

# **Investigating the Role of Boldness in the Conceptualization of Psychopathy**

**by**

**Dylan Thomas Gatner**

B.A. (Hons.), Simon Fraser University, 2013

Thesis Submitted in Partial Fulfillment of the  
Requirements for the Degree of  
Master of Arts

in the  
Department of Psychology  
Faculty of Arts and Social Sciences

**© Dylan Thomas Gatner 2015**

**SIMON FRASER UNIVERSITY**

**Summer 2015**

All rights reserved.

However, in accordance with the *Copyright Act of Canada*, this work may be reproduced, without authorization, under the conditions for "Fair Dealing." Therefore, limited reproduction of this work for the purposes of private study, research, criticism, review and news reporting is likely to be in accordance with the law, particularly if cited appropriately.

# Approval

**Name:** Dylan Thomas Gatner  
**Degree:** Master of Arts  
**Title:** *Investigating the Role of Boldness in the Conceptualization of Psychopathy*  
**Examining Committee:** Chair: Ralph Mistlberger  
Professor

**Kevin S. Douglas**  
Senior Supervisor  
Associate Professor

---

**Stephen D. Hart**  
Supervisor  
Professor

---

**Thomas A. Widiger**  
External Examiner  
Professor  
Department of Psychology  
University of Kentucky

---

**Date Defended/Approved:** July 2, 2015

---

## Ethics Statement



The author, whose name appears on the title page of this work, has obtained, for the research described in this work, either:

- a. human research ethics approval from the Simon Fraser University Office of Research Ethics,

or

- b. advance approval of the animal care protocol from the University Animal Care Committee of Simon Fraser University;

or has conducted the research

- c. as a co-investigator, collaborator or research assistant in a research project approved in advance,

or

- d. as a member of a course approved in advance for minimal risk human research, by the Office of Research Ethics.

A copy of the approval letter has been filed at the Theses Office of the University Library at the time of submission of this thesis or project.

The original application for approval and letter of approval are filed with the relevant offices. Inquiries may be directed to those authorities.

Simon Fraser University Library  
Burnaby, British Columbia, Canada

update Spring 2010

## **Abstract**

The Triarchic model of psychopathy (Patrick, Fowles, & Krueger, 2009) posits that psychopathic personality comprises three domains: boldness, meanness, and disinhibition. The present Master's thesis aimed to clarify the role of boldness (i.e., social dominance, venturesomeness, emotional resiliency) in the definition of psychopathy—a topic of recent debate. Undergraduate students ( $N = 439$ ) compared the lexical similarity of boldness, meanness, and disinhibition with two contemporary models of psychopathy: the Comprehensive Assessment of Psychopathic Personality (Cooke, Hart, Logan, & Michie, 2012) and the Five Factor Model of psychopathy (Widiger & Lynam, 1998). Participants also completed the Triarchic Psychopathy Measure (Patrick, 2010) and a variety of antisocial and prosocial outcomes. Boldness was generally rated as lexically unrelated to contemporary models of psychopathy. Boldness did not add incrementally to or interact with meanness and disinhibition in their associations with external criteria. These findings bear implications for our definition and assessment of psychopathy.

**Keywords:** Psychopathy; boldness, Triarchic model of psychopathy; CAPP; FFM of psychopathy; personality disorder

## Dedication

*I would like to dedicate this thesis to my mother and father who have sacrificed so many parts of their lives so that I could live mine to its fullest.*

## **Quotation**

“Whatever you can do, or dream you can, begin it. Boldness has genius, power, and magic in it” (W. H. Murray, 1951).

## **Acknowledgements**

I would like to thank my mentor and senior supervisor, Dr. Kevin Douglas. He took me into his research lab over 6 years ago and allowed me to fall down the rabbit hole of psychopathic personality disorder. The insight, teachings, and opportunities Dr. Douglas has provided have proved invaluable. There is no other person who has been more influential in my education.

Next, I would like to acknowledge Dr. Stephen Hart for his input on my thesis and classwork. He has helped me think about forensic psychology from a unique perspective that has been fundamental in my development as a graduate student. Working with Dr. Hart has been a great experience.

I would like to thank the entire Douglas research lab for creating a stimulating working and learning environment. Many thanks to Adam Blanchard who has been a great peer mentor during my time at Simon Fraser University. Of course, a final thanks to all my friends and family who support me unconditionally.

# Table of Contents

Approval.....	ii
Ethics Statement.....	iii
Abstract.....	iv
Dedication.....	v
Quotation.....	vi
Acknowledgements.....	vii
Table of Contents.....	viii
List of Tables.....	x
List of Figures.....	xi
<b>Chapter 1. Introduction.....</b>	<b>1</b>
Situating Boldness in the Historical Development of Psychopathy.....	2
Contemporary Models of Psychopathy.....	6
The Comprehensive Assessment of Psychopathic Personality.....	7
The Five-Factor Model of Psychopathy.....	10
Triarchic Model of Psychopathy.....	12
Current Study.....	17
Research Questions.....	20
<b>Chapter 2. Methods.....</b>	<b>23</b>
Participants.....	23
Measures and Materials.....	24
Lexical Similarity Ratings.....	24
Psychopathy Measure.....	26
Outcome Measures.....	26
Design and Procedure.....	34
Ethics Approval.....	34
Analysis.....	35
Data Analytic Strategy.....	35
Missing Data.....	37
Power Analysis.....	38
<b>Chapter 3. Results.....</b>	<b>39</b>
Research Question 1. Do boldness, meanness, and disinhibition show lexical similarity to the CAPP symptoms and FFM psychopathy facets?.....	39
Descriptive Statistics of CAPP Similarity Ratings.....	39
Research Question 2. Do boldness, meanness, and disinhibition show lexical similarity to the CAPP and FFM psychopathy domains?.....	46
Assessment of MANOVA assumptions.....	46
Covariates.....	47
Research Question 3. What is the agreement and consistency between previous CAPP prototypicality ratings and the current CAPP similarity ratings for boldness, meanness, and disinhibition?.....	50

Research Question 4. What is the relationship between boldness, meanness, or disinhibition and the outcome variables? .....	53
Descriptive Statistics .....	53
Assessment of Assumptions .....	56
Research Question 5. Does boldness add incrementally to established components of psychopathy in predicting a host of outcomes? .....	59
Assessment of Assumptions .....	59
Covariates .....	61
Research Question 6. Does boldness interact with meanness or disinhibition in their prediction of outcome variables? .....	65
<b>Chapter 4. Discussion</b> .....	<b>70</b>
Lexical Similarity of Boldness with Other Models of Psychopathy.....	70
Lexical Similarity for Meanness and Disinhibition .....	76
Relationship between CAPP – Triarchic Similarity Ratings and Previous CAPP Prototypicality Ratings .....	77
Findings in Light of the CAPP and FFM of Psychopathy .....	78
Relationships between Boldness, Meanness, and Disinhibition and the Outcome Variables .....	79
Limitations and Strengths .....	84
Implications .....	86
Future Directions.....	88
Conclusions .....	89
<b>References</b> .....	<b>91</b>
Appendix A. Robins Criteria for Sociopathic Personality Disorder .....	109
Appendix B. Online Research Participation System Recruitment Statement.....	110
Appendix C. FFM of Psychopathy Prototype Profile .....	111
Appendix D. Triarchic Domain Similarity Ratings with CAPP Symptoms.....	112
Appendix E. Triarchic Domain Similarity Ratings with FFM of Psychopathy Facets .....	116
Appendix F. Subject Information and Consent Form – Student (Online).....	119
Appendix G. Study Protocol (TriPM and Outcome Measures) .....	123

## List of Tables

Table 1.	Component Loadings for a Principal Component Analysis with Promax Rotation of the RB Scale.....	33
Table 2.	Descriptive Statistics of CAPP Symptom Similarity Ratings for Boldness, Meanness, and Disinhibition Groups.....	42
Table 3.	Descriptive Statistics of FFM Psychopathy Facet Similarity Ratings for Boldness, Meanness, Disinhibition Groups .....	45
Table 4.	Differences in Mean CAPP Domain and Foil Similarity Scores Between Boldness, Meanness, and Disinhibition Groups.....	49
Table 5.	Differences in Mean FFM Psychopathy Domain and Foil Similarity Scores Between Boldness, Meanness, and Disinhibition Groups.....	50
Table 6.	Psychometric Properties of the TriPM.....	54
Table 7.	Psychometric Properties of the Outcome Measures .....	55
Table 8.	Pearson Product Moment Correlations Between TriPM and Outcome Variables.....	58
Table 9.	Non-Parametric Spearman's Correlations Between TriPM and Outcome Variables.....	59
Table 10.	Standardized Beta Coefficients from Hierarchical Regression Analyses Predicting Antisocial Outcomes .....	62
Table 11.	Standardized Beta Coefficients from Hierarchical Regression Analyses Predicting BIS, RB, and DAST Scores .....	64
Table 12.	Standardized Beta Coefficients from Hierarchical Regression Analyses Predicting Prosocial Outcomes.....	65
Table 13.	Standardized Beta Coefficients for the Two-Way Interaction Terms between Boldness, Meanness, and Disinhibition .....	67

## List of Figures

Figure 1.	Mean CAPP Symptom Similarity Scores for the Boldness, Meanness, and Disinhibition Groups.....	40
Figure 2.	Mean FFM Facet Similarity Scores for the Boldness, Meanness, and Disinhibition Groups. ....	44
Figure 3.	Comparing Previous CAPP Prototype Ratings with Mean CAPP Symptom Similarity Scores for the Boldness, Meanness, and Disinhibition Groups. ....	52
Figure 4.	Interaction between Boldness and Meanness for BIS Total Scores. ....	68
Figure 5.	Interaction between Boldness and Meanness for BIS Motor Impulsiveness Scores. ....	69

## Chapter 1. Introduction

Though psychopathic personality disorder (psychopathy) has a deep and long-standing clinical history, the exact contemporary conceptualization of the disorder continues to be an issue of on-going contention. Currently, it is generally accepted that psychopathy is a superordinate clinical construct that comprises interpersonal, affective and behavioural deficits (Cooke & Michie, 2001). Characteristic symptoms include a lack of empathy, remorselessness, impulsivity, poor behavioural controls, and fearlessness (Hare, 2003; Patrick 2009). Psychopathy is moderately associated with increased violence and criminal recidivism (Douglas, Nikolova, Kelley, & Edens, 2015), and plays a central role in forensic risk assessment (Hart & Storey, 2013). Because of its importance in forensic mental health, psychopathy has been investigated extensively over the past several decades, and has become a mental disorder with a reliable and well-validated diagnosis. However, our definition of the construct can and should always be improved. Doing so can ameliorate our measures as the assessment of a psychological construct sits firmly (or vulnerably) upon its conceptualization (Clark & Watson, 1995). Moreover, such conceptual improvements can provide clarity between competing models of psychopathy.

Recently, several groups have evaluated the merits of incorporating *boldness* as a major domain in psychopathy's conceptual hierarchy. Boldness is defined as a "nexus of social dominance, emotional resiliency, and venturesomeness" (Patrick, Fowles, & Krueger, 2009, p. 913), and is one of three domains (i.e., boldness, meanness, and disinhibition) put forth by the Triarchic model of psychopathy (Patrick et al., 2009). The purpose of this Master's thesis is to investigate and address the importance of boldness within different conceptual models of psychopathy. Following a brief historical description and a review of the contemporary models of psychopathy, the lexical similarity between boldness and other psychopathic traits will be examined. Moreover, the relevance of boldness will be evaluated by examining its relationship with a variety of

prosocial and antisocial outcomes to determine if the construct leads to dysfunction—an expectation of personality disorder symptoms. It was anticipated that conducting this study would improve our understanding of the conceptualization of psychopathy.

## **Situating Boldness in the Historical Development of Psychopathy**

Although the influx of research in the area of psychopathy has spanned only the past 35 years, the origin of the construct dates back to the beginning of the 19<sup>th</sup> century. Pinel (1806) has often been recognized as the first to reference psychopathy as a form of mental disorder. His description of *manie sans délire*, or insanity without delirium, consisted of individuals who were wilful, in control of their thoughts, and had a strong tendency for violence (1806). Pinel provided a case example of an individual with reckless behaviour who attacked man and animal alike. This man was often in trouble with the law, but also able to lead a successful life until his confinement to Bicetre, a French psychiatric asylum. However, Pinel's description of psychopathy was in early stages of development, and it likely captured a broader array of psychopathology than contemporary conceptualizations (McCord & McCord, 1964). Not surprisingly, the construct would later begin to change its designation, specificity, and definition—a recurrent theme in the history of psychopathy.

Extending on the work of Pinel, Prichard used the term *moral insanity* which broadly captured psychopathy as well as other mental disorders (Schneider, 1958). Despite being lucid, those suffering from moral insanity had inherent personality deficits that undermined volitional control, and thus caused interpersonal conflict and violence. In contrast, Koch preferred the term *psychopathic inferiority*—encompassing a broad hierarchy of many personality disorders that he believed were congenital rather than deficits of moral development (Schneider, 1958). Similarly, Schneider (1923/1958) used the term *psychopathic personalities* to describe and capture all forms of personality disorder. Kraepelin also employed the term psychopathic personalities that focused on personality deficits and moral disengagement of individuals who were impulsive, deceitful, criminal, and without psychotic symptomology (Arrigo & Shipley, 2001). Additionally, much of the violence associated with psychopathy can be found in

Kraft-Ebbing's conceptualization which posited that excessive sadism was a central symptom (Shipley & Arrigo, 2001). These historical definitions and descriptions of psychopathy, albeit primitive, did not reference symptoms of boldness.

Contemporary conceptualizations of psychopathy have relied extensively on the work of Hervey Cleckley and his seminal book, *The Mask of Sanity* (1941). Cleckley worked in a private inpatient psychiatric hospital, and thus, his clinical description relied heavily on his observations of upper-middle class, Caucasian males. Cleckley created 16 criteria for psychopathy that were demonstrated through a number of clinical case studies. According to Cleckley, psychopathy included, *inter alia*, superficial charm, deceitfulness, insincere relationships, shallow emotional range, lack of remorse, impulsivity, poor judgment, and low anxiety. On the surface, psychopathic individuals appeared to function positively (i.e., masking their symptoms), but underneath, many interpersonal and affective deficits existed. Cleckley's work has been extremely influential in the development of measures and models of psychopathy, including the ascension of boldness in the conceptualization of the disorder.

The McCords (1964) also heavily influenced the definition of psychopathy. In their book, *The Psychopath: An essay on the Criminal Mind*, they concurred with the likes of Jenkins (1960) that psychopathy was a syndrome (i.e., a pattern of symptoms). Peripheral symptoms included narcissism, uncontrollable desires, impulsivity, and aggression. Two symptoms were considered necessary and distinguishing of other mental disorders: guiltlessness and an incapacity for love. The former could otherwise be considered a lack of remorse or honour, and was believed to be the cause of an underdeveloped sense of self. The latter consisted of coldness and isolation. Maslow (1954) also posited that an incapacity for love was a hallmark feature of psychopathy, and the McCords suggested it might be a direct causal mechanism for violent behaviour. Indeed, desertion, escape, robbery, conning, kidnapping, and murder were highlighted as problematic and violent behavioural indicators of psychopathy. In contrast to Cleckley (1941), there were few if not no references to boldness in the work of the McCords (1964).

The relationship between psychopathy and antisocial personality is also often disagreed upon (see Cooke, Hart, Logan, & Michie, 2012; Venables, Hall, & Patrick, 2014). For this thesis, I assume that antisocial, dissocial, psychopathic, and sociopathic personality disorder are different terms for the same construct (see DSM-5, American Psychiatric Association, 2013), but are measured, assessed, and operationalized distinctly. In her masterful work, *Deviant Children Grown Up*, Lee Robins (1966) examined the life course of those suffering from sociopathic personality disorder (sociopathy). Robins conducted a 30-year follow-up study of juvenile delinquents to describe the course, onset, severity, and problems associated with sociopathy in comparison to a control group (i.e., non-referred children). Using semi-structured interviews, participants were assessed on 19 criteria—which were variations of Cleckley’s criteria—for a diagnosis of sociopathy (see Appendix A). Four criteria stood out as distinguishing sociopathy from other disorders: poor marital history, use of aliases, impulsiveness, and vagrancy (i.e., extended travelling without planned employment). Again, these central symptoms do not appear to be captured by boldness. Robins’ work helped shape the Feighner criteria (Feighner et al., 1972) which set out the diagnostic criteria for antisocial personality disorder (APD) in the third edition of the Diagnostic Statistical Manual of Mental Disorders (DSM-III; American Psychiatric Association, 1980).

Despite its changing terminology, the different iterations of the DSM are inextricably linked to psychopathy. In the DSM-I (American Psychiatric Association, 1952), *sociopathic personality disturbance* included a subcategory known as *antisocial reaction* which mapped onto the Cleckleyian description of psychopathic personality (Robins, 1966). The diagnosis included such features as callousness, lack of loyalty, and chronic antisociality (Crego & Widiger, 2014a). In the DSM-II (American Psychiatric Association, 1968), *antisocial personality* included more of Cleckley’s symptoms such as poor frustration controls, selfishness, and an inability to learn from punishment. As noted above, the DSM-III (American Psychiatric Association, 1980) diagnostic criteria and definition of *antisocial personality disorder* (APD) were influenced by Robins and Feighner. This was, in part, because of a shift in the socio-political milieu that demanded improved reliability in the diagnosis of personality disorders (Crego &

Widiger, 2014a). Thus, nine items were created with specific and measurable criteria to describe the disorder.

During the same time period as the third and fourth editions of the DSM, the Psychopathy Checklist (PCL; Hare, 1980) and the Psychopathy Checklist-Revised (PCL-R; Hare, 1991, 2003) were initially developed as research tools for measuring psychopathy in prison settings. The PCL became the focal point of psychopathy research for the next quarter century (e.g., Hare, Hart, & Harpur, 1991; Hawes, Boccaccini, & Murrie, 2013; Salekin, Rogers, & Sewell, 1996; Skeem, Edens, Camp, & Colwell, 2004) and has been described as the gold standard for measuring psychopathy. Indeed, its popularity led many to confuse a measure (i.e., the PCL-R) as the single conceptual definition of psychopathy (Skeem & Cooke, 2010; cf. Hare & Neumann, 2010).

The PCL (Hare, 1980) and the PCL-R (Hare, 1991, 2003) combined symptoms such as cruelty and impulsive aggression (McCord & McCord, 1964), and most of the Cleckleyian description. However, it did not include Cleckley's descriptions of low anxiety or social efficacy which later became tenets of *boldness*. Drawing on these assertions of low anxiety, Lykken (1957) investigated the role of anxiety between psychopathic individuals of the primary variant (i.e., meeting Cleckleyian criteria), secondary variant (i.e., neurotic psychopathy), and control groups. He reported that primary psychopathy was associated with reduced anxiety and electrodermal hyporeactivity in relation to both the secondary psychopathy and control groups. This was later coined as "fearlessness" (Lykken, 1995)—an etiological mechanism of primary psychopathy. While the constructs fearlessness, low anxiety, and boldness were not included in the PCL-R, they were incorporated in other measures and models of psychopathy.

During the development of the DSM-IV (American Psychiatric Association, 1994), research had suggested that the PCL had greater specificity than and was adding incrementally to the DSM-III-R diagnosis of APD in predicting criminal recidivism (Crego & Widiger, 2014a). Thus, the DSM-IV criteria were intended to be changed to a closer version of the PCL (in fact a 10-item short version of the PCL was a potential candidate

for DSM-IV criteria). Ultimately, this movement fell short because a diagnosis of APD was deemed more appropriate for an array of clinical settings (i.e., not simply prisons). Instead, changes in the DSM-IV included a loosening of DSM-III criteria such that highly specific definitions were no longer included. Up to and including the DSM-IV, boldness was not included in the diagnostic criteria of antisocial personality or PCL-R psychopathy.

At present day, a diagnosis of APD in the DSM-5 (American Psychiatric Association, 2013) appears to remain consistent with the DSM-IV criteria. However, in the Emerging Models section of the DSM-5, an entirely new approach to diagnosing personality disorders was proposed. Briefly, the model considers personality disorders as dimensional variants of pathological personality traits of the Five Factor Model (FFM; McCrae & Costa, 1997). Thus, APD would be assessed based on functional impairment and maladaptive personality traits that are captured by Antagonism and Disinhibition. A diagnosis of APD would also include a specifier of psychopathic features. This specifier is defined by low anxiousness, low withdrawal, and high-attention seeking, or “by a bold interpersonal style that may mask maladaptive behaviors” (American Psychiatric Association, 2013, Alternative DSM-5 Model for Personality Disorders). This psychopathic specifier has clear conceptual overlap with the Triarchic definition of boldness (Skodol et al., 2011), and the two were strongly correlated in community and university samples ( $r \approx .5$  [Anderson, Sellbom, Wygant, Salekin, & Krueger, 2014]). However, the specifier was not strongly related to other aspects of psychopathy (Anderson et al., 2014). It is interesting that such a prominent nosological system would include such a narrow depiction of psychopathy when—as discussed below—there appears to be disagreement on the appropriate weight given to boldness between contemporary models of psychopathy.

## **Contemporary Models of Psychopathy**

The following section consists of a description of three contemporary models of psychopathy to provide an understanding of the role of boldness in each model. These models will be recounted as they form the basis of the lexical comparisons in the present study.

## The Comprehensive Assessment of Psychopathic Personality

The Comprehensive Assessment of Psychopathic Personality (CAPP; Cooke et al., 2012) is a concept map of psychopathy. It was developed, in part, because of confusion between the construct and measures of psychopathy, or as the CAPP authors so elegantly put, “such arguments confuse the map with the terrain” (p.242). Cooke and colleagues believed that without properly delineating psychopathy as a concept, so many of the contemporary questions (e.g., is psychopathy taxonic?) in the field would be poorly answered. Idiomatically, the authors refer to the CAPP as the Rosetta Stone of psychopathy—a concept map that encompasses all models, measures, and clinical descriptions of the personality disorder. The intention of the CAPP was to spur improved conceptualizations and measures of psychopathy (Cooke et al., 2012).

