = None *(go to 6.5c)*
1 = Injury (specify) *(go to 6.5c)*
2 = Death
7 = Refused
8 = NA
9 = Don't know

5ao1 Specify "injury" (6.5a choice 1)

CODE CONCISELY

5b Acts in Anticipation of Death

0 = None
1 = *Thought about* (specify)
2 = Made *definite plans* or completed arrangements (specify)

117

7 = Refused
8 = NA
9 = Don't know

5bo1 Specify "*thought about*" (6.5b - choice 1)

CODE CONCISELY

5bo2 Specify "*definitely planned*" (6.5b - choice 2)

CODE CONCISELY

5c Alteration / Manipulation of Environment as Goal

0 = None
1 = *Unclear or secondary* goal (specify)
2 = *Primary goal* (specify)
7 = Refused
8 = NA
9 = Don't know

5co1 Specify "*unclear/secondary*" (6.5c - choice 1)

CODE CONCISELY

5co2 Specify "*primary*" (6.5c - choice 2)

CODE CONCISELY

5d Degree of premeditation impulsive

0 = None
1 = Self harm contemplated for three hours or less prior to attempt
2 = Self harm contemplated for more than three hours prior to attempt
7 = Refused
8 = NA
9 = Don't know

5e Active preparation for attempt

	0 = None 1 = *Minimal to moderate* (specify) 2 = *Extensive* (specify) 7 = Refused 8 = NA 9 = Don't know
5eo1 Specify "*minimal to moderate*" (6.5e - choice 1)	CODE CONCISELY
5eo2 Specify "*extensive*" (6.5e - choice 2)	CODE CONCISELY
5f Self-Harm Note	0 = Absence of note 1 = Note written, but torn up; note thought about 2 = Presence of note 7 = Refused 8 = NA 9 = Don't know
5g Self Intervention	0 = No 1 = Yes 7 = Refused 8 = NA 9 = Don't know
5h Probability of Intervention	0 = Intervention was probable 1 = Intervention was not likely 2 = Intervention was highly unlikely 7 = Refused 8 = NA 9 = Don't know

5i Isolation

0 = Somebody present
1 = *Somebody nearby* or in visual or vocal contact (specify)
2 = *No one nearby* or in visual or vocal contact (specify)
7 = Refused
8 = NA
9 = Don't know

5io1 Specify "*somebody nearby*" (6.5i - choice 1)

CODE CONCISELY

5io2 Specify "*no one nearby*" (6.5i - choice 2)

CODE CONCISELY

5j Precautions against Discovery / Intervention

0 = No precautions
1 = *Passive precautions* (specify)
2 = *Active precautions* (specify)
7 = Refused
8 = NA
9 = Don't know

5jo1 Specify "*passive precautions*" (6.5j - choice 1)

CODE CONCISELY

5jo2 Specify "*active precautions*" (6.5j - choice 2)

CODE CONCISELY