**CAPP assumptions.** There are 6 explicit assumptions to the development of the CAPP:

1. Personality disorders should involve pathological traits rather than social deviance (e.g., criminal offences).
2. Symptoms should be described in their most basic forms (e.g., not compounding or combining traits).
3. As per Goldberg’s (1993) lexical hypothesis, symptoms of personality disorder should be encoded in human language.
4. Symptoms of personality disorder can change.
5. Basic symptoms of personality disorder can be grouped together into broad clusters.
6. The CAPP erred on the side of over-inclusiveness when selecting symptoms (i.e., if the relevance of a symptom vis-à-vis psychopathy was unclear, it was included).

**CAPP stages of development.** The first stage of development was to derive symptoms from a literature review using a bottom-up approach. That is, instead of

relying on their own conceptualization of psychopathy, the authors examined multiple sources including diagnostic criteria (e.g., Psychopathy Checklist-Revised; Diagnostic and Statistical Manual of Mental Disorders), clinical descriptions (e.g., Cleckley; the McCords), and prominent researchers' conceptualizations (e.g., Lykken [1957]; Blackburn [1998]). The second step was to interview 29 experts who researched or had significant clinical experience with people suffering from psychopathy. The experts were asked open-ended questions and asked to describe their level of agreement with the symptoms derived in stage 1. Based on the experts' responses, symptoms were added and adjusted. The third step was to synthesize all the overlapping traits of psychopathy and define a final list of primary symptoms into non-technical adjectives or adjectival phrases. To do so, the authors originally worked independently consulting dictionaries and thesauruses. Although agreement was high between authors, symptoms with low agreement were discussed as a group and adjusted when necessary. Ultimately, the CAPP included 33 symptoms, each with 3 synonymous adjectives or adjectival phrases (e.g., Lacks Pleasure: Pessimistic, Gloomy, Unenthusiastic).

**CAPP domains.** Using a rational approach (i.e., with reason and logic rather than statistics), the 33 symptoms were divided into 6 domains which showed similarities to domains of general personality functioning (e.g., Big 5, and the 6-factor model) (Cooke et al., 2012). The domains were labelled *Attachment*, *Dominance*, *Behavioural*, *Cognitive*, *Self*, and *Emotional*. The Attachment domain comprises poor interactions with others and includes such symptoms as detached, uncommitted, and unempathic. The Dominance domain comprises challenges with interpersonal control and includes such symptoms as antagonistic, manipulative, and insincere. The Behavioural domain comprises disruptions in and problems with goal setting behaviour, and includes such symptoms as unreliable, restless, and aggressive. The Cognitive domain comprises poor dexterity of thought and includes symptoms such as suspicious, inflexible, and lacks concentration. The Self domain comprises difficulties with one's identity and includes such symptoms as self-justifying, self-centered, and sense of entitlement. The Emotional domain comprises a lack of normative affect and includes such symptoms as lacks remorse, lacks emotional depth, and lacks anxiety (Cooke et al., 2012). An additional nine foil symptoms were also added peripherally to the CAPP because they were unrelated to psychopathy.

**Validation of the CAPP.** The CAPP is currently in early stages of validation. One major approach to validation has been the use of prototypicality studies. That is, how much do the symptoms of the CAPP represent the ideal or best exemplar of psychopathy? The underlying assumption of prototype theory being that objects—physical or ideal—do not fall into discrete categories, but rather, they are considered to be something when they are similar to the prototype (Rosch, 1999). Thus, the membership of an object, or lack thereof, to any group or category is inherently fuzzy (Osherson & Smith, 1981). Among mental health professionals, most of the CAPP symptoms were considered prototypical of psychopathy, with the Self, Attachment, and Dominance domains being most prototypical (Hoff, Rypdal, Mykletun, & Cooke, 2012; Kreis, Cooke, Michie, Hoff, & Logan, 2012; Sörman et al., 2014). However, symptoms such as lacks pleasure, unstable self-concept, and lacks concentration had low prototypicality ratings. Consistent with mental health professionals, laypeople also rated the CAPP as prototypical of psychopathy (Flóres et al., 2014; Hoff et al., 2012; Smith, Edens, Clark, & Rulseh, 2014).

According to the lexical hypothesis, the content validity of a model can be tested by comparing its cross-language consistency (Saucier & Goldberg, 2001). If traits exist in a variety of languages, then this strong degree of linguistic representation corresponds with the importance of those attributes (Saucier & Goldberg, 2001). Initial evidence supports the cross-language consistency of the CAPP. Hoff and colleagues (2014) compared prototypicality ratings of English speaking and Norwegian speaking mental health professionals. Although four differences existed at the symptom level (e.g., reckless rated more prototypical in the English version), the CAPP was fairly consistent between Norwegian and English versions (Hoff et al., 2014). Similarly, the Spanish version of the CAPP was consistent with the prototypicality findings of the Norwegian and English versions (Flóres, et al., 2014). All six domains have appeared to keep the same shape and strength of associations across languages suggesting that, at a broad level, the model is adequately representing psychopathy.

**CAPP Measures.** The Comprehensive Assessment of Psychopathic Personality: Institutional Rating Scale (CAPP-IRS) and Staff Rating Form (CAPP-SRF) are 33-item measures that parallel the CAPP concept map. For the CAPP-IRS,

behavioural indicators and trait descriptions are provided to the assessor for each CAPP symptom. The presence of each symptom is rated on the basis of file review and a semi-structured interview with the client. Similarly, the assessor will also get staff members in the relevant institution to make similar ratings on the CAPP-SRF based on observations and understanding of the client. An amalgamation of these two sources facilitates ratings of functional impairment and symptom extremity. Although the intention is that the CAPP-IRS and CAPP-SRF are to be completed in tandem, the staff rating scale can be used alone if an interview cannot be conducted. Lifetime and community CAPP rating scales have also been developed.

Again, there is preliminary support for the CAPP measures as the IRS domains have shown moderate associations with normal personality facets (Nikolova, 2009). In an offender sample, strong positive correlations were reported with other measures of psychopathy (e.g., PPI; PCL-R; and Self Report Psychopathy Scale [SRP-II; Paulhus, Hemphill, & Hare, in press]) suggesting good convergent validity (Sandvik et al., 2012). Using file information only, the CAPP-IRS demonstrated the same ability as the PCL: SV to predict both violent and non-violent recidivism for forensic psychiatric patients released into the community (Pedersen, Kunz, Rasmussen, & Elsass, 2010). Thus, it appears the CAPP has a flourishing base of research supporting its content and convergent validity, but clearly more research is needed to better establish the model and its associated measures.

## **The Five-Factor Model of Psychopathy**

Personality disorders have always been among the most controversial areas of psychopathology (Millon, 2009). Debate over whether personality disorders should be conceptualized categorically or dimensionally has dated back to the DSM-III (e.g., Widiger, 1993). The categorical structure assumes that those with a particular personality disorder are qualitatively distinct from those without the disorder. In contrast, the dimensional approach assumes that personality disorders are an amalgamation of extreme but normative personality traits. Recently, this dimensional approach has gained momentum (see Widiger & Costa, 2013; American Psychiatric Association, 2013). Although Jenkins (1960) suggested that psychopathy manifested itself as an

extreme presentation of normative personality, it was only recently that such a model was explicitly proposed.

***Development of the FFM of Psychopathy.*** Widiger and Lynam (1998) translated the PCL-R criteria into the language of the FFM of personality (McCrae & Costa, 1997). Briefly, the FFM is the most widely accepted model of personality (McCrae & Costa, 2013), and is based on numerous factor analyses which produced five broad, dimensional domains of personality: Openness (i.e., being imaginative and less rigid), Conscientiousness (i.e., being purposeful and less laid back), Extraversion (i.e., being cheerful and less solitary), Agreeableness (i.e., being honest and less antagonistic), and Neuroticism (i.e., being scared and less stable) (McCrae & Costa, 2013). Each domain can be further parsed into five facets. Widiger and Lynam (1998) decided that low Agreeableness captured many of the interpersonal and affective deficits of the PCL-R (Hare, 1991). Many of the PCL-R impulsivity and antisocial deficits were captured primarily by low Conscientiousness (Widiger & Lynam, 1998). The FFM psychopathy approach was also developed using a prototypicality approach. Experts of psychopathy were asked to make ratings for all 30 facets of the FFM on the extent they described the prototypical psychopath (Miller, Lynam, Widiger, & Leukefeld, 2001). The experts believed the prototypical psychopath was low on all facets of agreeableness, and several facets of conscientiousness and neuroticism. The prototypical psychopath was also rated high on the following individual facets: actions, competence, excitement seeking, assertiveness, and impulsiveness.

Using a more statistical and analytic approach, meta-analytic studies have also suggested that Agreeableness and Conscientiousness show moderate negative correlations with measures of psychopathy, whereas Neuroticism and Extraversion, and were only weakly related to psychopathy (Lynam & Derefinko, 2006). A similar pattern of findings was reported across studies examining the FFM and psychopathic personality disturbance in youth (Lynam, 2010). At the facet level, Angry-Hostility, Impulsiveness, and Sensation Seeking were positively associated with psychopathy, whereas Warmth was negatively correlated with psychopathy<sup>1</sup> (Decuyper, De Pauw, De

<sup>1</sup> All facets of Agreeableness and Openness were also negatively associated with psychopathy.

Fruyt, De Bolle, & De Clercq, 2009). FFM psychopathy (as measured by the Revised NEO Personality Inventory [NEO-PI-R; Costa & McCrae, 1992]) was associated with a variety of externalizing problems (e.g., drug use; risky sex; aggression) among undergraduate students (Miller & Lynam, 2003) and drug users. Moreover, for the drug users, FFM psychopathy was also correlated with other cluster B personality disorders (i.e., erratic, dramatic, and emotional disorders) (Derefinko & Lynam, 2007). In an at-risk sample, the Levenson Self-Report Psychopathy Scales (LSRP; Levenson, Kiehl, & Fitzpatrick, 1995) was positively correlated with FFM psychopathy (Miller et al., 2001). Much like the CAPP, there is initial support for the validity of the FFM of psychopathy.

## **Triarchic Model of Psychopathy**

The Triarchic Model of Psychopathy was developed because of a number of debatable issues concerning the conceptualization and operationalization of psychopathy (Patrick et al., 2009). These debates included, but were not limited to, whether the personality disorder has a dimensional or categorical structure, whether antisocial behaviour is a consequence or symptom of psychopathy, whether “successful” psychopathy exists, and whether the self-report assessment of psychopathy is a useful undertaking.

***Development of the Triarchic Model.*** The developmental process of the Triarchic model is less explicit than the CAPP, however, Drislane and Patrick (2014) have described that the model was derived from several historic and contemporary sources. Historic sources included Kraepelin (1904), Schneider (1934), Lykken (1957, 1995), Hare (1965), and Pinel (1962). However, Patrick and colleagues (2009) believed it was important to contrast the McCords (1964) against Cleckley as the two predominant descriptions of psychopathy (i.e., criminal psychopathy vs. socially adept individuals who harm others unintentionally). Ultimately, Patrick and colleagues (2009) described and compared most contemporary measures of psychopathy (e.g., PCL-R, Psychopathic Personality Inventory [PPI; Lilienfeld & Andrews, 1996]) in the context of their overlap with Cleckley’s description. Moreover, the authors argued that Cleckley’s 16 criteria could be divided into three broad domains: behavioural, affective/interpersonal deficits, and positive adjustment (Patrick, 2006).

Consequently, the Triarchic model of psychopathy was developed as a conceptual model that comprises three major phenotypic (i.e., observable traits) constructs: *meanness*, *disinhibition*, and *boldness* (Drislane & Patrick, 2014; Patrick et al., 2009). Meanness entails poor empathy, contempt for others, and cruelty (Patrick et al., 2009). It is derived from the McCord's (1964) description of guiltlessness and lovelessness, the Coldheartedness factor from the PPI (Lilienfeld & Widows, 2005), and several PCL-R items (Hare, 1991, 2003) such as callous/lack of empathy, shallow affect, and lack of remorse or guilt. Meanness has demonstrated positive associations with Machiavellianism and deficits in empathy—traits associated with psychopathy (Sellbom & Phillips, 2013).

Disinhibition includes impulse control problems, poor planning, and impulsiveness (Patrick et al., 2009). It is derived from references to secondary psychopathy (Karpman, 1941; Lykken, 1957), the Impulsive-Antisocial factor of the PCL-R (Hare, 1991, 2003), and the Self-Centered Impulsivity factor of the PPI (SCI; Lilienfeld & Widows, 2005). Disinhibition is associated with impulsivity and reward sensitivity (Sellbom & Phillips, 2013). Although central to psychopathy, the Triarchic model states that disinhibition, on its own, is insufficient for a diagnosis of psychopathy and requires the presence of at least another Triarchic domain (Drislane, Patrick, & Arsal, 2014).

Boldness is the nexus of social dominance, self-assurance, and an ability to remain calm in stressful situations (Patrick et al., 2009). It is derived from such sources as Cleckley's (1976) criteria (e.g., superficial charm and good intelligence; absence of delusions and other signs of irrational thinking; suicide rarely carried out), the role of the behavioural inhibition system (Fowles, 1980), and Lykken's fearlessness (1995). The PPI (Lilienfeld & Andrews, 1996) and its revision (PPI-R; Lilienfeld & Widows, 2005) included fearlessness as a focal point in their test constructions, and factor analyses have revealed a higher-order factor labeled Fearless Dominance (FD; Benning, Patrick, Hicks, Blonigen, & Krueger, 2003). FD has correlated negatively with *fearfulness* (Benning, Patrick, Hicks Blonigen, & Krueger, 2005) and negative emotionality—a construct that encompasses stress reaction (Marcus, Fulton & Edens, 2013). Because of their considerable conceptual overlap, FD is perhaps most influential in the development of boldness. However, boldness is considered a phenotypic expression of

a person's temperamental "fearlessness" (Patrick et al., 2009). Empirically, FD and boldness have been correlated strongly ( $r \approx .8$ ) (Patrick, 2010; Sellbom & Phillips, 2013), whereas meanness and disinhibition have been unrelated to FD (Stanley, Wygant, & Sellbom, 2013). Lilienfeld and colleagues (2012) have noted that PPI FD is an operationalization of boldness. For the purposes of this study, FD and boldness will be considered isomorphic, and the term boldness will be used henceforth. Boldness is associated with low anxiety, narcissism, and risk-taking (Sellbom & Phillips, 2013).

***Triarchic Measures.*** The Triarchic Psychopathy Measure (TriPM; Patrick, 2010) is a self-report measure consisting of three predetermined scales that index meanness, disinhibition, and boldness (for more detail see the Methods section). The Meanness scale is derived from the callous aggression subfactor of the Externalizing Spectrum Inventory (ESI; Krueger, Markon, Patrick, Benning, & Kramer, 2007), whereas the Disinhibition scale is derived from the overarching externalizing subfactor of the ESI (Patrick, 2010). The Boldness scale (Patrick, Vaidyanathan, Benning, Hicks, & Kramer, 2010) was designed to measure and refine PPI FD (Patrick, 2010). Others have also used all the PPI-R higher-order factors (i.e., FD, SCI, and Coldheartedness) as direct corollaries to boldness, disinhibition, and meanness, respectively (Marcus & Norris, 2014). Using a consensus-rating approach, particular items from the PPI and its revised edition were selected to develop self-report scales that index the TriPM scales (Hall et al., 2014). The PPI-derived index scales have demonstrated strong correlations with the TriPM (Patrick, 2010), other measures of psychopathy, and theoretically related constructs (e.g., harm avoidance; aggression; APD), although, as described below, there is controversy over the extent to which boldness is related to measures of psychopathy or meaningful psychopathy-related external correlates. A similar approach used the Multidimensional Personality Questionnaire (Tellegen, 1982) to validate Triarchic psychopathy scales (Brislin, Drislane, Smith, Edens, & Patrick, 2015).

***Triarchic Validation.*** Factor analyses of the TriPM in conjunction with other self-report measures of psychopathy have yielded three factors that corresponded closely with boldness, meanness, and disinhibition in both offender and non-clinical populations (Marion et al., 2013; Sellbom & Phillips, 2013). Also, the TriPM scales added incrementally to the short form of the PPI in its association with FFM personality

traits among offenders (Stanley et al., 2013). Generally, meanness and disinhibition have shown moderate correlations with comprehensive measures of psychopathy (e.g., the PCL-R) and self-report measures of psychopathy (e.g., PPI; SRP) (Drislane et al., 2014). However, the overlap between boldness and other measures of psychopathy has been less consistent (Drislane et al., 2014). Unsurprisingly, PPI FD has been strongly correlated with boldness. However, boldness has demonstrated only small associations with the interpersonal and antisocial facets of the PCL-R (Patrick, 2010). Furthermore, boldness has shown poor convergence and is uncorrelated with the LSRP (Levenson et al., 1995) and youth measures of psychopathic disturbance (e.g., Antisocial Process Screening Device [Frick & Hare, 2001]) among undergraduate students (Drislane et al., 2014).

The Triarchic model has also been compared to the different variations of the FFM of personality (McCrae & Costa, 1997). Meanness was correlated with low agreeableness, low conscientiousness (Poy, Segarra, Esteller, López, & Moltó, 2014), and low openness (Stanley, Wygant, & Sellbom, 2013). Similarly, disinhibition was correlated with low agreeableness and low conscientiousness, but also with high neuroticism. With respect to boldness, it was correlated with low neuroticism and low agreeableness (Poy et al., 2014), as well as high extraversion (Stanley et al., 2013). Interestingly, boldness was also positively correlated with conscientiousness (Poy et al., 2014), a finding incongruent with the FFM conceptualization of psychopathy. As is the case with the FFM of psychopathy (Widiger & Lynam, 1998), low agreeableness appears to be critical to all the Triarchic domains of psychopathy. This pattern has also been established in the context of maladaptive FFM traits, as Antagonism—an opposing manifestation of agreeableness—was positively associated with boldness, meanness, and disinhibition among a community sample (Strickland, Drislane, Lucy, Krueger, & Patrick, 2013).

***Boldness debate.*** To summarize, meanness and disinhibition have been well received within the research community as central domains of psychopathy, whereas the relevance of boldness in the conceptualization of psychopathy has been criticized. Miller and Lynam (2012) conducted a meta-analysis and reported that boldness showed its strongest associations with prosocial constructs and its weakest associations with

antisocial constructs. Consequently, they concluded that boldness is a nonsufficient and unnecessary component of psychopathy. Moreover, Marcus and colleagues (2013) found that boldness was weakly associated with most measures of psychopathy.

In contrast, Lilienfeld and colleagues (2012) noted that prosocial or adaptive traits have been included in early clinical descriptions of psychopathy, and that personality disorders can be associated with both dysfunctional and prosocial behaviours. The implication being that boldness does not require associations with maladaptive behaviours because it is only one of three components of psychopathy. Additionally, Lilienfeld and colleagues (2012) argued that boldness was strongly associated ( $r = .46 - .57$ ) with the SRP (Paulhus et al., in press) and Elemental Psychopathy Assessment (Lynam et al., 2011)—two self-report measures of psychopathy. The moderate positive correlations between boldness and other theoretically relevant constructs (e.g., narcissism, sensation-seeking) were also highlighted (Lilienfeld et al., 2012). Further, Patrick, Venables, and Drislane (2013) noted that boldness was correlated with an index of the FFM psychopathy prototype ( $r = .50$ ) and was crucial in distinguishing psychopathy from APD. That is, boldness has added incrementally to meanness and disinhibition in predicting PCL-R but not APD scores (Venables, Hall, & Patrick, 2014; Wall, Wygant, & Sellbom, 2015). Similarly, boldness was found to be important in differentiating subtypes of psychopathy (i.e., primary vs. secondary) in a community sample (Drislane et al., 2014). Thus, it has been argued that boldness is relevant to the nomological network and conceptualization of psychopathy (Lilienfeld et al., 2012, Patrick et al., 2013). To date, this conceptual argument remains unresolved (Douglas et al., 2015).

Unfortunately, there has been very little published research on the relationship between Triarchic boldness and the CAPP—a topic that could help improve both models. Edens and colleagues (2013) examined the prototypicality of boldness in the context of psychopathy. The authors reported that among American jurors, boldness—defined as socially bold, adventurous, and emotionally stable—was rated moderate to low in CAPP prototypicality. However, Swedish forensic psychiatric staff members gave stronger prototypicality ratings of boldness ranging from moderate to high. In a Canadian community sample, scores on TriPM boldness were unrelated to most of the

CAPP domains in relation to meanness and disinhibition (Cook et al., 2013). Specifically, although boldness was moderately correlated with the CAPP behavioural domain ( $r = .40$ ), it was unrelated or showed small negative correlations with the remainder of the CAPP domains. A similar pattern of results emerged among university students from the Netherlands (Cook, Hart, Van Dongen, van Marle, & Viljoen, 2013). In contrast to the proponents of boldness in conceptualization of psychopathy, these findings suggested that boldness was not representing many of the key features of this personality disorder.<sup>2</sup>

## Current Study

The purpose of this Master's thesis was to examine some of the unanswered questions pertaining to boldness and its role in the conceptualization of psychopathy. Examining the importance of boldness in the definition of psychopathy and its observed effects with other components of psychopathy can help inform how clinicians and scholars should think about the etiology, manifestation, and treatment of the disorder. Consequently, it is important to clarify whether boldness is a sufficient and necessary aspect of psychopathy, whether boldness is a specifier of psychopathy, or whether boldness is merely unassociated with psychopathy. As previously mentioned, boldness is not explicitly referenced in the PCL-R, but it is an important component of the Triarchic measures and the DSM-5 psychopathic features specifier. Better understanding of the role of boldness in psychopathy has implications for the assessment of the disorder. Ultimately, "We cannot study what we cannot describe and... we cannot study what we cannot measure...[we should] try and describe the phenomenon that we're interested in *and then* develop measures to study it" (Cooke, 2011, personal communication).

First, to help understand if boldness is a central and necessary component of psychopathy, its lexical agreement with models of psychopathy was examined.

<sup>2</sup> This interpretation assumes the CAPP is an adequate, or more accurate, explication of psychopathy. Although this assumption is not necessarily correct, as mentioned above, the CAPP was overly inclusive in its selection of symptoms of psychopathy. Thus, a lack of association with the CAPP is fairly strong evidence for poor content validity.

Specifically, university students rated the lexical similarity of the Triarchic model with the CAPP and FFM models of psychopathy. The lexical hypothesis suggests that phenotypic personality attributes should be understood by a layperson (Saucier & Goldberg, 1996). Laypeople are a suitable population for this line of research because they are unlikely to have stake in, or preconceived notions of, the role of boldness in the conceptualization of psychopathy. Within a language, the greater degree of lexical similarity with other traits suggests a greater importance of that particular attribute (Saucier & Goldberg, 2001). In contrast, lexical similarity with a single adjective is considered relatively weak evidence as opposed to an aggregated cluster of words that can create a cohesive lexical factor. Therefore, understanding the lexical agreement between boldness, meanness, and disinhibition with different models of psychopathy was considered helpful for evaluating the importance of these personality clusters. For instance, rating boldness as highly similar to a large proportion of CAPP traits would support the role of boldness as a major component of psychopathic personality. Additionally, this lexical strategy could aid future attempts to study psychopathy across multiple models by establishing a systematic understanding of how similar the Triarchic components correspond with the differing terminology of competing models (e.g., CAPP; FFM of psychopathy). That is, in addition to a researcher's own conceptual reasoning, he or she may rely upon the current study to discuss similarities between models of psychopathy that are based on the consensus of a group (i.e., not a single individual). For instance, a researcher might decide that Triarchic meanness and FFM low compliance are related, and the present study could be used as evidence to support or negate this claim.

Second, the association between boldness and a variety of outcomes was measured to understand its role in psychopathy. Outcome variables were selected to form a nomological network of psychopathy on the basis of their established theoretical and empirical ties to psychopathic personality. In the present study, these outcome variables included violence, victimization, substance abuse, and impulsivity (see the Measures section for more details). The associations were examined at both a bivariate and a multivariate level. Specifically, the incremental value of boldness was tested in predicting outcomes above and beyond previously established domains of psychopathy (i.e., meanness and disinhibition).

Several scholars have also noted the importance of investigating the interactive effect of boldness with meanness or disinhibition in their association with a variety of outcome variables (Drislane et al., 2014; Smith, Edens, & McDermott, 2013; Stanley et al., 2013). Initial interactions have been reported between indices of boldness and disinhibition in predicting predatory aggression (Smith et al., 2013) and sexual attitudes (Marcus & Norris, 2014). Nonetheless, further investigation is needed to elucidate if psychopathy should be considered as a compound trait (Lilienfeld & Widows, 2005) rather than a hierarchy of interconnected personality clusters. Thus, in the present study such interactions were analyzed to determine if boldness had a synergistic effect with other components of the Triarchic model of psychopathy (i.e., meanness; disinhibition). That is, did the interactions between boldness, disinhibition, and meanness account for greater variance of a diverse set of outcomes in comparison to their main effects? This research question can help answer if boldness shows any relationship with maladaptive criteria, albeit in an indirect pathway.

The range and diversity of outcomes in boldness research—and all areas of psychopathy research—has been problematic. Specifically, the focus has been predominantly on a subset of extremely harmful behavioural outcomes (e.g., violence, suicide, and substance dependence). Although these variables have obvious clinical importance, a personality disorder can affect many aspects of life and lead to “clinically significant distress or impairment in social, occupational, or other important areas of functioning” (American Psychiatric Association, 2013, General Personality Disorder). In light of research suggesting boldness has shown weak associations with serious antisocial behaviour (Miller & Lynam, 2012; Marcus et al., 2013), it was deemed necessary to examine boldness in the context of less serious, but still harmful outcomes. In the present study, these outcomes included minor antisocial behaviour (e.g., social aggression; rule-breaking), risky behaviour (e.g., driving under the influence), and organizational deviance (i.e., negative behaviour at school or the workplace). Moreover, given the reported positive associations between boldness and healthy outcomes (Miller & Lynam, 2012), in the present study, the role of boldness was also examined in the context of such outcomes as social and emotional functioning as well as prosocial behaviour (e.g., helping; sharing; empathy). By investigating these prosocial outcomes, a comprehensive view of the problems and benefits associated with boldness could be

evaluated. Consequently, it was hoped that conclusions could be drawn about the total net effect of boldness.

## **Research Questions**

To summarize, the purpose of the current study can be broken down into six explicit research questions:

**Research Question 1.** Do boldness, meanness, and disinhibition show lexical similarity to the CAPP symptoms and FFM psychopathy facets? For the CAPP, I hypothesized that boldness would be rated as similar to Domineering, Lack of Anxiety, and Sense of Invulnerability. I also expected that meanness would be rated as similar to Lacks Remorse, Antagonistic, Detached, Unempathic, Uncaring, Disruptive and Insincere. For disinhibition, I expected similarity between Lacks Emotional Stability, Unreliable, Reckless, Disruptive, Aggressive, Intolerant, and Lacks Planfulness.

For the FFM of psychopathy I hypothesized that boldness would be rated as similar to Assertiveness, Excitement-Seeking, Actions, Low Anxiety, and Low Vulnerability. For meanness, I expected similarity with Angry/Hostility, Low Warmth, Low Feelings, Low Altruism, and Low Tendermindedness. For disinhibition, I expected similarity with Angry/Hostility, Impulsiveness, Low Warmth, Low Deliberation, Low Dutifulness, and Low Self-Discipline.

**Research Question 2.** Do boldness, meanness, and disinhibition show lexical similarity to the CAPP and FFM psychopathy domains? For the CAPP domains, I hypothesized that boldness would not be rated highly similar to any domain because it appears to show lexical similarity to only several symptoms that belong to different domains. I hypothesized that meanness would be rated as similar to the Emotional, Attachment, and Dominance domains. For disinhibition, I hypothesized ratings of similarity with the Cognitive and Behavioural Domains. Based on the work of Poy and colleagues (2014), for the FFM of psychopathy, I hypothesized that boldness would be similar to Neuroticism, whereas disinhibition and meanness would be rated similar to Low Conscientiousness and Low Agreeableness. Additionally, it was hypothesized that

boldness would show higher ratings of similarity to the CAPP and FFM foils than meanness and disinhibition.

**Research Question 3.** What is the agreement and consistency between previous CAPP prototypicality ratings and the current CAPP similarity ratings for boldness, meanness, and disinhibition? The aforementioned historical review of psychopathy highlighted a dearth of references to boldness whereas meanness and disinhibition have been prominent domains over the historical development of psychopathy. Thus, it was hypothesized that CAPP similarity ratings for boldness would show the least consistency and weakest agreement with previous CAPP prototypicality ratings in comparison to the CAPP similarity ratings for meanness and disinhibition.

**Research Question 4.** What is the relationship between boldness, meanness, or disinhibition and the outcome variables (e.g., severe violence; prosocial functioning; substance use; impulsivity; risky behaviour)? It was hypothesized that boldness would show a divergent pattern of associations with the outcome criteria in comparison to meanness and disinhibition given previous findings (see Miller & Lynam, 2012). Specifically, boldness would be related to prosocial outcomes and unrelated to antisocial outcomes. Conversely, meanness and disinhibition would be negatively correlated with prosocial outcomes but positively correlated with antisocial outcomes.

**Research Question 5.** Does boldness add incrementally to established components of psychopathy (i.e., meanness and disinhibition) in predicting a host of outcomes (e.g., severe violence; prosocial functioning; substance use; impulsivity; risky behaviour)? It was hypothesized that boldness would not add incrementally to meanness and disinhibition because of the expectation that at the bivariate level boldness would be unrelated to antisocial outcomes and positively associated with prosocial outcomes—a pattern of associations that is inconsistent with meanness and disinhibition.

**Research Question 6.** Does boldness interact with meanness or disinhibition in their prediction of outcome variables (e.g., severe violence; prosocial functioning; substance use; impulsivity; risky behaviour)? Given the findings of Smith and

colleagues (2013) and Marcus and Norris (2014), it was hypothesized that boldness would interact with disinhibition in their association with violent outcomes. No findings exist for the potential interaction between meanness and disinhibition. However, based on their definitions, I expected that boldness and meanness would interact so that high scores on both of these values would better account for antisocial outcomes. That is, those who were dominating and tolerant of danger (i.e., bold) as well as callous, empowered by cruelty, and unempathic (i.e., mean) would be more likely to behave in antisocial behaviours. Based on conceptual reasoning, I also hypothesized that meanness and disinhibition would interact to account for greater variance in antisocial outcomes. That is, individuals who were mean but are also impulsive, irresponsible, and emotionally reactive (i.e., disinhibited) would be likely to commit antisocial behaviours.

## Chapter 2. Methods

### Participants

The sample consisted of 439 university students registered in first and second year introductory psychology courses who received a small percentage (2.0%) of class credit for their participation. Upon signing into the Psychology department's online research participation system, participants were able to read a wide variety of in-person and online studies. A brief description was given about the nature and scope of the current study (see Appendix B). Eligibility criteria included an ability to speak English fluently and being above the age of 18—university students who were 18 years old were considered emancipated adults for this minimal risk study. A university sample, or variable-centric approach to psychopathy, was selected based on the research suggesting that psychopathy manifests itself on a continuum rather than as a taxon (Edens, Marcus, Lilienfeld, & Poythress, 2006; Walters, Marcus, Edens, Knight, & Sanford, 2011). Also, to reiterate, this university sample minimizes the potential for an allegiance bias towards a particular conceptualization of psychopathy held by researchers or experts.

Participants were approximately evenly split between gender (51.0% women), and the mean age was 19.39 years ( $SD = 2.69$ ). The median level of education was 13 years which equates to a university student in his or her first year of post-secondary education. The sample was ethnically diverse with the following breakdown: 42.8% East or Southeast Asian, 25.1% Caucasian, 13.4% South Asian, and 16.4% self identified to other ethnic memberships. Although for half of the participants (50.0%) English was not their native language, the vast majority (98.2%) of participants self-reported being fluent in English.

## Measures and Materials

### Lexical Similarity Ratings

Questionnaires were created to assess the lexical similarity between Triarchic components and the CAPP (Cooke et al., 2012) or FFM models (Widiger & Lynam, 1998) (see Appendix C for an outline). In the present study, *lexical* referred to the meaning of a particular word or term, and thus, lexical similarity denotes the similarity between the meaning of two terms or words. In both questionnaires, the definitions of the Triarchic components were derived from descriptions in the Triarchic Psychopathy Measure manual (Patrick, 2010) and the original conceptualization (Patrick et al., 2009). Although the Triarchic definitions were direct citations, certain words were also given simplified synonyms in parentheses to assure an understanding of the definition for the participants. The exhaustive list of changes include: nexus and connection; disdain and disregard; affect and emotion; restrain and control.

In the first questionnaire comparing the Triarchic and CAPP models, a total of 42 lexical similarity ratings were included—33 CAPP symptoms and nine foil symptoms (see Appendix D). The foil items were selected by the CAPP authors (Cooke et al., 2012) and were considered theoretically unrelated to psychopathy (e.g., perfectionist; considerate). For each symptom, participants were asked, “Based on the description above, how similar is boldness/meanness/disinhibition to X?” where X represents each of the 42 symptoms. Only one Triarchic component was asked per participant. This between-subject design was selected primarily to diminish the fatigue effect that may have occurred if participants completed ratings for each Triarchic component (i.e., within-subject design). Lexical similarity was rated on a 7-point Likert scale ranging from 1 (*extremely dissimilar*) to 7 (*extremely similar*). For the present study, the six CAPP domains and foil symptoms were the same as conceptualized by Cooke and colleagues (2012).

Similarly, a questionnaire was created to assess the lexical similarity between the Triarchic components and 30 FFM facets that correspond with the FFM of psychopathy (see Appendix E). Descriptions were parsed into brief synonyms of the facet itself (e.g.,

Straightforwardness: frank, sincere, not deceptive) to parallel a similar structure of the CAPP symptoms (i.e., a symptom/trait with three brief synonyms). The brief synonyms of these facets were derived from the NEO-PI-R Professional Manual facet interpretation section (Costa & McCrae, 1992, pp. 16-18) that included descriptions of approximately 50 to 100 words. Three adjectives or adjectival phrases were selected from these descriptive texts to match the structure of the CAPP ratings. The NEO-PI-R is one of the most commonly used self-report measures of personality and is intended to capture the 5 domains of the FFM (De Fruyt, De Bolle, McCrae, Terracciano, & Costa, 2009). Parallel to the CAPP lexical similarity ratings, the 30 FFM ratings were made on a 7-point scale and participants were asked, "Based on the description above, how similar is boldness/meanness/disinhibition to X?" where X represents each of the 30 symptoms. Again, each participant only rated one Triarchic component (i.e., boldness, meanness, or disinhibition).

In the current study, I conceptualized four FFM psychopathy domains and a set of foil facets based primarily on the work of Miller and colleagues (2001) and their expert-generated FFM psychopathy prototype. Low Agreeableness was the most clear-cut domain, consisting of low scores on all six of its constituent facets. Low Conscientiousness included Low Deliberation, Low Self-Discipline, and Low Dutifulness, but also incorporated High Competence scores. Similarly, the Neuroticism domain for this study included low scores on Anxiety, Depression, Self-Consciousness, but high scores on Angry-Hostility and Impulsiveness. Also, an Extraversion/Openness domain was created to incorporate some key traits associated with psychopathy identified by experts including Low Feelings, High Actions, Low Warmth and High Assertiveness. Foil symptoms included some of the remaining NEO FFM facets such as Values, Fantasy, Ideas, Achievement-Striving, Activity, and Gregariousness that were rated as being unrelated to psychopathy by experts (Miller et al., 2001). The Aesthetics, Order, and Positive Emotions facets were not included as either foils or FFM psychopathy domains because experts had rated them as approaching, but not adequate, prototypical traits of psychopathy.

One of the underlying assumptions of the CAPP, FFM, and the present study is Goldberg's hypothesis (1993), which posits that personality should be captured in

natural language. Thus, lexically, any individual—not only experts—should find similarities between a Triarchic component and the CAPP or FFM if that particular component is truly captured in the construct of psychopathy.

## **Psychopathy Measure**

***The Triarchic Psychopathy Measure (TriPM, Patrick 2010).*** The TriPM is a 58 item self-report measure designed to assess psychopathy and is comprised of three distinct scales indexing the boldness, meanness, and disinhibition components of psychopathy. Participants rated each item on a 4-point scale based on how true they believed the statement describes him or herself. The 4-point Likert scale ranged from 0 (False) to 3 (True). Scores on meanness and disinhibition have typically correlated moderately ( $r = .34 - .60$ ), meanness and boldness have demonstrated small positive correlations ( $r = .20 - .30$ ), and boldness and disinhibition have been relatively unrelated ( $r = -.20$  to  $.14$ ) (Drislane et al., 2014; Patrick & Drislane, 2014; Sellbom & Phillips, 2013; Stanley et al., 2013). All three scales have demonstrated excellent internal consistency ( $\alpha \approx .90$ ) (Poy et al., 2014; Sellbom & Phillips, 2013; Smith et al., 2013), and the mean inter-item correlations of boldness, meanness, and disinhibition were .20, .26, .16, respectively (Poy et al., 2014). For the current study, the psychometric properties of the TriPM—and the outcomes measures—can be found in Table 6 and the Results section.

## **Outcome Measures.**

***Substance Use Problems.*** The Drug Abuse Screening Test (DAST; Skinner, 1982) is a self-report measure consisting of 28 binary yes/no items covering substance use problems such as social, legal and medical problems. Each “yes” response resulted in a single point of a total of 28 points. A cut-off score of 6 points has often been used to indicate substance abuse problems (Yudko, Lohzkina, & Fouts, 2007). Factor analyses have demonstrated that the DAST items were adequately captured using a single unidimensional scale (El-Bassel et al., 1997; Skinner, 1982), however, there has also been support for a five-factor model (Yudko et al., 2007). The DAST has demonstrated excellent internal consistency (Skinner, 1982; Staley & Guebaly, 1990), test-retest

reliability (Cocco & Carey, 1998). It was found as an acceptable tool for clinical use (Yudko et al., 2007) and has been applied to community samples (El-Bassel et al., 1997). Substance use is moderately associated with psychopathy (Taylor & Lang, 2006), particularly with its behavioural features (Gatner, Blanchard, & Douglas, 2014; Hemphill, Hart, & Hare, 1994).

***Violence and Victimization.*** Based on the MacArthur Community Interview protocol (Monahan, Steadman, & Silver, 2001), participants were asked to self-report the perpetration of or victimization by any violent or aggressive behaviour ranging from threats to lethal weapon use over the past 6 months. A total of nine types of categories of violence (e.g., Did you slap anyone?) and victimization (e.g., Did anyone threaten you with or use a rock, knife, gun or other lethal weapon?) were queried including an “Other” category to capture other forms of violence and victimization (i.e., Did anyone do anything else to you that made you afraid for your safety? Did you do anything else that probably made someone afraid for their safety?). It was anticipated that the “Other” category would diminish the likelihood of under endorsement. In addition to the six-month timeframe, participants responded to whether they have been victims and/or perpetrators of violence over their lifetime. Each category of violence and victimization was queried using binary yes/no responses. Breadth scores of victimization and violence were tallied up as a summation of the different forms of violence and victimization that the participant had engaged in within six months of their participation. The breadth scores were the primary indices for violence and victimization used in the statistical analyses.

Although psychopathy has demonstrated a robust, moderate association with violence, the relationship has been heterogeneous such that the behavioural aspects of psychopathy have shown greater effect sizes than the interpersonal and affective traits (e.g., Hawes et al., 2013; Kennealy, Skeem, Walters, & Camp, 2010; Leistico, Salekin, DeCoster, & Rogers, 2008). The relationship between psychopathy and victimization has been rarely investigated, but initial findings suggest that psychopathic features have been positively correlated with victimization in adults (Dolan, O'Malley, & McGregor, 2013) and youth (Fanti & Kimonis, 2012).

**Minor Antisocial Behaviour.** The Subtypes of Antisocial Behavior Questionnaire (STAB, Burt & Donnellan, 2009) is a self-report measure designed to capture overlapping but distinct subtypes of antisocial behaviours that have different etiological mechanisms, developmental trajectories, and genetic heritability. The questionnaire's items were derived from over 12 measures of aggressive behaviour (e.g., the Aggression Questionnaire [Buss & Perry, 1992]), diagnostic criteria such as APD from the DSM-IV-TR (American Psychiatric Association, 2000), and the authors' own conceptual reasoning. The STAB consists of 32 items scored on a 5-point Likert scale ranging from 1 (*never*) to 5 (*nearly all the time*); it measures three forms of antisocial behaviour: physical aggression, rule-breaking, and social aggression. Physical aggression consists of overt forms of physical attacks and bullying, and is distinct from the covert rule-breaking which consists of non-aggressive lying, stealing, and cheating without physical confrontation with others (Burt & Donnellan, 2009). Social aggression, also known as relational aggression, is defined as the use of "social relationships as a means of harming others. It encompasses behaviours such as gossiping, ostracism, and 'stealing' friends, behaviours that can be expressed overtly... or covertly" (p. 377, Burt & Donnellan, 2009).

Exploratory Factor Analysis has demonstrated that the STAB has a three-factor structure that aligned with the three conceptual subcategories of antisocial behaviour (i.e., physical aggression, rule-breaking, and social aggression). The STAB has demonstrated initial content-related validity across a variety of samples. Specifically, for university, community, and psychiatric samples, the STAB subscales were associated with personality domains (e.g., Neuroticism and Low Agreeableness) with established relationships with antisocial behaviour (Burt & Donnellan, 2009). Moreover, the STAB was positively associated with externalizing behaviours (Burt & Donnellan, 2009), and the STAB subscales were associated with differing subtypes of these externalizing behaviours (Burt & Donnellan, 2010). The three factors of the STAB were moderately correlated: social aggression and physical aggression ( $r = .39 - .44$ ); social aggression and rule-breaking ( $r = .34 - .39$ ); physical aggression and rule-breaking ( $r = .48 - .49$ ) (Burt & Donnellan, 2009, 2010). The mean inter-item correlations of physical aggression, social aggression, and rule breaking were .37, .36, and .38, respectively (Burt & Donnellan, 2009). The internal consistency of the STAB subscales has been

good: physical aggression ( $\alpha = .84 - .91$ ); social aggression ( $\alpha = .82 - .90$ ); rule-breaking ( $\alpha = .71 - .87$ ) (Burt & Donnellan, 2009, 2010). In the current study, the STAB—particularly the social aggression and rule-breaking subscales—was intended to capture certain antisocial behaviours that are less severe than violence but could cause significant clinical distress for oneself and others.

***Impulsivity.*** The Barratt Impulsiveness Scale-11 (BIS-11, Patton, Stanford, & Barratt, 1995) is a self-report instrument assessing impulsiveness—a multifaceted construct commonly defined as “as a predisposition toward rapid, unplanned reactions to internal or external stimuli without regard to the negative consequences of these reactions to the impulsive individuals or to others” (Moeller, Barratt, Dougherty, Schmitz, & Swann, 2001, p. 1784). The BIS-11 captures three theoretical domains of impulsiveness: cognitive, motor, and non-planning impulsiveness. Using principal component analyses, Motor Impulsiveness and Non-Planning Impulsiveness clearly emerged as statistical factors. However, the cognitive component proved somewhat challenging to identify, and was consequently entitled Attentional Impulsiveness (Barratt, 1985; Luengo, Carrillo-de-la-Peña, & Otero, 1991). The BIS-11 consists of 30 items (e.g., I change jobs), and each item requires a likelihood response ranging from 0 (*Rarely/Never*) to 4 (*Always*); total scores can range from 0 to 120. The BIS-11 has shown excellent internal consistency ( $\alpha = 0.79-83$ ) (Patton et al., 1995; Stanford et al., 2009). Karpman (1941, 1948) theorized that impulsiveness or impulsivity is essential in distinguishing primary (low impulsivity) and secondary psychopathy (high impulsivity).

***Social and Emotional Functioning.*** The Social Emotional Questionnaire (SEQ, Bramham, Morris, Hornak, Bullock, & Polkey, 2009) is a self-report instrument that measures social and emotional functioning in adults that was validated in both a healthy (i.e., no mental illness or impairment) and a brain lesion sample. Scores on the SEQ have differentiated between groups of healthy individuals and those suffering from a host of injuries and mental illnesses (Clare et al., 2012; BurrIDGE, Huw Williams, Yates, Harris, & Ward, 2007; Morris, Bramham, Smith, & Tchanturia, 2014). A similar instrument has been extended down to adolescents (Wall, Williams, Morris, & Bramham, 2011). The adult version of the SEQ consists of 30 5-point Likert scale items, and factor analyses have yielded five factors: Emotion Recognition, Empathy, Social Conformity,

Antisocial Behaviour, and Sociability. The SEQ has demonstrated adequate internal consistency ( $\alpha \approx .70$ ) (Bramham et al., 2009). It has initial support given its moderate positive associations with other self-report and informant versions of social and emotional functioning (Bramham et al., 2009) as well as its ability to discriminate between healthy and non-healthy individuals (Clare et al., 2012; Burrige et al., 2007; Morris et al., 2014).

Boldness has demonstrated stronger associations with adaptive functioning rather than aversive outcomes (e.g., Douglas & Edens, 2015; Hart, Lim, & Cook, 2015; Lynam & Miller, 2012). Therefore, this outcome measure was chosen in the present study because it indexes many areas of healthy functioning, particularly those that are theoretically inversely related to psychopathy (e.g., empathy; social conformity). It was anticipated that these behaviours could help clarify the relationship between boldness and adaptive features.

***Prosocial Behaviour.*** The Prosocialness Scale for Adults (PSA, Caprara, Steca, Zelli, & Capanna, 2005) is a self-report scale intended to measure prosocial behaviour in adult populations. The PSA consists of 16 statements that assess helping, sharing, and empathic behaviours. Participants responded to the veracity of each statement on a 5-point Likert scale ranging from 1 (*never/almost never true*) to 5 (*almost always/always true*). Item response theory analysis revealed that the PSA could differentiate between different levels of prosociality, and this was consistent between genders (Caprara et al., 2005). The PSA has demonstrated excellent internal consistency ( $\alpha = .90 - .95$ ) (Caprara et al., 2005, 2008; Caprara, Alessandri, & Eisenberg, 2012) and the corrected item-total correlations ranged from .47 to .73. The PSA has correlated with positive affect (Caprara et al., 2008), agreeableness (Caprara et al., 2012), and has predicted future empathic behaviours. Moreover, it has shown strong correlations with observer ratings of prosociality (Caprara, Steca, Vecchio, Tramontano, & Alessandri, 2008, as cited in Caprara et al., 2012) suggesting initial support for the measure's validity. Similar to the SEQ measure above, the PSA was implemented in the present study to fully capture a wide range of healthy and adaptive outcomes to examine their relationships with boldness.

**Workplace and Higher Education Deviance.** The Interpersonal and Organizational Deviance Scales (IODS; Bennett & Robinson, 2000) is a self-report measure intended to assess deviant behaviours in the workplace defined as “voluntary behaviour that violates significant organizational norms and, in so doing, threatens the well-being of an organization, its members, or both” (Robinson & Bennett, 1995, p. 556). It has been called the most commonly used self-report measure of workplace deviance (Berry, Ones, & Sackett, 2007). The IODS items were created by first asking a variety of individuals what they considered deviant behaviour at work. In turn, a group of nine experts rated whether each suggested behaviour was deviant, applicable to many work settings, and volitional. Lastly, items were examined statistically for their inter-correlations and variances, with a final 28-item pool. Each item is answered on a 7-point frequency scale ranging from 1 (*never*) to 7 (*daily*). Factor analyses yielded two correlated factors: Interpersonal and Organizational deviance (Bennett & Robinson, 2000). Organizational deviance refers to harm directed towards the organization itself whereas interpersonal deviance refers to harm directed towards all individuals within the organization (Thau, Bennett, Mitchell, & Marrs, 2009). The scales have demonstrated convergent validity given their strong correlations with behaviours and personality traits associated with workplace deviance (Berry et al., 2007) such as abusive supervision (Thau et al., 2009). The IODS has also demonstrated divergent validity; both scales were unrelated with work dissatisfaction (e.g., voice in the workplace) (Bennett & Robinson, 2000). The internal consistency for the Interpersonal ( $\alpha = .76 - .78$ ) and Organizational ( $\alpha = .68 - .92$ ) factors has been varied from adequate to excellent (Bennett & Robinson, 2000; Thau et al., 2009). As the current sample comprised university students, the scales were adjusted to reflect deviance in an adult school setting (i.e., school setting after 18 years of age) in addition to workplace deviance.

**Risky Behaviour.** A questionnaire was created to index a variety of risky behaviours. The risky behaviour scale (RB) was developed rationally by the current author with the aid of feedback from fellow colleagues. It was intended to capture a broad array of risky behaviours (i.e., not simply sexual or alcohol related risky behaviour) that may cause harm to adult populations. The RB contained 20 yes/no questions about a variety of risky behaviours that may cause harm to or have negative consequences for oneself or others (e.g., have you ever made a risky financial decision over \$100; have

you ever travelled to a foreign country without proper medication). If participants endorsed a particular behaviour, they answered a follow-up question pertaining to any negative consequences that may have occurred to themselves or others as a result of the risky behaviour. Each item was answered on a 3-point scale: 1 (*No*), 2 (*Uncertain*), and 3 (*Yes*). In the current study, “Uncertain” responses were recoded as “No” responses to avoid overestimating the base rate of risky behaviour. Thus, two scores existed: total RB scores and total RB consequences. Upon recoding, both these scores could range from 0 to 40. The internal consistency for total RB scores was good ( $\alpha = .80$ ) and the internal consistency for RB consequence scores was acceptable ( $\alpha = .68$ ). The risky behaviour measure was created to index certain risky and harmful behaviours that have not been adequately addressed in previous research concerning boldness and psychopathy.

A principal components analysis was conducted to examine potential components of the RB scale to provide a nuanced understanding of this outcome. The items pertaining to the different forms of risky behaviour were analyzed but not the follow-up items concerning the resulting consequences. A promax rotation was implemented to allow the items to intercorrelate (i.e., non-orthogonality). The Cattell scree test (Garson, 2013a) was used to determine the number of components. In the current study, the scree plot broke at two components, and thus two components were retained in the present study. Consideration was given to both the pattern and structure matrices when attributing labels to the two components. The first component was labelled *Driving/Adolescence*, and comprised risky behaviour that is typically seen in adolescence such as dangerous driving, trespassing, and problematic substance use. The second component was labelled *Planned/Adult*, and comprised risky behaviour that was more likely to occur in adulthood and involve more forethought to commit the behaviour. Component loadings were derived from pattern matrices that provided the unique contribution of the components’ explanation of variance in each RB item. Table 1 provides the component loadings; items were included in the component if they had a loading value of .32 or greater (Tabachnik & Fidell, 2007). Given the dichotomous nature of the RB items, this loading threshold was deemed acceptable (Garson, 2013a). The *Driving/Adolescence* and *Planned/Adult* components were moderately correlated ( $r = .42$ ).

**Table 1. Component Loadings for a Principal Component Analysis with Promax Rotation of the RB Scale**

RB Item	RB Components	
	Driving/Adolescence	Planned/Adult
1. Have you ever stolen anything from a friend or family member?	-.01	<b>.34</b>
2. Have you ever ridden a bike or motorcycle without a helmet?	.17	.29
3. Have you ever gambled money away excessively?	.01	<b>.32</b>
4. Have you ever cheated on an intimate partner?	.17	<b>.34</b>
5. Have you ever driven recklessly in a car by yourself?	<b>.73</b>	-.08
6. Have you ever driven recklessly in a car with others?	<b>.58</b>	.12
7. Have you ever drunk alcohol and then drove?	<b>.74</b>	-.09
8. Have you ever used drugs which got you "high" and then drove?	<b>.76</b>	-.16
9. Have you ever been in a car with someone who used drugs or alcohol and then drove?	<b>.56</b>	.17
10. Have you ever been in a car and intentionally not worn your seatbelt?	-.08	<b>.56</b>
11. Have you ever made a risky financial decision over \$100?	-.01	<b>.55</b>
12. Have you ever done an activity while travelling that you thought was risky (e.g., water rafting, bungee jumping, rent motorbike)?	.11	<b>.39</b>
13. Have you ever travelled to a foreign country without proper medication?	-.14	<b>.60</b>
14. Have you ever drunk alcohol in public a location (i.e., in a place where you should not)?	<b>.50</b>	.20
15. Have you ever quit your job without another job lined up?	-.03	<b>.50</b>
16. Have you ever trespassed private property?	<b>.42</b>	.20
17. Have you ever eaten a meal at a restaurant and purposely left without paying?	.02	<b>.33</b>
18. Have you ever texted on your phone while driving?	<b>.73</b>	-.09
19. Have you ever lied or manipulated the truth (e.g., change details) to a National border security agent?	.08	<b>.47</b>
20. Have you ever done anything else that you would consider risky behaviour?	.17	.15

Note. Component loadings are bolded if  $\leq 0.32$ .

## **Design and Procedure**

The entire study protocol was completed online on secure survey software known as LimeSurvey. The current project implemented a cross-sectional, between-subject design. Participants were randomly assigned to one of 3 conditions for the purpose of making lexical ratings: boldness, meanness, or disinhibition. Upon consenting to participate (see Appendix F), participants answered several questions pertaining to basic demographic information including age, gender, level of education, ethnicity, and the first language spoken at home. Next, they completed the lexical similarity questionnaires for their respective condition (i.e., boldness, meanness, or disinhibition). The ordering of the FFM and CAPP lexical similarity ratings was counterbalanced to reduce any fatigue effect. This between-subject design was selected to eliminate potential confusion between Triarchic component descriptions that may arise in a within-subject design. After completing the lexical ratings, all participants completed the TriPM and the outcome measures (e.g., BIS-11, SEQ, MacArthur violence protocol; see Appendix G). The median study completion time was 38.03 minutes, and the 10<sup>th</sup> and 90<sup>th</sup> percentile completion times were 24.62 and 83.13 minutes, respectively. It is important to note that participants could have left the study running while taking extended breaks; this likely explains the long average completion time ( $M = 85.43$  min) as approximately 20 participants had times ranging from 2 hours to 71 hours.

## **Ethics Approval**

A description of the study, online and hardcopy consent forms, recruitment materials, and the study protocol (i.e., study questionnaires) were all submitted to SFU's Office of Research Ethics (ORE). The ORE's Research Ethics Board approved the study as a minimal risk study. Namely, the probability and magnitude of physical or psychological harm associated with the current study was deemed no greater than what would be expected by participants in their everyday lives. Participants were given unique study identification numbers, and their responses were stored on an encrypted and password-secured server at SFU to ensure confidentiality and anonymity.

## Analysis

### Data Analytic Strategy.

Lexical similarity was analyzed using descriptive statistics of the ratings (i.e., mean, median, range, standard deviations). Triarchic factors were considered highly similar to the CAPP and FFM traits and domains when mean ratings were above 5, whereas ratings between 4 and 5 were considered moderately similar. The dispersion of these scores was also considered using visual representation (e.g., line graph). These interpretations were consistent with psychopathy prototypicality studies (Hoff et al., 2012; Rogers, Dion, & Lynett, 1992).

Subsequent to the descriptive approach, Multivariate Analysis of Variance (MANOVA) procedures were implemented to investigate potential differences in the independent variable (i.e., Triarchic components) across multiple dependent variables (i.e., similarity ratings on CAPP and FFM domains). Wilk's Lambda was selected as it is the most common test statistic when more than 2 groups are formed by the independent variable (Garson, 2015), and Wilk's Lambda is considered equally robust in light of minor assumption violations when compared to the Pillai-Bartlett or Hotelling-Lawley trace (Stevens, 2009). A smaller Wilk's Lambda value is interpreted as a greater difference between the means of the independent variables. The assumptions of MANOVA (i.e., homogeneity of errors and covariances, independent observations, multivariate normality) were tested using the typical diagnostic tools and heuristics (Mertler & Vannatta, 2005; Stevens, 2009). The  $\alpha$  rejection level was set at .001 to account for inflated Type I error due the large number of statistical hypotheses being tested.

Additionally, to get a nuanced understanding of the lexical similarity between the Triarchic components and other models of psychopathy, Analysis of Variance (ANOVA) was conducted to test group differences (i.e., boldness, meanness, and disinhibition groups) in the mean similarity scores of each domain of the CAPP and FFM model of psychopathy. At an even more detailed level, post hoc analyses were used to discover potential differences for each unique Triarchic component pair. Tukey's Honest Significant Difference (HSD) test was selected over other post hoc analyses

(e.g., Scheffé's test) because it controls for Type I errors while maintaining strong statistical power (Games & Howell, 1976). The assumptions of MANOVA (i.e., independent observations, homogeneity variance and covariance; multivariate normality and linearity) were tested using the typical diagnostic tools and heuristics.

Intraclass Correlation Coefficients (ICCs) were computed to assess the agreement and consistency between previous CAPP prototypicality ratings and the current CAPP similarity ratings for boldness, meanness, and disinhibition. To test the similarity of the rank order of previous CAPP prototypicality ratings with the current CAPP – Triarchic similarity ratings, Model 3, or two-way mixed effects model, average measure, consistency type ICCs were computed. To test the absolute agreement of previous CAPP prototypicality ratings with the current CAPP – Triarchic similarity ratings, Model 3, or two-way mixed effects model, average measure, absolute agreement type ICCs were computed. The previous prototypicality studies included raters from a sample of mental health professionals (Kreis et al., 2012) and university students (Lim & Hart, 2014). The mean prototypicality ratings of CAPP symptoms and foils were averaged across these samples and weighted based on sample size,  $n = 132, 96$ , respectively.

The bivariate relationships between boldness, meanness, disinhibition, and the outcomes variables were analyzed by computing Pearson Product Moment Correlations (PPMCs). These correlational analyses were conducted to understand and interpret the general pattern of relationships for each component of the Triarchic model. The assumptions of PPMC (i.e., independent observations, bivariate linearity, normality) were tested using the suggested diagnostic tools and heuristics (Cohen, Cohen, West, & Aiken, 2003).

Hierarchical multiple regression analyses were used to test whether boldness added incrementally to meanness and disinhibition in their association with a spectrum of outcomes. In the first block, meanness and disinhibition were included with the covariates (e.g., gender, ethnicity). Boldness was added to the second block. To assess the presence of incremental change, the change in  $R^2$  was tested from the first to second block for each DV (violence, impulsivity, substance use, and prosocial functioning). The assumptions of linear multiple regression were tested (i.e., univariate

and bivariate normality, linearity of the relationship, acceptable measurement error, homoscedasticity, and independence of residuals) using the appropriate diagnostic tools and heuristics. To account for inflated Type I error due to the number of statistical hypotheses being tested, the  $\alpha$  rejection level was set at .001.

To assess the synergistic effects of boldness, meanness, and disinhibition, cross product interaction terms were created. The respective two-way interaction terms were added in the third step of the hierarchical regression model. The respective standardized beta weights were analyzed to see if the interactions added uniquely to the explanation of the outcomes irrespective of the TriPM main effects. The predictors were centered before cross-product interactions were created to reduce nonessential multicollinearity (Cohen et al., 2003). Statistical power for detecting interactions is attenuated by the multiplicative of the main effects' measurement error (Cohen et al., 2003). Therefore, the  $\alpha$  rejection level was loosed to .01.

Graphical representations (i.e., line plots) were created to properly interpret these interaction coefficients. Plotting interactions between two continuous variables involves categorizing one of these variables at three levels (Cohen et al., 2003). Boldness has been theorized to moderate the relationship between established components of psychopathy and external criteria. Thus, boldness was divided into three levels: high, average, and low. These three levels were one standard deviation above the mean of boldness, the mean score of boldness, and one standard deviation below the mean boldness, respectively. Ultimately, the interpretation of these interactions involved examining the regression slopes of the other predictor at the 3 conditional levels of boldness.

### **Missing Data.**

Participants' data were removed from analyses if they took less than 10 minutes to complete the online study measures. This time point was selected because it seemed highly unlikely to complete the protocol without responding at random or overly repetitive responding. A multiple imputation technique was not implemented because there was not a significant portion of the data missing (i.e., greater than 5% [Garson, 2012]).

However, to maintain a high number of valid responses, prorating was implemented. For dependent and independent variables if less than 25% of the data for that particular subscale were missing then scores were prorated by dividing the total score of a scale by the multiplicative of the number of answered items and the total number of items, or (total score) / (answered items × total number of scale items). If 25% or more of the scale was missing then that case was considered missing which is consistent with many psychological measures (e.g., PPI-R [Lilienfeld & Widows, 2005]; Personality Assessment Inventory [Morey, 1991]).

## **Power Analysis**

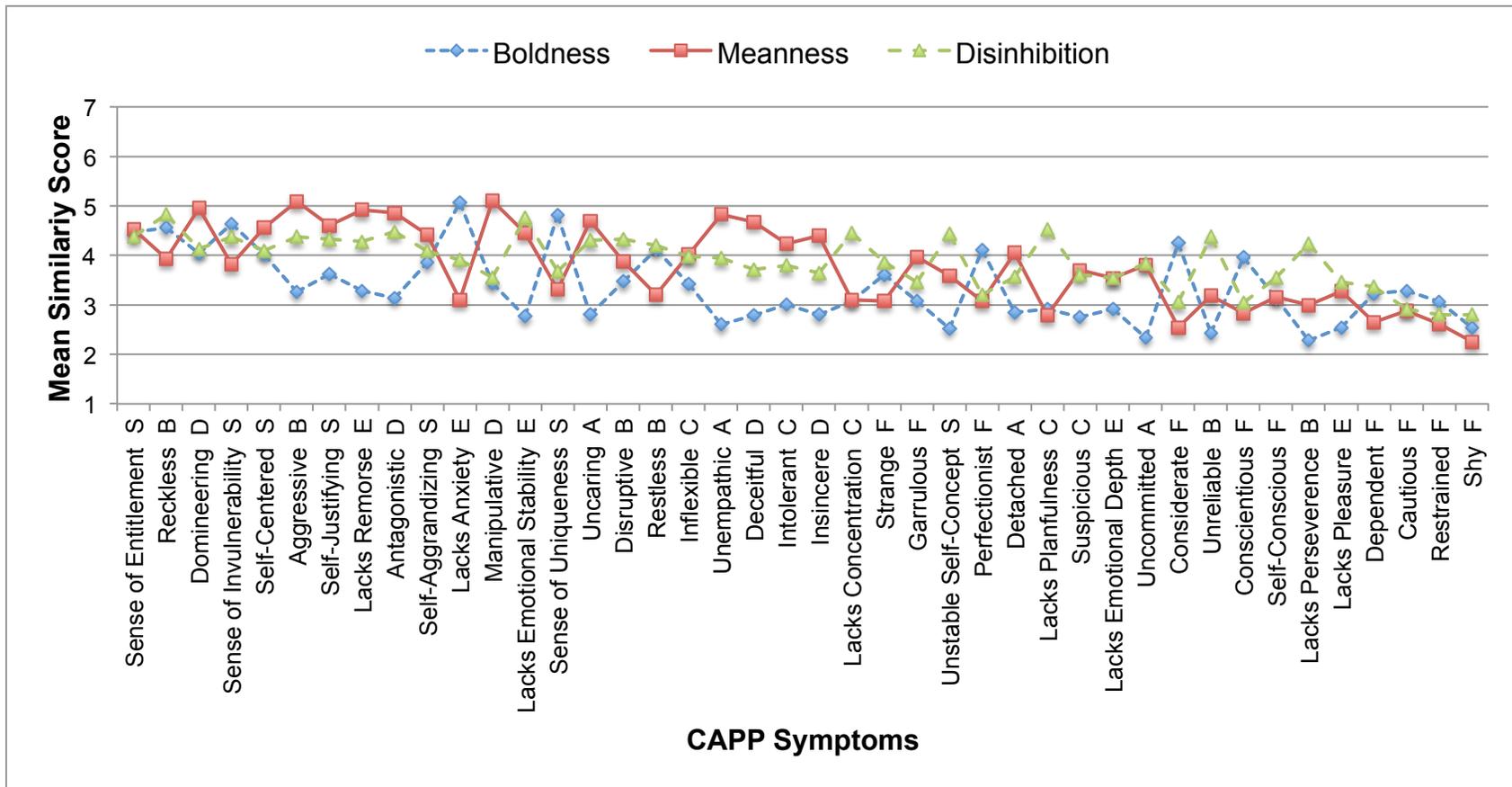
MANOVA is a powerful statistical technique, and the sample size required to detect even a small effect size is quite reasonable. Using the statistical program G\*Power, it was determined that a total sample of 255 ( $n = 85$  per group) was required to detect a small effect size. However, statistical power is often reduced in regression models with interaction terms because of covariance of measurement error between product terms (Aiken & West, 1991). Therefore, adequate power was crucial for the analyses concerning interactions. The internal consistency reliability estimates of the three Triarchic scales have been good to excellent: boldness ( $\alpha = .77 - .89$ ), meanness ( $\alpha = .88-.90$ ), and disinhibition ( $\alpha = .84 - .89$ ). Given these reliabilities, the required sample size to maintain statistical conclusion validity (i.e., to detect an interaction at power level of .80) is  $N = 153$  for a moderate effect size (Aiken & West, 1991). However, to detect a small effect size for incremental change in  $R^2$ , the required sample was  $N = 325$ . A small effect size was chosen because, in contrast to a medium effect size, the absence of a small effect would fully answer whether boldness added value to other components of psychopathy in their association with relevant outcomes.

## **Chapter 3. Results**

### **Research Question 1. Do boldness, meanness, and disinhibition show lexical similarity to the CAPP symptoms and FFM psychopathy facets?**

#### **Descriptive Statistics of CAPP Similarity Ratings**

My hypotheses were generally supported such that boldness was rated as less similar to the CAPP symptoms in comparison to meanness and disinhibition. As seen in Figure 1, the majority of mean similarity scores with the CAPP for boldness, meanness, and disinhibition never exceeded a mean rating of five—a threshold for when the Triarchic domain was considered highly similar to a particular symptom. The figure demonstrates that the majority of mean boldness similarity ratings (the blue line) were less than mean ratings for meanness or disinhibition (the red and yellow lines, respectively). Furthermore, in several instances where boldness was rated the most similar Triarchic domain, the symptoms were in fact CAPP foils (i.e., symptoms unrelated to psychopathy). Specifically, boldness was rated as more similar to Considerate, Perfectionist, and Conscientious in comparison to meanness and disinhibition. However, for Lacks Anxiety and Sense of Uniqueness, boldness was rated more similar than meanness and disinhibition. All of the CAPP and FFM psychopathy mean similarity ratings had a range that encompassed all possible answers (i.e., 1 – 7), suggesting a lack of consistency among the raters.



**Figure 1. Mean CAPP Symptom Similarity Scores for the Boldness, Meanness, and Disinhibition Groups.**

Note. S = Self Domain; B = Behavioural Domain; D = Dominance Domain; E = Emotional Domain; A = Attachment Domain C = Cognitive Domain; F = CAPP Foils.

An alternative index of the central tendency of CAPP similarity ratings is to examine the median and mode values as they are far less influenced by outliers and skewed responses in comparison to mean scores. As seen in Table 2, boldness was rated as moderately similar to many of the Self domain symptoms (median = 4.00 – 5.00, mode = 4 – 6) aside for Unstable Self-Concept (median = 2.00, mode = 1). Additionally, boldness was rated as extremely similar to two other CAPP symptoms: Lacks Anxiety (median = 6.00, mode = 7) and Reckless (median = 6.00, mode = 7). However, boldness was rated as dissimilar to the vast majority of the remaining CAPP symptoms—17 of the symptoms had a mode of 1. Alternatively, meanness was rated similar to many of the CAPP symptoms particularly the Dominance domain of which Antagonistic, Domineering, Deceitful, and Manipulative had a mode of 7 (median = 5.00 – 6.00). Several symptoms were commonly rated as extremely dissimilar to meanness (i.e., mode = 1) including Uncommitted, Lacks Anxiety, and Unreliable. Disinhibition was also more commonly rated as similar to CAPP symptoms in comparison to boldness, particularly symptoms from the Behavioural (e.g., Lacks Perseverance, Unreliable, Reckless, and Restless) and Attachment domains (e.g., Uncommitted, Unempathic, Uncaring). Of note, the most frequently occurring similarity rating between disinhibition and Aggressive was both 1 and 7. Disinhibition was rated as dissimilar (i.e., modes = 1) to Manipulative, Lacks Pleasure, and Lacks Emotional Depth.

Both meanness and disinhibition were rated as dissimilar to the CAPP foils with a mode of 1 for each symptom and medians that ranged from 1 – 3. Although boldness was rated dissimilar to certain CAPP foils (e.g., Dependent, Restrained, Self-Conscious, Cautious, and Shy), it did have elevated similarity ratings for Perfectionist, Strange, Considerate, and Conscientious (median = 4.00, mode = 4). In sum, in comparison to meanness and disinhibition, boldness was less similar to CAPP symptoms but more similar to CAPP foils.

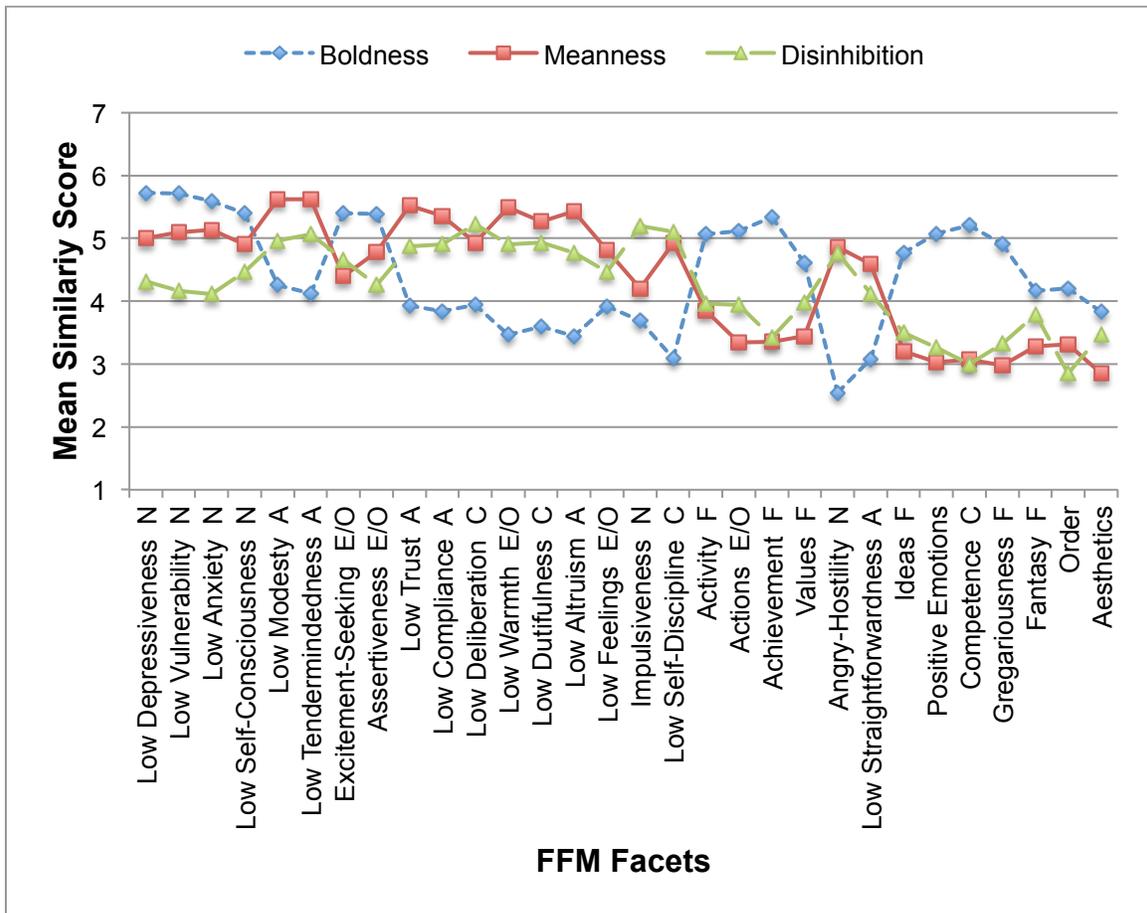
**Table 2. Descriptive Statistics of CAPP Symptom Similarity Ratings for Boldness, Meanness, and Disinhibition Groups**

Symptom	Boldness			Meanness			Disinhibition		
	SD	Med	Mode	SD	Med	Mode	SD	Med	Mode
<b>Self</b>									
Self-Centered	1.65	4.00	4	1.68	5.00	5	1.63	4.00	5
Self-Aggrandizing	1.67	4.00	5	1.72	5.00	5	1.63	4.00	5
Sense of Unique	1.57	5.00	5	1.70	3.00	4	1.68	4.00	5
Sense of Entitle	1.66	5.00	5	1.77	5.00	5	1.65	5.00	5
Sense of Invuln	1.93	5.00	6	1.70	4.00	5	1.85	4.00	6
Self-Justifying	1.77	4.00	4, 5	1.70	5.00	6	1.80	4.50	5
Unstable Concept	1.53	2.00	1	1.69	4.00	5	1.93	5.00	5
<b>Emotional</b>									
Lacks Anxiety	1.92	6.00	7	1.69	3.00	1	1.95	4.00	5
Lacks Pleasure	1.62	2.00	1	1.64	3.00	3	1.83	3.00	1
Lacks Emo Depth	1.65	3.00	1	1.93	4.00	1	1.88	4.00	1
Lacks Emo Stab	1.63	2.00	2	1.69	5.00	6	1.99	5.00	6
Lacks Remorse	1.78	3.00	1	2.16	6.00	7	2.09	5.00	6
<b>Dominance</b>									
Antagonistic	1.64	3.00	2	2.03	5.00	7	2.04	5.00	5
Domineering	1.86	4.00	4	1.86	5.00	7	1.86	5.00	5
Deceitful	1.52	3.00	1	1.91	5.00	7	1.81	4.00	4
Manipulative	1.80	3.00	4	1.93	6.00	7	1.88	4.00	1
Insincere	1.77	2.00	1	1.89	5.00	5	1.79	4.00	4
Garrulous	1.78	3.00	1	1.66	4.00	4	1.63	4.00	4
<b>Attachment</b>									
Detached	1.70	2.00	1	1.85	4.00	5	1.64	4.00	4
Uncommitted	1.40	2.00	1	1.97	4.00	1	1.99	4.00	6
Unempathic	1.69	2.00	1	2.29	6.00	7	1.99	4.00	6
Uncaring	1.66	2.00	1	2.21	5.00	7	2.13	5.00	6
<b>Behavioural</b>									
Lacks Persever	1.69	2.00	1	1.56	3.00	3	2.02	4.00	6
Unreliable	1.48	2.00	1	1.71	3.00	1	2.17	5.00	7
Reckless	1.90	5.00	7	1.79	4.00	5	1.96	5.00	7
Restless	1.67	4.00	5	1.67	3.00	3	1.70	4.00	5
Disruptive	1.80	3.00	5	1.84	4.00	5	2.06	5.00	6
Aggressive	1.80	3.00	1	2.35	6.00	7	2.30	5.00	1,7

<b>Cognitive</b>									
Suspicious	1.58	2.00	1	1.82	4.00	4	1.74	4.00	3
Lacks Concent	1.73	3.00	2	1.61	3.00	3	1.73	5.00	5
Intolerant	1.70	3.00	1	1.87	4.50	5, 6	1.91	4.00	5
Inflexible	1.89	3.00	1	1.77	4.00	5	1.82	4.00	4,5
Lacks Plan	1.70	3.00	2	1.50	3.00	1, 3	2.24	5.00	7
<b>Foils</b>									
Perfectionist	1.75	4.00	4	1.99	2.00	1	2.00	2.00	1
Strange	1.73	4.00	4	1.68	3.00	1	1.67	3.00	1
Dependent	1.97	3.00	1	1.69	2.00	1	1.68	2.00	1
Restrained	1.76	3.00	1	1.53	2.00	1	1.53	2.00	1
Self-Conscious	1.86	3.00	1	1.97	3.00	1	1.97	3.00	1
Considerate	1.61	4.00	4	2.02	1.00	1	2.02	1.00	1
Cautious	1.86	3.00	1	1.92	2.00	1	1.92	2.00	1
Shy	1.85	2.00	1	1.60	2.00	1	1.60	2.00	1
Conscientious	1.59	4.00	4	1.80	2.00	1	1.80	2.00	1

Note. *SD* = Standard deviation; Med = Median; Sense of Invuln = Sense of Invulnerability; Unstable Concept = Unstable Self-Concept; Lacks Emo Depth = Lacks Emotional Depth; Lacks Emo Stability = Lacks Emotional Stability; Lacks Persever = Lacks Perseverance; Lacks Concent = Lacks Concentration.

As hypothesized, boldness showed more similarity with FFM facets than with the CAPP symptoms. As seen in Figure 2, boldness (the blue line) was rated as similar to many of the symptoms of the Neuroticism domain including Low Depressiveness, Low Vulnerability, Low Anxiety, and Self-Consciousness—symptoms that were rated as most lexically similar of all the FFM facets. However, the general pattern was that meanness and disinhibition held parallel similarity ratings (the red and yellow lines, respectively), but these two domains were inversely rated to boldness. Specifically, when meanness and disinhibition were rated similar to a given symptom, then boldness was unrelated to that symptom, or vice versa (e.g., Low Deliberation vs. Achievement). As was the case with CAPP foils, boldness was rated as more similar to the FFM facet foils than were meanness and disinhibition. In sum, boldness was rated as less similar to FFM facets and more similar to FFM foils, with the caveat that boldness was rated as more similar to the Neuroticism facets.



**Figure 2. Mean FFM Facet Similarity Scores for the Boldness, Meanness, and Disinhibition Groups.**

Note. N = Neuroticism Domain; A = Low Agreeableness Domain; E/O = Extraversion/Openness Domain; C = Low Conscientiousness Domain; F = FFM Foils.

Again, differences in lexical similarity of the Triarchic domains were also examined by comparing the median and mode values of the FFM facet similarity ratings as seen in Table 3. Similar to the results reported in Figure 2, the median and mode ratings for boldness were more similar to FFM psychopathy facets in comparison the CAPP model. Boldness was rated as extremely similar to many of the Neuroticism facets including Low Anxiety, Low Depressiveness, Low Self-Consciousness, Low Vulnerability (median = 6.00 – 7.00, mode = 7), but only rated dissimilar to two FFM facets: Angry-Hostility (median = 2.00, mode = 1) and Low Self-Discipline (median = 3.00, mode = 2). Again, boldness was also commonly rated similar to the FFM foils (median = 4.00 – 6.00, mode = 4 – 6). Meanness was commonly rated highly similar for the majority of FFM

psychopathy facets (i.e., mode > 5) aside for Actions (median = 3.00, mode = 1) and Competence (median = 3.00, mode = 1). Disinhibition was rated as similar to the Low Agreeableness facets (median = 4.00 – 5.00, mode = 4 – 7), Openness/Extraversion facets (median = 4.00 – 5.00, mode = 4 – 7), and Low Conscientiousness facets (median = 4.00 – 6.00, mode = 4 – 6) aside for Competence (median = 3.00, mode = 1). It should be noted that disinhibition had elevated similarity ratings for the FFM psychopathy foils (median = 3.00 – 4.00, mode = 4 – 5).

**Table 3. Descriptive Statistics of FFM Psychopathy Facet Similarity Ratings for Boldness, Meanness, Disinhibition Groups**

Trait	Boldness			Meanness			Disinhibition		
	SD	Med	Mode	SD	Med	Mode	SD	Med	Mode
<b>Neuroticism</b>									
Low Anxiety	1.87	7.00	7	1.72	5.00	7	1.63	4.00	3
Angry Hostility	1.74	2.00	1	1.84	5.00	5,7	2.04	5.00	7
Low Depressive	1.66	6.00	7	1.57	5.00	5	1.60	4.00	4
Low Self-Consci	1.80	6.00	7	1.71	5.00	7	1.66	4.00	4
Low Vulnerability	1.63	6.00	7	1.57	5.00	7	1.72	4.00	4
Impulsiveness	1.91	3.00	4	1.87	5.00	5	2.00	6.00	7
<b>Low Agreeableness</b>									
Low Trust	1.55	4.00	4	1.61	6.00	7	1.73	5.00	7
Low Straightforw	1.64	3.00	3	1.82	4.00	7	1.66	4.00	4
Low Altruism	1.45	3.00	3	2.07	7.00	7	1.95	5.00	7
Low Compliance	1.68	4.00	3	1.91	6.00	7	1.88	5.50	7
Low Modesty	1.78	4.00	3,4,5	1.89	7.00	7	1.86	5.00	7
Low Tendermind	1.77	4.00	4	1.83	7.00	7	1.69	5.00	7
<b>Extraversion/ Openness</b>									
Low Warmth	1.64	3.00	3	2.10	7.00	7	1.96	5.00	7
Assertiveness	1.60	6.00	7	1.59	5.00	5	1.69	4.00	4
Excite Seeking	1.56	6.00	7	1.99	5.00	6	1.64	5.00	6
Low Feelings	1.69	4.00	4	2.01	5.00	7	2.00	5.00	7
Actions	1.69	6.00	7	1.90	3.00	1	1.88	4.00	6
<b>Low Conscientious</b>									
Competence	1.62	6.00	6	1.74	3.00	1	1.83	3.00	1

Low Dutifulness	1.74	4.00	3	1.89	6.00	7	1.87	6.00	7
Low Deliberation	1.90	5.00	7	1.72	5.00	7	1.96	5.00	7
Low Self-Disciplin	1.73	3.00	2	1.77	5.00	7	1.67	5.00	7
<b>Foils</b>									
Gregariousness	1.59	5.00	6	2.06	2.00	1	1.83	3.00	4
Activity	1.56	5.00	6	1.62	4.00	4	1.64	4.00	5
Fantasy	1.78	4.00	5	1.94	3.00	1	1.86	4.00	4
Ideas	1.67	5.00	6	1.92	3.00	1	1.76	4.00	4
Values	1.76	5.00	4	1.84	4.00	1	1.83	4.00	5
Achievement	1.51	6.00	6	1.92	4.00	1	1.84	3.00	4
<b>Miscellaneous</b>									
Positive Emotions	1.53	5.00	5	2.17	2.00	1	1.99	3.00	1
Order	1.70	4.00	4	2.02	3.00	1	1.87	2.00	1
Aesthetics	1.73	4.00	4	1.99	2.00	1	1.98	3.50	1,4

Note. *SD* = Standard deviation; Med = Median; Low Conscientious = Low Conscientiousness; Low Depressive = Low Depressiveness; Low Self-Consci = Low Self-Consciousness; Low Straightforw = Low Straightforwardness; Low Tendermind = Low Tendermindedness; Low Self-Disciplin = Low Self-Discipline.

## **Research Question 2. Do boldness, meanness, and disinhibition show lexical similarity to the CAPP and FFM psychopathy domains?**

### **Assessment of MANOVA assumptions**

A one-way MANOVA was conducted to discover if differences existed between the boldness, meanness, and disinhibition groups and their similarity ratings with the CAPP and FFM domains. MANOVA holds several assumptions, chief of them being homogeneity of error variance. In the current study, this was assed using Levene's test of equality of error variance which revealed heteroscedasticity for CAPP Emotional, Attachment, and Behavioural similarity scores as well as FFM Low Agreeableness and FFM Foils. However, given a large sample size, it is likely that any slight deviation from homoscedasticity would be detected (Garson, 2015). Moreover, when the group sample sizes have a ratio less than 1:1.5 (Stevens, 2009) or even a cell size greater than 20 (Mertler & Vannatta, 2005), MANOVA is considered a robust procedure when facing these violations. The Box test of equality of covariance matrices was examined to

assess homogeneity of covariances. Although the Box test revealed heteroscedasticity of covariances for CAPP ( $F(56, 456084.65) = 3.16, p < .001$ ) and FFM ratings ( $F(30, 468560.46) = 2.89, p < .001$ ), this assumption violation primarily affects Type II error/power issues when group *ns* are equal (Stevens, 2009). In the current study, the observed power for the MANOVA analyses was 1.00, and therefore, heteroscedasticity of covariances was not considered a substantial assumption violation.

The assumption of independence of observations was upheld for three reasons. First, the study ratings were not completed in group settings (i.e., participants completed the study individually). Second, independent observations were maintained by random assignment to conditions. Third, the between-subject design assured that each participant was in no more than one group, and only one set of ratings was collected from each individual. The assumption of multivariate normality was assessed by investigating both univariate and bivariate normality. Generally, the groups did not reach a significant violation of the Shapiro-Wilk's test of univariate normality ( $p < .001$ ), yet there were several instances of statistical non-normality for both CAPP and FFM similarity scores. However, in such instances the skewness and kurtosis values were not greater than 1, and fell within twice the value of their respective standard errors. Thus, these assumption violations were deemed negligible, and the analyses could continue as planned. Multivariate normality was investigated by examining bivariate scatterplots; for the present study, the bivariate scatterplots had elliptical patterns suggesting bivariate normality.

## **Covariates**

For gender, only CAPP foils differed as men rated scores higher than women ( $t(427) = 2.33, p = .020, d = .23$ ). No difference between levels of fluency existed. A One-Way ANOVA was used to test differences between ethnic groups. No differences existed for CAPP domains, although CAPP foil scores differed between ethnic groups ( $F(5, 423) = 2.63, p = .024, \eta^2 = .03$ ). Ethnic differences were revealed for all FFM similarity scores: Agreeableness, ( $F(5, 423) = 3.57, p = .004, \eta^2 = .00$ ) Conscientiousness ( $F(5, 420) = 3.47, p = .004, \eta^2 = .03$ ), Neuroticism ( $F(5, 422) = 2.63, p = .023, \eta^2 = .03$ ), and Extraversion/Openness ( $F(5, 420) = 3.43, p = .005, \eta^2 = .03$ ).

However, because the gender and ethnic differences were inconsistent, small, did not reach the current set  $\alpha$  level, and were without theoretical rationale for being covariates, they were not included as factors in the MANOVA analyses.

The hypothesis that boldness would be unrelated to CAPP domains was partially supported. The MANOVA results revealed differences between the boldness, meanness, and disinhibition groups for CAPP domains and the foil symptoms Wilk's  $\lambda = 0.57$ , ( $F(14, 794) = 18.17$ ,  $p < .001$ ,  $\eta^2 = .24$ ). Next, one-way ANOVAs revealed that CAPP Emotional  $F(2, 405) = 11.1$ ,  $p < .001$ ,  $\eta^2 = .05$ ), Dominance  $F(2, 405) = 31.94$ ,  $p < .001$ ,  $\eta^2 = .14$ ), Cognitive  $F(2, 405) = 22.45$ ,  $p < .001$ ,  $\eta^2 = .10$ ), Behavioural  $F(2, 405) = 21.31$ ,  $p < .001$ ,  $\eta^2 = .10$ ), Attachment  $F(2, 405) = 41.88$ ,  $p < .001$ ,  $\eta^2 = .17$ ) and Foil  $F(2, 405) = 9.19$ ,  $p < .001$ ,  $\eta^2 = .04$ ) similarity scores all differed between boldness, meanness, and disinhibition groups. However, contrary to my hypothesis, CAPP Self similarity scores did not differ between boldness, meanness, and disinhibition  $F(2, 405) = 1.73$ ,  $p = .179$ ,  $\eta^2 = .01$ ).

Next, Tukey's HSD tests were conducted to examine pairwise differences between boldness, meanness, and disinhibition groups on each dependent variable (i.e., CAPP domains and foils). As seen in Table 4, the analyses revealed a number of differences between the groups. Aside for Self similarity scores, boldness was rated less similar than either meanness or disinhibition for all other CAPP domains ( $d = .73 - 1.04$ ). Moreover, boldness was rated more similar than meanness to the CAPP foils ( $d = .52$ )—symptoms that are conceptually unrelated to psychopathy. The foil symptoms were rated the second most similar CAPP domain for boldness apart from the Self domain.

**Table 4. Differences in Mean CAPP Domain and Foil Similarity Scores Between Boldness, Meanness, and Disinhibition Groups**

CAPP Domain	Boldness		Meanness		Disinhibition		<i>d1</i>	<i>d2</i>	<i>d3</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Self	4.01	1.15	4.09	1.11	4.25	1.11	.07	.21	.14
Emotional	3.31	1.00	3.83	1.27	3.98	1.46	.45**	.54***	.11
Dominance	3.20	1.13	4.64	1.64	3.87	1.50	1.02***	.50**	.49***
Attachment	2.62	1.34	4.31	1.87	3.95	1.65	1.04***	.88***	.20
Behavioural	3.37	1.24	3.68	1.29	4.43	1.62	.25	.73***	.51***
Cognitive	3.05	1.27	3.53	1.23	4.12	1.48	.38**	.78***	.43**
Foils	3.49	1.18	2.82	1.40	3.17	1.26	.52***	.26	.26

Note. *d1* = Cohen's *d* between Boldness and Meanness groups; *d2* = Cohen's *d* between Boldness and Disinhibition groups; *d3* = Cohen's *d* between Meanness and Disinhibition groups.

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

My hypothesis was partially supported such that boldness was less similar to the FFM psychopathy domains save for FFM Neuroticism. A one-way MANOVA was also conducted to answer if differences in FFM domain similarity scores existed across between the boldness, meanness, and disinhibition groups. The MANOVA revealed differences between boldness, meanness, and disinhibition groups for FFM domains and the foil symptoms, Wilks'  $\lambda = 0.69$ , ( $F(10, 764) = 15.37$ ,  $p < .001$ ,  $\eta^2 = .17$ ). To examine group differences for each dependent variable (i.e., FFM domains and foils), one-way ANOVAs were conducted. The ANOVA results revealed that similarity scores for FFM Low Agreeableness ( $F(2, 388) = 48.64$ ,  $p < .001$ ,  $\eta^2 = .20$ ), Low Conscientiousness ( $F(2, 388) = 22.70$ ,  $p < .001$ ,  $\eta^2 = .11$ ), and Foils ( $F(2, 388) = 46.22$ ,  $p < .001$ ,  $\eta^2 = .19$ ) differed between the boldness, meanness, and disinhibition groups. Contrary to my hypothesis, differences between these groups did not reach statistical significance for both FFM Neuroticism ( $F(2, 388) = 5.52$ ,  $p = .004$ ,  $\eta^2 = .03$ ), and FFM Extraversion/Openness ( $F(2, 388) = 1.36$ ,  $p = .214$ ,  $\eta^2 = .01$ ).

Next, Tukey's HSD tests were conducted to examine any pairwise differences between the boldness, meanness, and disinhibition groups for similarity scores of any of the FFM domains or foils. As seen in Table 5, boldness was rated as less similar compared to meanness and disinhibition for Low Agreeableness and Low

Conscientiousness, but more similar to FFM psychopathy Foils ( $d = .73 - 1.24$ ). In contrast, no significant differences existed between the meanness and disinhibition groups and their FFM psychopathy similarity ratings. As hypothesized, boldness was rated most similar to the FFM Foils domain—facets that were conceptually unrelated to psychopathy.

**Table 5. Differences in Mean FFM Psychopathy Domain and Foil Similarity Scores Between Boldness, Meanness, and Disinhibition Groups**

FFM Domain	Boldness		Meanness		Disinhibition		<i>d1</i>	<i>d2</i>	<i>d3</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Low Agree	3.73	1.12	5.40	1.54	4.82	1.44	1.24***	.84***	.39**
Low Consc	3.96	0.75	4.59	0.89	4.56	0.89	.77***	.73***	.03
Neuroticism	4.72	0.88	4.90	1.00	4.52	0.88	.19	.22	.40**
Extra/Open	4.66	1.02	4.57	0.94	4.46	0.84	.09	.21	.12
Foils	4.76	1.00	3.34	1.52	3.63	1.21	1.10***	1.02***	.21

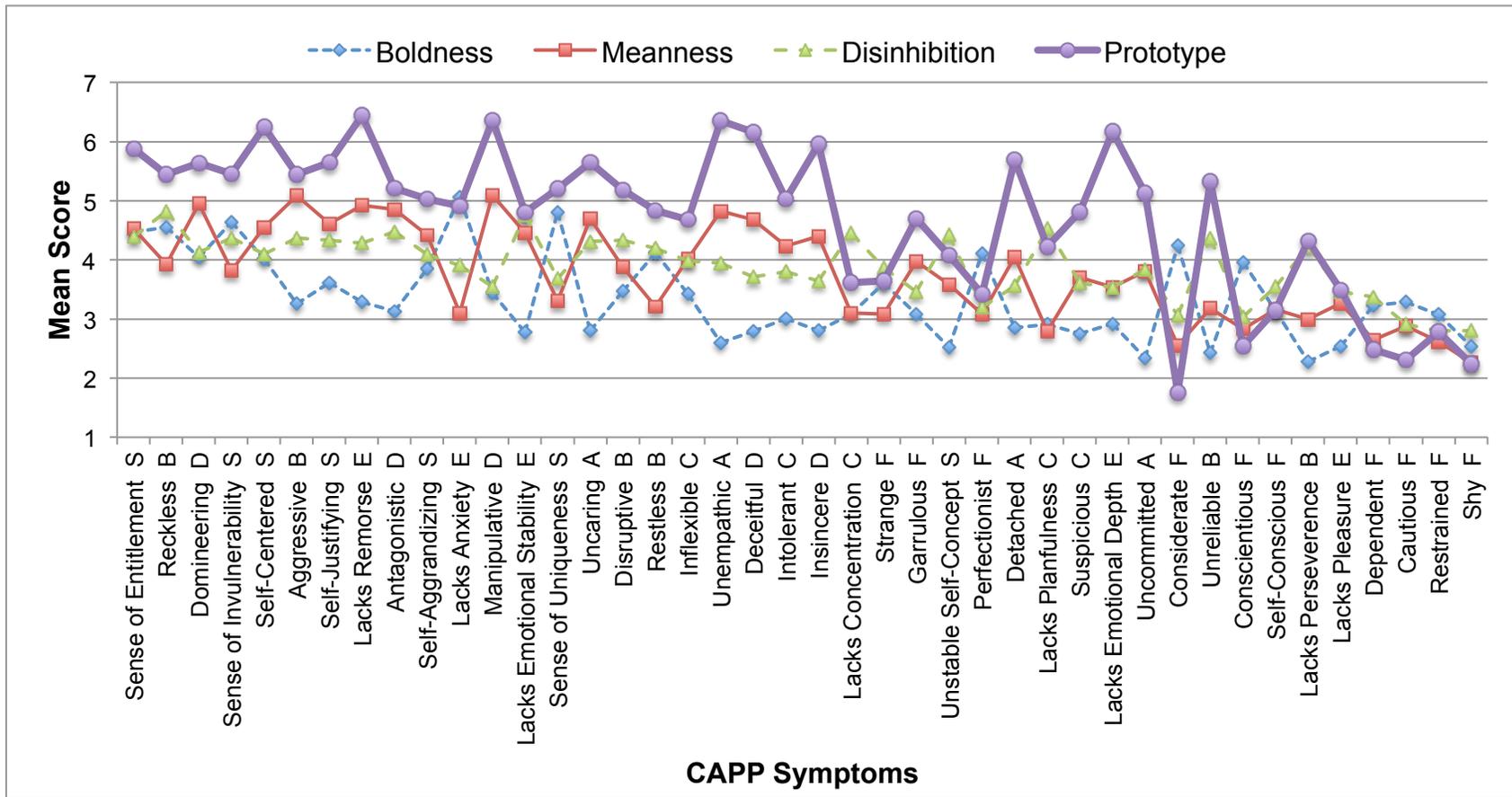
Note. *d1* = Cohen's *d* between Boldness and Meanness groups; *d2* = Cohen's *d* between Boldness and Disinhibition groups; *d3* = Cohen's *d* between Meanness and Disinhibition groups. Low Agree = Low Agreeableness; Low Consc = Low Conscientiousness; Extra/Open = Extraversion/Openness.  
 $*p < .05$   $**p < .01$   $***p < .001$

### **Research Question 3. What is the agreement and consistency between previous CAPP prototypicality ratings and the current CAPP similarity ratings for boldness, meanness, and disinhibition?**

To test research question 3, I indexed the rank ordering of prototypicality mean (i.e., average) CAPP symptom and foil ratings with the mean value of the CAPP symptom similarity ratings for boldness, meanness, and disinhibition. As hypothesized, CAPP similarity ratings for boldness were the least consistent with the order of previous CAPP prototypicality ratings. Specifically, the Model 3, or two-way mixed effects model, average measure, consistency type ICC for boldness was .12, 95% confidence interval (CI) [-.64, .53],  $p = .345$ . However, the ICC for meanness was .85, 95% CI [.72, .92],  $p < .001$ , and the ICC for disinhibition was .58, 95% CI [.22, .77],  $p = .003$ . Thus, it appears that, typically, the CAPP symptoms rated most similar to meanness were also the most prototypical CAPP symptoms found in previous studies. In other words, the

shape of the plot lines for meanness and past prototypicality were very similar (see Figure 3). Such was the case for similarity scores for disinhibition, but less so in comparison to meanness. However, for boldness, there was very little consistency in the rank ordering of the CAPP symptoms between the current similarity ratings and past prototypicality ratings. In contrast to meanness, the shape of the plot line for boldness similarity ratings was much different in comparison to the plot line for prototypicality ratings.

Next, I tested the absolute agreement between previous CAPP prototypicality ratings and the CAPP similarity ratings for boldness, meanness, and disinhibition. As hypothesized, CAPP similarity ratings for boldness shared the least absolute agreement with the mean scores of previous CAPP prototypicality ratings. Specifically, the Model 3, or two-way mixed effects model, average measure, absolute agreement type ICC for boldness was .07, 95% CI [-.26, .37],  $p = .345$ . However, the ICC for meanness was .70, 95% CI [-.11, .89],  $p < .001$ , and the ICC for disinhibition was .47, 95% CI [-.03, .72],  $p = .003$ . Parallel to the ICC consistency values, the absolute value of boldness similarity ratings differed greatly from previous prototypicality studies. As seen in Figure 3, the elevation of the plot line for boldness similarity ratings showed the greatest disparity in comparison to the plot line for prototypicality ratings. Specifically, similarity ratings between boldness and the CAPP were much lower than previous prototypicality ratings. The absolute agreement for meanness and disinhibition similarity ratings with CAPP prototypicality ratings was lower than the consistency ICC values, but still much higher than boldness.



**Figure 3. Comparing Previous CAPP Prototype Ratings with Mean CAPP Symptom Similarity Scores for the Boldness, Meanness, and Disinhibition Groups.**

Note. Prototype = Previous CAPP prototype ratings; S = Self Domain; B = Behavioural Domain; D = Dominance Domain; E = Emotional Domain; A = Attachment Domain C = Cognitive Domain; F = CAPP Foils

## **Research Question 4. What is the relationship between boldness, meanness, or disinhibition and the outcome variables?**

### **Descriptive Statistics**

As seen in Table 6, there was a small positive correlation between boldness and meanness ( $r = .22$ ), a small negative correlation between boldness and disinhibition ( $r = -.16$ ), and a large positive correlation between meanness and disinhibition ( $r = .47$ ) in the present study. These correlations are consistent with previous findings (Drislane et al., 2014; Patrick & Drislane, 2014; Sellbom & Phillips, 2013; Stanley et al., 2013). With respect to internal consistency, alpha coefficients for boldness, meanness, and disinhibition were good ( $\alpha = .84, .87, .83$ , respectively) based on both Nunnally and Bernstein's (1978) as well as Lance, Butts, and Michels' suggested cut-off values of .70 and .80, respectively. Other indices of internal consistency include mean inter-item correlations (MICs) and corrected item-total correlations (CITCs) as they are less influenced by the number of items on a measure or subscale than Cronbach's  $\alpha$ . Clark and Watson (1995) suggest that MIC values between .15 and .50 are acceptable. MIC values were all acceptable for boldness, meanness, and disinhibition (.23, .28, .20, respectively). For boldness CITC values ranged from .30 to .59, for meanness CITC values ranged from .24 to .68, for disinhibition CITC values ranged from .28 to .55, and the deletion of scale items never improved  $\alpha$  for any of the TriPM scales.

**Table 6. Psychometric Properties of the TriPM**

Variable	Median	<i>M</i> ( <i>SD</i> )	Range	Skew	Reliability		
					$\alpha$	MIC	CITC
Total	114.00	117.33 (17.87)	81.45 – 184.00	0.84	0.87	0.11	-.04 – .54
Boldness	48.00	48.05 (9.18)	23.00 – 71.00	-0.15	0.84	0.23	.30 – .59
Meanness	31.29	32.89 (8.80)	19.00 – 71.00	0.98	0.87	0.28	.24 – .68
Disinhibition	35.00	36.53 (8.44)	21.00 – 66.00	0.58	0.83	0.20	.28 – .55

Note. Total = TriPM Total Score; *M* = mean; *SD* = standard deviation; MIC = mean inter-item correlation; CITC = corrected item – total correlation.

As seen in Table 7, the majority of the outcome scales had adequate internal consistency as demonstrated by Cronbach's alpha with the exception of the SEQ sociability and SEQ antisocial behaviour scales. The majority of the outcome scales evidenced MICs that fell within an acceptable range with the only extreme discrepancy being SEQ sociability ( $\alpha = -0.09$ ). An examination of CITCs revealed that, generally, Cronbach's alpha would not improve if a particular item was removed from a measure or subscale. Certain scales did have a problematic item that would increase Cronbach's  $\alpha$ , but by no more than 0.01. Again, SEQ sociability had major internal consistency concerns, the deletion of items 4, 21, and 27 would considerably increase Cronbach's  $\alpha$  by approximately 0.20. Analyses were conducted for all the subscales, but issues with internal consistency were considered in their interpretation.

**Table 7. Psychometric Properties of the Outcome Measures**

Variable	Median	<i>M</i> ( <i>SD</i> )	Range	Skew	Reliability		
					$\alpha$	MIC	CITC
DAST	1.00	1.47 (2.47)	0.00 – 21.00	3.54	0.77	0.18	-.04 – .56
STAB phys	17.00	18.14 (5.87)	10.00 – 42.00	1.30	0.85	0.38	.45 – .67
STAB soc	22.00	22.48 (6.45)	11.00 – 51.00	0.76	0.86	0.36	.44 – .67
STAB rule	12.00	12.94(3.71)	21.00 – 42.00	3.98	0.82	0.32	.37 – .68
PSA	64.00	61.88 (9.42)	18.00 – 80.00	-0.97	0.86	0.28	.29 – .66
SEQ total	110.50	110.27 (11.25)	73.00 – 138.00	-0.40	0.77	0.12	-.22 – .56
SEQ emo	21.00	20.99 (3.16)	8.00 – 25.00	-0.71	0.84	0.52	.57 – .74
SEQ emp	19.00	19.14 (3.27)	5.00 – 25.00	-0.74	0.75	0.37	.34 – .62
SEQ conf	13.00	12.56 (1.87)	6.00 – 15.00	-0.72	0.53	0.29	.29 – .39
SEQ anti	13.00	12.81 (2.54)	7.00 – 20.00	0.12	0.39	0.14	.08 – .37
SEQ soc	22.00	22.46 (3.00)	14.00 – 32.00	-0.10	-0.09	-0.02	-.24 – .19
IODS int	12.00	14.09 (7.15)	7.00 – 46.00	1.33	0.82	0.43	.49 – .70
IODS org	24.00	25.83 (1.05)	12.00 – 74.00	1.05	0.80	0.27	.33 – .61
RB	5.00	5.28 (3.69)	0.00 – 19.00	0.65	0.80	0.16	.19 – .52
RB cons	0.00	0.69 (1.21)	0.00 – 12.00	4.28	0.67	0.10	-.05 – .64
RB Driving	2.00	2.38 (2.27)	0.00 – 8.00	0.84	0.79	0.34	.42 – .54
RB Planned	2.00	2.09 (1.76)	0.00 – 9.00	1.02	0.56	0.12	.17 – .33
BIS total	62.00	62.46 (10.61)	35.00 – 100.00	0.31	0.84	0.15	.03 – .58
BIS AI	17.00	17.30 (3.76)	8.00 – 28.57	0.20	0.68	0.21	.19 – .55
BIS MI	21.00	21.39 (4.22)	11.00 – 38.00	0.48	0.66	0.16	.10 – .57
BIS NI	24.00	23.75 (5.02)	11.00 – 39.00	0.21	0.74	0.21	.20 – .65

Note. DAST = DAST total score; STAB phys = STAB Physical Aggression score; STAB soc = STAB social aggression score; STAB rule = STAB rule-breaking score; PSA = PSA total score; SEQ total = SEQ total score; SEQ emo = SEQ emotion recognition score; SEQ conf = SEQ conformity score; SEQ anti = SEQ antisocial behavior score; SEQ soc = SEQ sociability score; IODS int = IODS interpersonal deviance score; IODS org = SEQ organizational deviance score; RB = Risky Behaviour without consequences score; RB cons = Risky Behaviour consequences score; RB Drive = RB Driving/Adolescence Scale; RB Planned = RB Planned/Adult; BIS total = BIS total score; BIS AI = BIS attentional impulsiveness score; BIS MI = BIS motor impulsiveness score; BIS NI = BIS non-planning impulsiveness score; *M* = mean; *SD* = standard deviation; MIC = mean inter-item correlation; CITC = corrected item – total correlation.

Over their lifetimes, 60.1% of participants had been violent and 61.5% had been victimized. In the six months prior to their participation, 38.1% of participants had been physically violent and 32.7% had been physically victimized—the majority of these outcomes consisted of pushing, kicking, and or throwing objects. Approximately one fifth

of participants (20.5%) had also been non-physically violent (e.g., yelling, uttering threats) within the past six months, whereas approximately one third of the sample (36.5%) had been non-physically victimized within the past six months.

## **Assessment of Assumptions**

PPMC correlational analyses include the assumption of independently distributed observations. Independence of observations was upheld because the study was not completed in group settings (i.e., participants completed the study individually) and only one set of ratings were completed per participant. The assumption of linearity between independent and dependent variables was tested by examining bivariate scatterplots. This assumption was not violated as scatterplots displayed an elliptical pattern or at least did not seriously deviate from this pattern. As the assumption of bivariate normality is hard to test, the univariate normality of variables was assessed using visual observation of q-q plots and histograms. In instances where normality appeared to be violated, a heuristic was implemented where if the standard error was less than half value of the skewness score this suggested non-normality. As seen in Table 6 and 7, there were many variables that were skewed. Consequently, base 10 log transformations were applied to remedy this assumption violation. Many of the variables became far less skewed (i.e., standard errors were more than half the skewness value, or skewness values were significantly lower than 1). However, STAB rule-breaking, Risky Behaviour consequences, non-physical victimization, and non-physical violence scores remained skewed. Resultantly, Spearman's rho correlation coefficients were computed—a non-parametric procedure measuring the strength between two variables that does not assume a population distribution (Hauke & Kossowski, 2011).

The hypothesis that boldness would show a differing pattern of associations in comparison to meanness and disinhibition was supported. Table 8 presents a clear bifurcated relationship between TriPM boldness and the outcomes in comparison to the bivariate correlations for TriPM total, meanness, and disinhibition scores. Boldness was unrelated to PSA and SEQ scores—but approaching a significant positive relationship ( $r = -.04$  to  $.16$ )—whereas meanness and disinhibition shared moderate to large negative correlations with these outcomes ( $r = -.21$  to  $-.61$ ). Two exceptions existed where

disinhibition did not reach a statistically significant relationship with PSA total ( $r = -.13$ ,  $p = .004$ ) and SEQ emotion recognition ( $r = -.15$ ,  $p = .001$ ) scores when controlling for pairwise Type I errors ( $p < .001$ ). Likewise, boldness was unrelated to minor forms of antisocial behaviour as measured by IODS organizational deviance and STAB subscales ( $r = -.07$  to  $.07$ ). However, boldness and IODS interpersonal deviance did share a small to moderate positive correlation ( $r = .19$ ). Again, meanness and disinhibition differed from boldness as the analyses revealed moderate to large positive correlations with these minor antisocial outcomes ( $r = .26$  to  $.46$ ). Impulsive or externalizing outcomes (i.e., DAST and BIS scores) were predominantly unrelated to or negatively correlated with boldness ( $r = -.27$  to  $.08$ ). Meanness and disinhibition were positively correlated with these outcomes ( $r = .11$  to  $.65$ ). However, boldness was positively correlated with Total RB ( $r = .18$ ) and Driving/Adolescence ( $r = .23$ ) risky behaviour scores, but not the Planned/Adult risky behaviour scores ( $r = .13$ ). Conversely, disinhibition was associated with Planned/Adult ( $r = .23$ ) and Total RB scores ( $r = .16$ ), but not Driving/Adolescence scores ( $r = .11$ ). Meanness was unrelated to all forms of risky behaviour ( $r = .13 - .15$ ).

**Table 8. Pearson Product Moment Correlations Between TriPM and Outcome Variables**

Variable	TriPM			
	Total	Boldness	Meanness	Disinhibition
TriPM Total	—	—	—	—
Boldness	.56***	—	—	—
Meanness	.82***	.21***	—	—
Disinhibition	.62***	-.16**	.46***	—
PSA	-.20***	.11*	-.39***	-.13**
SEQ total	-.42***	.16**	-.61***	-.42***
SEQ emo	-.12**	.12**	-.25***	-.15**
SEQ emp	-.28***	.11*	-.49***	-.21***
SEQ conf	-.33***	.12**	-.49***	-.34***
SEQ anti	-.43***	-.04	-.44***	-.42***
SEQ soc	-.15**	.15**	-.26***	-.21***
STAB phys	.46***	.03	.46***	.46***
STAB soc	.31***	-.06	.32***	.38***
IODS int	.46***	.19***	.45***	.29***
IODS org	.25***	-.07	.26***	.33***
DAST	.26***	.08	.17***	.28***
RB Total	.25***	.18***	.15**	.16***
RB Drive	.25***	.23***	.15**	.11*
RB Planned	.25***	.13**	.13**	.23***
BIS total	.37***	-.22***	.37***	.65***
BIS AI	.26***	-.25***	.32***	.50***
BIS MI	.42***	-.01	.30***	.57***
BIS NI	.22***	-.27***	.27***	.50***

Note. DAST = DAST total score; STAB phys = STAB Physical Aggression score; STAB soc = STAB social aggression score; STAB rule = STAB rule-breaking score; PSA = PSA total score; SEQ total = SEQ total score; SEQ emo = SEQ emotion recognition score; SEQ emp = SEQ empathy score; conf = SEQ conformity score; SEQ anti = SEQ antisocial behavior score; SEQ soc = SEQ sociability score; IODS int = IODS interpersonal deviance score; IODS org = SEQ organizational deviance score; RB Total = Risky Behaviour without consequences score; RB Drive = RB Driving/Adolescence Scale; RB Planned = RB Planned/Adult; BIS total = BIS total score; BIS AI = BIS attentional impulsiveness score; BIS MI = BIS motor impulsiveness score; BIS NI = BIS non-planning impulsiveness score.

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

The same pattern of correlations was revealed with respect to the non-parametric correlations found in Table 9. Boldness was unrelated to all forms of violence and victimization, as well as risky behaviour consequences and STAB rule-breaking ( $r = -.01$  to  $.10$ ). Disinhibition was positively correlated with all the outcomes ( $r = .20 - .42$ ) whereas meanness shared small to moderate relationships with physical violence, physical victimization, and STAB rule-breaking ( $r = .18 - .38$ ), but not non-physical victimization, non-physical violence or risky behaviour consequences. In sum, boldness typically shared a small positive association with prosocial outcomes and was unrelated to or negatively correlated with antisocial outcomes. Conversely, meanness and disinhibition were positively associated with antisocial outcomes, but negatively associated with prosocial outcomes.

**Table 9. Non-Parametric Spearman’s Correlations Between TriPM and Outcome Variables**

Variable	TriPM			
	Total	Boldness	Meanness	Disinhibition
Physical Vio	.33***	.09*	.35***	.27***
Non-Physical Vio	.17***	.06	.13**	.20***
Physical Vict	.22***	.06	.18***	.25***
Non-Physical Vict	.18***	.10*	.05	.23***
RB consequences	.10*	-.01	.05*	.21***
STAB rule-breaking	.41***	.06	.38***	.42***

Note. Physical Vio = Number of different physical violent acts in the past 6 months; Non-Physical Vio = Number of different non-physical violent acts in the past 6 months; Physical Vict = Number of different physical victimizations in the past 6 months; Non-Physical Vict = Number of different non-physical victimization acts in the past 6 months; STAB rule = STAB rule-breaking score.

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

## **Research Question 5. Does boldness add incrementally to established components of psychopathy in predicting a host of outcomes?**

### **Assessment of Assumptions**

Hierarchical linear regression was conducted to examine the incremental value of boldness by testing if significant changes in the model existed (i.e.,  $\Delta R^2$ ). First, several

assumptions were examined that are relevant to linear multiple regression (Cohen et al., 2003). As mentioned in the assumptions of correlational analyses, the bivariate relationships appeared linear. Again, univariate and bivariate normality were reasonable and certain variables were transformed as per the correlations analyses above. The assumption that the independent variables were measured without error was upheld as the TriPM subscale scores had good internal reliability as seen in Table 6 and the descriptive statistics. Independence of errors was assumed to be true given that participants completed the study individually (i.e., not in groups) and were sampled randomly. Homoscedasticity of errors was assessed by examining a scatterplot of the residuals and predicted values. Most scatterplots demonstrated a pattern resembling a shapeless cloud indicating that the assumption of homoscedasticity held true.

The assumption of normality of errors was assessed by observing q-q plots and histograms. The majority of the models' errors did not deviate from the reference line of q-q plots or did not appear non-normal in the histograms, however, the following regression models' errors appeared to be non-normal and heteroscedastic: STAB rule-breaking, SEQ emotional recognition, RB consequences, non-physical violence, and non-physical victimization. Violating the assumption of normally distributed errors can influence coefficient estimates and increase Type 1 errors (Long, 2008; Nimon, 2012). Because the RB consequences and all forms of violence and victimization were count data, skewed, and had nonnormal errors, Poisson regressions were conducted to confirm that the assumption violations were not severe. The Poisson regression results were very consistent with the ordinary least squares regressions. Additionally, multiple regression is generally a robust procedure to all assumption violations save for independence of observations (Cohen et al., 2003; Stevens, 2005). Moderate violations may obscure the findings slightly, but they do not invalidate the inferences substantially (Cohen et al., 2003). Therefore, regression analyses were deemed acceptable for all outcome variables to maintain consistency of interpretation.

Multicollinearity was considered an issue if tolerance values were less than 0.10 or if variance inflation factor (VIF) values were approaching a score greater than 4 (Garson, 2013b). Across all regression analyses, tolerance and VIF values were greater than 0.58 and less than 1.70, respectively. Thus, nonessential multicollinearity did not

appear to affect the results. Centered leverage values were examined to diagnose influential or extreme independent variable values. Leverage values above 1 were considered influential, and no values approached this threshold as the maximum leverage value was 0.24. Extreme outcome values were identified if studentized residual scores were greater than 4. BIS attentional impulsiveness, STAB rule-breaking, and RB consequences had a small number (i.e., fewer than 5) of extreme outcome values. DFBETAS were examined for influence of specific regression coefficients. DFBETAS were considered influential if greater than a cut-off of  $\pm 2/\sqrt{n}$  (Cohen et al., 2003), but no such cases existed in the present sample. DFFITS values were used as global measures of influences, and were considered influential when values exceeded the cut-off of  $2\sqrt{(k + 1)}$  or 0.22. For six regression models, overly influential cases (less than 10 cases per model) were removed before the analyses were conducted.

## Covariates

Previous research has demonstrated that gender differences exist for total and factor scores of psychopathy measures (Forouzan & Cooke, 2005; Hicks et al., 2012) and their relationships with outcome criteria (Leistico et al., 2008). Moreover, in the current sample, males had higher scores on TriPM total ( $t(424) = 6.40, p < .001, d = .63$ ), boldness ( $t(397.83) = 3.25, p = .001, d = .33$ ) and meanness ( $t(413.62) = 7.92, p = .001, d = .78$ ). Therefore, gender was included as a covariate in the regression models. Similarly, ethnic invariability has existed at the measurement (Skeem et al., 2004) and construct level (Cooke, Kosson, & Michie, 2001) of psychopathy. Moreover, small ethnic differences have been reported between psychopathy and external criteria (Camp, Skeem, Barchard, Lilienfeld, & Poythress, 2013; Gatner, Blanchard, Douglas, Lilienfeld, & Edens, manuscript in preparation). In the current sample, ethnic groups differed on TriPM boldness ( $F(5, 415) = 3.37, p = .005, \eta^2 = .04$ ), meanness ( $F(5, 421) = 3.44, p = .005, \eta^2 = .04$ ), and disinhibition ( $F(5, 420) = 5.06, p < .001, \eta^2 = .06$ ). Thus, ethnicity was also included as a covariate in the regression model.

The hypothesis that boldness would not add incremental value to meanness and disinhibition in their association with external criteria was supported. Table 10 presents the first two steps of the hierarchical regression models to examine the incremental

value of boldness in accounting for variance in the antisocial outcomes above and beyond meanness and disinhibition. The covariates, TriPM meanness, and TriPM disinhibition were entered into the first step of the hierarchical regression model. Next, TriPM boldness was added in the second step of the model to examine the potential incremental value of boldness in accounting for variance in a spectrum of positive and antisocial outcomes. Results indicated that although the models significantly accounted for antisocial outcomes, boldness did not add incrementally to the majority of these models. However, boldness added incrementally to meanness and disinhibition in accounting for variance of recent non-physical victimization,  $F(1, 416) = 12.93, p < .001, \Delta R^2 = .03$ ) and boldness contributed to the model uniquely,  $\beta = .18, t(416) = 3.60, p < .001$ . The addition of boldness explained an additional 1.60% of variance in the IODS interpersonal deviance scores that was approaching significance,  $F(1, 403) = 8.23, p = .004$ , and boldness uniquely contributed to the model,  $\beta = .13, t(403) = 2.88, p = .004$ .

**Table 10. Standardized Beta Coefficients from Hierarchical Regression Analyses Predicting Antisocial Outcomes**

Predictor	Phys Vio	Non Phys Vio	Phys Vict	Non Phys Vict	STAB phys	STAB social	STAB rule	IODS org	IODS int
Step 1									
Meanness	.30***	.08	.03	-.05	.31***	.22***	.23***	.14*	.36***
Disinhibition	.13*	.17**	.23***	.28***	.31***	.28***	.33***	.27***	.11*
Gender	.08	-.01	.14**	-.06	.00	-.10	.11	-.03	.12*
Ethnicity	.05	.07	-.01	.04	.03	.01	.01	-.12*	.01
Step 2									
Boldness	.05	.10	.09	.18***	.03	-.03	.10*	-.05	.13**
$\Delta R^2$	.00	.01	.01	.03***	.00	.00	.01*	.00	.02**
Total R <sup>2</sup>	.15***	.07***	.09***	.10***	.29***	.18***	.27***	.14***	.24***

Note. Phys Vio = Number of different physical violent acts in the past 6 months; Non-Phys Vio = Number of different non-physical violent acts in the past 6 months; Phys Vict = Number of different physical victimizations in the past 6 months; Non-Phys Vict = Number of different non-physical victimization acts in the past 6 months; STAB phys = STAB physical aggression; STAB social = STAB social aggression; STAB rule = STAB rule-breaking; IODS org = IODS organizational deviance; IODS int = IODS interpersonal deviance

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

Table 11 presents the first two steps of the hierarchical regression models for the substance use problems, impulsiveness, and risk-taking outcomes. For the BIS,

boldness added incrementally to total ( $F(1, 397) = 14.32, p < .001, \Delta R^2 = .02$ ), attentional impulsiveness ( $F(1, 401) = 26.43, p < .001, \Delta R^2 = .05$ ), and non-planning impulsiveness scores ( $F(1, 411) = 32.64, p < .001, \Delta R^2 = .05$ ). However, the individual contribution of boldness was inversely related to these BIS outcomes in comparison to meanness and disinhibition. For example, meanness ( $\beta = .15, t(402) = 2.82, p = .004$ ) and disinhibition ( $\beta = .44, t(402) = 9.15, p < .001$ ) had positive associations with BIS attentional impulsiveness scores, but the standardized beta coefficient for boldness was negative ( $\beta = -.22, t(401) = -5.14, p < .001$ ). Specifically, for every standard deviation increase in boldness scores, a 0.22 standard deviation decrease in BIS attentional impulsiveness scores would be expected when controlling for other predictors in the model.

However, boldness did add incrementally—and in the same direction—to disinhibition and meanness in accounting for variance in RB total ( $\Delta R^2 = .05, F(1, 412) = 21.99, p < .001$ ), RB Drive/Adolescence ( $\Delta R^2 = .06, F(1, 412) = 27.24, p < .001$ ), and Planned/Adult scores ( $\Delta R^2 = .05, F(1, 413) = 17.18, p < .001$ ). The models only explained a small proportion of variance for RB total ( $R^2 = .10, F(5, 412) = 9.38, p < .001$ ), RB Drive/Adolescence ( $R^2 = .10, F(5, 412) = 9.45, p < .001$ ), and RB Planned/Adult scores ( $R^2 = .11, F(5, 413) = 9.69, p < .001$ ). Meanness did not uniquely contribute to the model but were associated with RB in a positive direction. Disinhibition only uniquely contributed to variance in RB Planned/Adult scores ( $\beta = .21, t(416) = 3.85, p < .001$ ). Similarly, the incremental value of boldness in accounting for a slightly greater proportion of variance in DAST scores was approaching significance ( $\Delta R^2 = .02, F(1, 401) = 7.64, p = .004$ ). The model itself only accounted for a total of 10.00% of the variance in DAST scores; disinhibition uniquely contributed to the model ( $\beta = .26, t(402) = 4.80, p < .001$ ) whereas meanness was not uniquely associated with DAST scores. Boldness did not add incrementally to BIS motor impulsiveness and risky behaviour consequence scores.

**Table 11. Standardized Beta Coefficients from Hierarchical Regression Analyses Predicting BIS, RB, and DAST Scores**

Predictor	BIS Total	BIS AI	BIS MI	BIS NI	RB	RB cons	RB Drive	RB Plan	DAST
Step 1									
Meanness	.15**	.15**	.08	.08	.10	-.11	.11	.06	.04
Disinhibition	.59***	.44***	.54***	.47***	.12*	.23***	.05	.21***	.26***
Gender	-.18**	-.13**	-.10*	-.09	.00	.03	.05	-.05	.00
Ethnicity	-.01	-.03	.02	.03	-.15**	.01	-.13**	-.11*	-.08
Step 2									
Boldness	-.14***	-.22***	.07	-.25***	.23***	.07	.26***	.21***	.14***
$\Delta R^2$	.02***	.05***	.00	.05***	.05***	.00	.06***	.04***	.02**
Total R <sup>2</sup>	.47***	.32***	.34***	.32***	.10***	.05**	.10***	.11***	.10***

Note. BIS AI = BIS Attention Impulsiveness; BIS MI = BIS Motor Impulsiveness; BIS NI = BIS Nonplanning Impulsiveness; RB = Risky behaviour; RB cons = Risky Behaviour consequences; RB Drive = RB Driving/Adolescence Scale; RB Plan = RB Planned/Adult; DAST = DAST total score.

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

Table 12 presents the first two steps of the hierarchical regression models for the prosocial outcomes. Boldness added incrementally to meanness and disinhibition for SEQ total ( $\Delta R^2 = .07$ ,  $F(1, 399) = 50.70$ ,  $p < .001$ ), SEQ emotion recognition ( $\Delta R^2 = .04$ ,  $F(1, 410) = 20.00$ ,  $p < .001$ ), SEQ empathy ( $\Delta R^2 = .06$ ,  $F(1, 405) = 37.57$ ,  $p < .001$ ), SEQ social conformity, SEQ sociability, and PSA total scores ( $\Delta R^2 = .06$ ,  $F(1, 399) = 32.04$ ,  $p < .001$ ). However, the individual contribution of boldness was positively related to these prosocial outcomes, whereas meanness and disinhibition were negatively related. For example, meanness ( $\beta = -.54$ ,  $t(400) = -11.44$ ,  $p < .001$ ) and disinhibition ( $\beta = -.16$ ,  $t(400) = -3.74$ ,  $p < .001$ ) had unique negative associations with SEQ total scores, but the standardized beta coefficient for boldness was positive ( $\beta = .27$ ,  $t(399) = 7.12$ ,  $p < .001$ ). Specifically, for every standard deviation increase in boldness scores, a 0.27 standard deviation increase in SEQ total scores would be expected when controlling for other predictors in the model. Boldness did not add incremental value to the explanation of variance in SEQ antisocial behaviour scores.

**Table 12. Standardized Beta Coefficients from Hierarchical Regression Analyses Predicting Prosocial Outcomes**

Predictor	SEQ total	SEQ emo	SEQ emp	SEQ conf	SEQ anti	SEQ soc	PSA total
Step 1							
Meanness	-.53***	-.18**	-.49***	-.44***	-.37***	-.17**	-.39***
Disinhibition	-.16***	-.04	.03	-.13**	-.26***	-.12*	.08
Gender	-.06	-.13**	-.07	.05	.10*	-.09	-.07
Ethnicity	.03	.00	.07	-.05	.00	.12**	.01
Step 2							
Boldness	.27***	.22***	.27***	.22***	-.01	.20***	.26***
$\Delta R^2$	.07***	.04***	.06***	.04***	.00	.03***	.06***
Total R <sup>2</sup>	.49***	.12***	.32***	.30***	.27***	.13***	.22***

Note. SEQ emo = SEQ emotion recognition; SEQ emp = SEQ empathy; SEQ conf = SEQ conformity; SEQ anti = SEQ antisocial behavior; SEQ soc = SEQ sociability.

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

### **Research Question 6. Does boldness interact with meanness or disinhibition in their prediction of outcome variables?**

My hypotheses were not supported for research question 6, as interactions did not typically emerge between the Triarchic scales and their associations with the outcome variables. Table 13 presents the standardized beta coefficients of the two-way interaction terms between boldness, meanness, and disinhibition in the final step of the hierarchical regression models. The majority of the interactions between boldness, meanness, and disinhibition were small and non-significant. However, there were several noteworthy findings. The largest interaction was between meanness and disinhibition and their association with STAB rule-breaking scores ( $\beta = .17$ ,  $t(414) = 3.90$ ,  $p < .001$ ). Specifically, higher meanness scores were associated with a stronger positive relationship between disinhibition and STAB rule-breaking. There were also two interactions between meanness and disinhibition that were approaching significance for STAB physical aggression ( $\beta = -.09$ ,  $t(418) = -2.09$ ,  $p = .037$ ) and BIS attentional

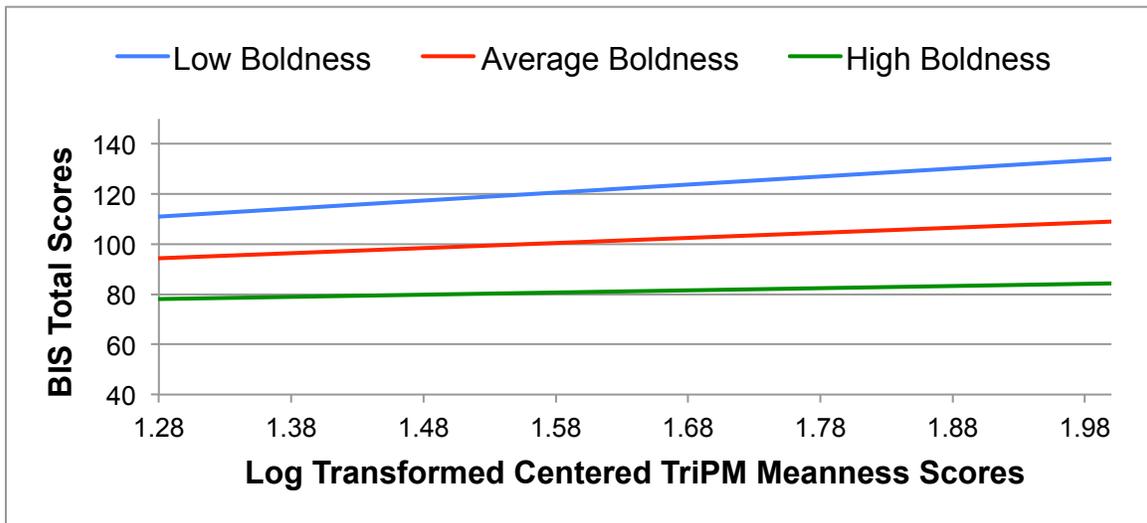
impulsiveness scores ( $\beta = -.09$ ,  $t(405) = -2.12$ ,  $p = .034$ ). Counterintuitively, in both instances, increased meanness scores led to a weaker relationship between disinhibition and STAB physical aggression as well as BIS attentional impulsiveness scores.

**Table 13. Standardized Beta Coefficients for the Two-Way Interaction Terms between Boldness, Meanness, and Disinhibition**

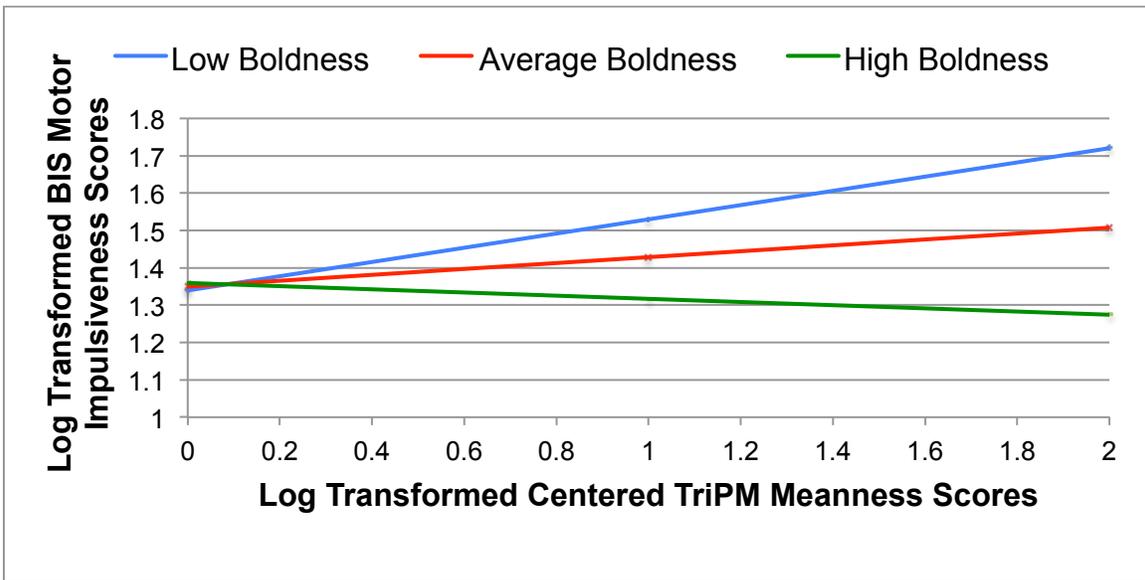
Variable	TriPM Interaction Terms		
	Bold × Mean	Bold × Dis	Mean × Dis
DAST	.06	.01	.07
STAB phys	.06	-.03	-.09*
STAB soc	.06	-.10*	-.05
STAB rule	.06	-.02	.17***
PSA	.07	.02	.01
SEQ total	-.02	-.04	-.01
SEQ emo	-.04	.06	.04
SEQ emp	-.10*	.03	-.08
SEQ conf	.02	.08	.01
SEQ anti	.05	.01	.08
SEQ soc	-.02	.03	.00
IODS int	.01	.01	-.06
IODS org	-.04	.02	-.08
RB	.00	-.05	-.05
RB consequences	-.05	.08	-.08
RB Drive	-.04	.00	-.02
RB Planned	.02	-.08	-.04
BIS total	-.11**	.07	-.07
BIS AI	-.11*	.06	-.09*
BIS MI	-.15**	.08	-.03
BIS NI	-.05	.00	-.01
Physical Vio	.06	-.01	.02
Non-Physical Vio	.05	.00	.00
Physical Vict	.06	-.06	-.05
Non-Physical Vict	.02	-.01	-.01

Note. DAST = DAST total score; STAB phys = STAB Physical Aggression score; STAB soc = STAB social aggression score; STAB rule = STAB rule-breaking score; PSA = PSA total score; SEQ total = SEQ total score; SEQ emo = SEQ emotion recognition score; SEQ conf = SEQ conformity score; SEQ anti = SEQ antisocial behavior score; SEQ soc = SEQ sociability score; IODS int = IODS interpersonal deviance score; IODS org = SEQ organizational deviance score; RB = Risky Behaviour without consequences score; RB Drive = RB Driving/Adolescence Scale; RB Planned = RB Planned/Adult; BIS total = BIS total score; BIS AI = BIS attentional impulsiveness score; BIS MI = BIS motor impulsiveness score; BIS NI = BIS non-planning impulsiveness score. \* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$

Two interactions between boldness and meanness existed. The first was an interaction in accounting for the variance of BIS total scores ( $\beta = -.11$ ,  $t(401) = -2.62$ ,  $p = .009$ ). As seen in Figure 4, higher boldness scores weakened the relationship between meanness and BIS total scores, whereas lower boldness scores strengthened the positive relationship between meanness and BIS scores. A similar interaction (see Figure 5) existed where higher boldness scores weakened the relationship between meanness and BIS motor impulsiveness scores ( $\beta = -.15$ ,  $t(408) = -3.37$ ,  $p = .001$ ). Furthermore, an interaction for BIS attentional impulsiveness scores was approaching significance ( $\beta = -.11$ ,  $t(405) = -2.33$ ,  $p = .020$ ) where higher boldness scores were associated with a weaker relationship between meanness and attentional impulsiveness. In contrast with the previous interactions, increased boldness scores were associated with a stronger negative relationship between meanness and SEQ empathy scores ( $\beta = -.10$ ,  $t(409) = -2.25$ ,  $p = .025$ ). Although this interaction did not reach the threshold for corrected statistical significance, in this instance, boldness interacted with meanness to further diminish adaptive behaviour (i.e., less empathy).



**Figure 4. Interaction between Boldness and Meanness for BIS Total Scores.**



**Figure 5. Interaction between Boldness and Meanness for BIS Motor Impulsiveness Scores.**

No interactions between boldness and disinhibition reached statistical significance. However, there was an interaction between boldness and disinhibition for STAB social aggression scores that was approaching statistical significance ( $\beta = -.10$ ,  $t(419) = -2.01$ ,  $p = .045$ ) such that at increased levels of boldness, the relationship between disinhibition and STAB social aggression became weaker—albeit still positive.

## **Chapter 4. Discussion**

The purpose of the current Master's thesis was to investigate the relevance of boldness in the conceptualization of psychopathy. In a sample of undergraduate students, two forms of research questions were studied. The first line of research was a systematic approach to studying the conceptual or lexical similarities between boldness and other domains of psychopathy. The second line of research was a more traditional, empirical approach to studying psychopathy where participants were assessed on a measure of psychopathy and a host of relevant outcome criteria. The findings from this study suggest that there are several concerns about including boldness—at least as defined by the TriPM—as a central domain of psychopathy.

### **Lexical Similarity of Boldness with Other Models of Psychopathy**

Before discussing the findings of the conceptual component of the study (i.e., CAPP and FFM psychopathy similarity ratings), a general disclaimer is warranted. The current study assumes that the CAPP and FFM psychopathy models are adequate baseline models to compare the importance of the Triarchic components. Although the models have initial support for the accuracy of their conceptualizations, they are still very much in naissance. Furthermore, this study assumes that the CAPP and FFM fully capture the construct of psychopathy. Undoubtedly, no conceptual or theoretical model is going to explain a complex psychological phenomenon completely. However, it appears that the CAPP and FFM are two of the best conceptualizations of psychopathy at present day.

My hypothesis was supported such that boldness was not rated as lexically similar to the majority of the CAPP symptoms and domains. It was only rated highly similar to two distinct CAPP symptoms: Lacks Anxiety and Reckless. More objective or

statistical procedures revealed that boldness was rated as the least similar Triarchic component in comparison to most CAPP domains (although no differences existed for the Self domain). Although boldness was also generally unrelated to FFM of psychopathy facets, it was lexically similar to several Neuroticism facets (i.e., Low Anxiety, Low Vulnerability, Low Depressiveness, Low Self-Consciousness). At the domain level, boldness was less similar to Low Agreeableness and Low Conscientiousness than meanness and disinhibition. Generally, boldness was less conceptually similar to other models of psychopathy in comparison to meanness and disinhibition.

The lexical similarity ratings of boldness with the CAPP and FFM foils were consistent with the pattern of similarity ratings for the psychopathy domains. As hypothesized, boldness was rated most similar to the CAPP foils in comparison to meanness and disinhibition. Similarly, boldness was also rated similar to the FFM of psychopathy foils. In contrast, disinhibition and meanness were unrelated to these symptoms, but boldness was consistently similar to the foils. Additionally, boldness was rated most similar to the FFM of psychopathy foils in comparison to the FFM domains associated with psychopathy. Likewise, boldness was rated most similar to CAPP foils aside for the Self domain. To reiterate, the foils were symptoms and facets that were unrelated to psychopathy. As such, the foils were created as a control set of facets and symptoms to which psychopathy-related traits could be compared. These results suggest that boldness is not indicative of a domain central to psychopathy given that its strongest conceptual similarities lie with these foils.

The accuracy of the current conceptual similarities rests upon the lexical hypothesis that suggests that observable personality traits can be understood by a layperson (Saucier & Goldberg, 1996). Within a model of personality, the greater degree of similarity a trait holds with definitions of multiple traits, then the greater the importance of that particular attribute (Saucier & Goldberg, 2001). In contrast, lexical similarity with only a few adjectives is considered relatively weak evidence as opposed to consistent similarity with numerous traits or groups of traits. Moreover, the lexical hypothesis underpins both the CAPP (Cooke et al., 2012) and the FFM of personality more broadly (Goldberg, 1993). Thus, comparing laypeople's perceived similarity of boldness,

meanness, and disinhibition with many psychopathic adjectives nested in several models of psychopathy can facilitate our understanding of their relevance in the conceptualization of psychopathy. It appeared that boldness demonstrated lexical similarity with only a small group of CAPP symptoms and FFM facets suggesting there is weak evidence for its role as a major domain of psychopathy.

It is not surprising that a domain of psychopathy would be dissimilar or unrelated to certain symptoms of psychopathy. Nor was it expected or logical that each Triarchic domain of psychopathy would capture the entire symptomatology of the disorder as they are distinct—but nonetheless related. However, it should be expected that a central domain of psychopathy would capture a substantial portion of the disorder. For example, meanness was rated dissimilar to certain CAPP symptoms (i.e., Lacks Anxiety, Uncommitted), but the general pattern was that it was similar to a considerable portion of the CAPP and FFM of psychopathy models. Again, this was not the case with respect to boldness.

That boldness was unrelated to a large proportion of psychopathic traits and symptoms is consistent with the meta-analysis conducted by Miller and Lynam (2012). Their conclusion was that boldness is an unnecessary construct within the conceptualization of psychopathy. This claim—and the present findings—can be traced back through the historical development of the construct. Pinel, Prichard, Kraepelin, the McCords, and Robins make very little or no reference to boldness being central to psychopathic personality disorder. Instead, these authors made references to guiltlessness, sadism, deceitfulness, an incapacity for love, impulsiveness, and a lack of volitional control—descriptions that appear to map onto meanness and disinhibition exclusively. The historical depictions of boldness in the context of psychopathy are found primarily in the work of Cleckley's *Mask of Sanity* (1941/1976)

First, the only *explicit* reference that Cleckley (1941) makes to “boldness” in the context of psychopathy is his description of loss of insight. To summarize the psychopath's lack of insight into humour, Cleckley suggests that psychopathic individuals were, “Empty of humor as the empty boldness of a daredevil who wagers his fortune in a dice game where no one is playing for keeps” (1941, p. 244). Thus,

boldness was not even used to describe a symptom of psychopathy, but rather, it was used merely to highlight the poor insight commonly seen in psychopathic individuals. Even if one simplifies the history of psychopathy by focusing solely on the Cleckleyian criteria, only 3 of 16 items show a connection to boldness. According to Patrick and colleagues, boldness was derived from Cleckley's "positive adjustment indicators (good intelligence and social adeptness, absence of delusions or irrationality, absence of nervousness, and low incidence of suicide)" (2009, pg. 915). However, boldness likely does not capture one third of Cleckley's psychopathic features. At face value, these indicators do not appear to define boldness—a connection of social adeptness, risk-taking, and low anxiety.

What is more concerning is that the Triarchic model appears to have misinterpreted Cleckley's reference to fearlessness and boldness (Crego & Widiger, 2014a). For instance, in describing a tough-guy character from an early 20<sup>th</sup> century play *Liliom*, Cleckley wrote, "Liliom's suicide... his warmth, and his strength and *fearlessness* [emphasis added] all stand out in contrast, however, to the personalities we are discussing here" (1941, p. 234). Thus, Cleckley referred to fearlessness as being in direct contrast to psychopathy. Similarly, when Cleckley (1976) described social poise, he stated:

It is highly typical for him not only to escape the abnormal anxiety and tension fundamentally characteristic of this whole diagnostic group [i.e., psychoneurosis] but also to show a relative immunity from such anxiety and worry as might be judged normal or appropriate in disturbing situations ... Even under concrete circumstances that would for the ordinary person cause embarrassment, confusion, acute insecurity, or visible agitation, his relative serenity is likely to be noteworthy... Within himself he appears almost as incapable of anxiety as of profound remorse. (pp. 340-341)

Despite what some have argued (e.g., Lilienfeld et al., 2012), it appears Cleckley was not referring to normal or adaptive anxiety. Rather, this quotation would suggest that it is abnormal and maladaptive for psychopathic individuals not to express anxiety in warranting situations (see Yerkes & Dodson, 1908).

The notion that a personality disorder can be defined by a considerable amount of positive adjustment relies heavily on the case examples provided by Cleckley of the psychopathic businessmen, scientists, and doctors. This raises concern about the reference sample used by Cleckley in his conceptualization: a private psychiatric inpatient facility. Despite criticisms that the PCL-R was biased as its development focused exclusively on correctional facilities, this was not without its reasons. Specifically, that psychopathic personality is highly prevalent in offender populations. Similarly, Cleckley's study of psychopathy in such a unique location may suggest a potential bias in the contemporary inference that a substantial group of non-criminal or successful psychopaths exist (Hall & Benning, 2006). The term successful psychopathy is oxymoronic in the context of a personality disorder as the remaining aspects of psychopathy would likely cause considerable difficulties in advancing through an organization's hierarchy. Research questions about successful psychopathy are in some ways unscientific because it is extremely challenging to observe and measure this phenomenon. Therefore, to suggest that adaptive features associated with boldness are relevant to the full manifestation of a personality disorder appears empirically unsupported and based fully in clinical lore.

I have interpreted that boldness is not a major component of psychopathy because it was not rated similar to the majority of facets and domains in other models of psychopathy. However, it could also be argued that these results suggest that the CAPP and FFM are simply not covering traits related to boldness. Although this is a valid statement, one should consider the developmental process of the CAPP, FFM, and Triarchic models of psychopathy. Both the CAPP (Cooke et al., 2012) and FFM of psychopathy (Miller et al., 2001) relied on samples of experts to augment the authors' conceptualization of psychopathy. Moreover, the authors of the CAPP performed a systematic literature review to compile a list of potential psychopathic symptoms (Cooke et al., 2012). In contrast, it appears that the authors of the Triarchic model (Patrick et al., 2009) relied solely on their own review of the history of psychopathy with no explicit description of the guiding principles underpinning their literature review or the assumptions of their model. This is not to suggest that Patrick and colleagues (2009) held an overt filter of certain historic depictions of psychopathy, but rather to highlight that the other models had more safeguards against natural, implicit biases that may

influence the models. Thus, it is argued that a hierarchy exists for the accuracy of the models based on the scrutiny of the model development. That hierarchy, in descending order of scrutiny, is the CAPP, the FFM of psychopathy, and the Triarchic Model. Therefore, the argument that the CAPP or the FFM are more problematic than the Triarchic model should be made with consideration given to each models' development.

Despite the weight given to the CAPP in this study, the authors of the CAPP have acknowledged that it remains a work in progress (Cooke et al., 2012). However, the CAPP has performed well in validation and prototypicality studies (e.g., Kreis et al., 2012; Sörman et al., 2014). Additionally, and perhaps more importantly, the CAPP is an over-inclusive model to ensure its comprehensiveness. That is, symptoms were included in the model in instances of uncertainty about their relevance to psychopathy (Cooke et al., 2012). Therefore, a compelling argument for boldness being an unnecessary component of psychopathy can be made because boldness was unrelated to this over-inclusive model.

As hypothesized, boldness was rated as dissimilar to most of the psychopathy domains. However, it was similar to several facets of FFM Neuroticism. These facets included Low Anxiety, Low Vulnerability, Low Depressiveness and Low Self-Consciousness. It is interesting to note that meanness was still rated more similar to Neuroticism than boldness, particularly in the context that the Triarchic components appear to show a differential pattern with Neuroticism. For example, Neuroticism was found to share a large negative association with boldness but a large positive association with disinhibition (Poy et al., 2014). Similarly, anxiousness, as measured by the Personality Inventory for the DSM-5 (Krueger, Derringer, Markon, Watson, & Skodol, 2012), was negatively associated with boldness (Crego & Widiger, 2014b) but unrelated to meanness and disinhibition (Anderson et al., 2014). It appears that low anxiousness and boldness are highly similar, but this begs the question, how important is low anxiety to psychopathy—particularly when it is unrelated or positively related to meanness and disinhibition? When looking at mean and median similarity ratings, there were no CAPP symptoms or FFM facets that were uniquely related to boldness aside for FFM Competence. Additionally, boldness was unrelated to aspects of high Neuroticism that are associated with psychopathy such as angry-hostility and impulsiveness. Is boldness

then simply present in a certain subtype of psychopathic individuals, and can boldness be central to psychopathy if it is not necessary for a diagnosis of the personality disorder?

The lexical similarity findings of boldness must be understood in the context that the majority of CAPP and FFM symptoms/facets did not have high mean similarity scores with any of the Triarchic conditions. That is, the descriptions of established features of psychopathy (i.e., meanness and disinhibition) were also often not viewed as matching the descriptions with a high degree of similarity at least using mean values. For those reasons, much of the interpretation relies on the median and mode similarity ratings, as well as the relative differences in between boldness, meanness, and disinhibition. Lower ratings have also been found in psychopathy prototypicality studies with undergraduate students and jury members in comparison to mental health professionals (e.g., Lim & Hart, 2014; Smith, Edens, Clark, & Rulseh, 2014).

### **Lexical Similarity for Meanness and Disinhibition**

Given that boldness was not lexically or conceptually analogous to many domains of psychopathy, this raises the question: What domain was most similar to both models of psychopathy? The results suggest that domain was meanness. It had the highest mean rating, most commonly occurring ratings of extreme similarity, and meanness was dissimilar to foils in both models. As hypothesized, meanness was associated with the Dominance domain of the CAPP; however, it was unexpected that meanness would be rated more similar to the Self Domain in comparison to the Emotional domain of the CAPP. The hypothesis that meanness would be rated similar to FFM Low Conscientiousness and Low Agreeableness was confirmed, but meanness was also similar to FFM Neuroticism. The high degree of lexical similarity of meanness is fitting considering that meanness was derived from models and measures that focused on the *primary* features of psychopathy such as lack of remorse, callousness, and guiltlessness. Disinhibition was also generally related to psychopathy. As hypothesized, disinhibition was similar to the CAPP Behavioural domain as well as the FFM Low Agreeableness and Low Conscientiousness domains. Although not hypothesized, disinhibition was also related to the FFM Extraversion/Openness and

CAPP Attachment domains. In conjunction, meanness and disinhibition did an adequate job of covering the vast majority of CAPP and FFM domains.

### **Relationship between CAPP – Triarchic Similarity Ratings and Previous CAPP Prototypicality Ratings**

The similarity ratings between the Triarchic components and the CAPP did not show strong absolute agreement with previous CAPP prototypicality ratings. Meanness resulted in the highest ICC value of .70, a value slightly below an acceptable threshold (Hoff et al., 2014). This is unsurprising considering that these two forms of ratings are similar but distinct. Prototypicality ratings consist of considering an idealized conceptualization of psychopathy; lexical similarity ratings consist of considering and comparing conceptual definitions of psychopathy. Nonetheless, as hypothesized, boldness showed the least agreement with CAPP prototypicality ratings in comparison to meanness and disinhibition. These findings are consistent with the similarity ratings themselves, such that boldness was rated as dissimilar to many of the CAPP symptoms and domains.

Moreover, the relative rank order of similarity ratings between boldness and CAPP symptoms was quite distinct from the rank order of previous CAPP prototypicality ratings. In contrast, similarity ratings for disinhibition, and particularly meanness, were much more consistent with the rank ordering of prototypical CAPP symptoms. Interestingly, the CAPP symptoms (Self-Centered, Lacks Remorse, Manipulative, Unempathic, Insincere, Lacks Emotional Depth) that were rated most prototypical of psychopathy (i.e., mean rating greater than 6 out of 7) were also the symptoms with the lowest similarity ratings with Triarchic boldness. Conversely, these highly prototypical symptoms were also the symptoms that were rated most similar to Triarchic meanness. This was consistent with the finding that similarity ratings between meanness and the CAPP held a generally similar rank ordering of symptoms as previous prototypicality ratings. These findings suggest that Triarchic meanness represents many of the essential or most salient symptoms associated with psychopathy. In contrast, boldness does not appear to match the CAPP psychopathy prototype, further supporting the

argument that boldness is an unessential construct in the conceptualization of psychopathy—at least as defined by the CAPP.

## **Findings in Light of the CAPP and FFM of Psychopathy**

This lexical similarity approach was also useful in elucidating potential gaps in the Triarchic model. For instance, all three Triarchic domains were rated as dissimilar to CAPP Lacks Emotional Depth. An alternative explanation for this low rating could be that Lacks Emotional Depth is a symptom that was over-included in the CAPP model. However, others studies have reported that this symptom is highly prototypical of psychopathy (Hoff et al., 2012; Smith et al., 2014; Sörman et al., 2014). This may suggest that the Triarchic Model of Psychopathy needs to better address or highlight poor emotional depth or shallow affect within its conceptualization. Yet, CAPP Lacks Concentration was also rated dissimilar across boldness, meanness and disinhibition. This may highlight an area for revision in the CAPP considering the low prototypicality ratings for Lacks Concentration (e.g., Kreis et al., 2012).

The current findings should be considered in light of differences between the CAPP and FFM model of psychopathy. The models differ in the importance of certain constructs in the conceptualization of psychopathy. For instance, Low Conscientiousness is arguably the most clear-cut domain of the FFM model, but conscientiousness is considered a foil in the CAPP model. Likewise, self-consciousness is a facet of the FFM Neuroticism domain, but it is a foil symptom of the CAPP model. The basic unit of description differs between the two models as well. The CAPP uses symptoms whereas the FFM of psychopathy describes the disorder through the lens of normal personality facets. The adaptive nature of boldness could perhaps explain the higher degree of similarity between it and the FFM of psychopathy because being dissimilar with a normal personality facet does not suggest maladaptation or dysfunction (i.e., it is not a symptom), but rather it suggests the absence of a healthy personality trait. For instance, when comparing boldness to Straightforwardness, participants would consider descriptions of Straightforwardness like “not deceptive.” Dissimilarity of this description implies a lack of deception, not the presence of deceitfulness. In contrast, the CAPP language consists of symptoms that imply maladaptation (e.g., deceitful:

dishonest, deceptive, duplicitous). These differences might explain why boldness was more similar to the FFM of psychopathy because it does not make explicit reference to maladaptive traits (i.e., symptoms).

## **Relationships between Boldness, Meanness, and Disinhibition and the Outcome Variables**

The traditional, empirical component of this study set out to expand upon our understanding of boldness vis-à-vis its relationship with a diverse set of criterion variables. Further, I examined the potential incremental and interactive value of boldness with respect to established components of psychopathy: meanness and disinhibition. As hypothesized, the results of this study revealed that boldness was primarily unrelated to harmful or problematic outcomes but was positively related to prosocial outcomes. This was in direct contrast to the pattern of findings evidenced by meanness and disinhibition. That is, the established components of psychopathy were negatively associated with prosocial outcomes and positively associated with antisocial outcomes.

Nonetheless, several exceptions did exist regarding the bivariate relationships between boldness and the outcomes. A small positive association did exist between boldness and interpersonal deviance. Examples of interpersonal deviance included pranks, criticizing, or embarrassing coworkers or students. Boldness was also positively correlated with general risky behaviour to a small degree ( $r = .18$ ) and risky driving behaviour ( $r = .23$ ). However, boldness, meanness, and disinhibition were unrelated to the negative consequences associated with these risky behaviours. Given the lack of association with any Triarchic domains, this may highlight a need for rethinking and restructuring the RBS consequences. Nonetheless, these small associations with less severe but still harmful behaviours were counter to the antecedent hypotheses. Perhaps, it is a person's perceived high social ranking associated with boldness that allows hurtful behaviour towards others.

However, the general pattern was that boldness is a construct that is associated with adaptive functioning. It is a positive attribute to hold that appears to diminish the

likelihood of committing violence or other less severe antisocial behaviour while increasing ones social and emotional functioning. This pattern was consistent with previous findings (e.g., Douglas & Edens, 2015; Hart et al., 2015; Lynam & Miller, 2012). The implication being that boldness should not be included in the conceptualization of psychopathy because it is not pathological—a necessity for a personality disorder. This is particularly the case if we assume that Cleckley's description of social influence, lack of delusions, lack nervousness, and lack of suicide were not indicative of adaptation.

Consistent with my hypotheses, boldness did not add incremental value to our understanding of the majority of antisocial outcomes. With respect to prosocial outcomes, boldness added statistical incremental value in accounting for the variance of these outcomes (e.g., prosociality, social and emotional functioning) above and beyond established domains of psychopathy. Nevertheless, boldness did not provide incremental utility such that the presence of boldness was positively associated with these prosocial outcomes—a bifurcated direction in comparison to meanness and disinhibition. This was also the case for the BIS impulsiveness subscales. Boldness does not seem to provide any value above the established components of psychopathy. This is fairly intuitive when considering that at the bivariate level, the nomological network of boldness is in direct opposition to the pattern of correlations reported for meanness and disinhibition.

Again, there were several exceptions to this general pattern. First, boldness did add small incremental value to the association of meanness and disinhibition to non-physical victimization. This finding may reflect a tendency of bold individuals to put themselves in interpersonal conflict as evidenced by the small association between boldness and interpersonal deviance in the workplace. Future research should attempt to disentangle the co-occurrence of interpersonal aggression and victimization in the context of psychopathic symptomatology. Boldness also added incrementally to meanness and disinhibition in their association with risky behaviour. Although boldness does not augment our understanding of psychopathy vis-à-vis severe violence, it might help explain certain externalizing behaviours that could negatively impact psychopathic individuals themselves rather than harming others. Behavioural components of psychopathy have been associated with self-directed violence such as suicide (Gatner,

2012; Verona, Patrick, & Joiner, 2001) and self-injurious behaviour (Swogger, Conner, Meldrum, & Caine, 2009). As such, it may be worthwhile to examine if certain qualities of boldness (i.e., tolerance for danger, venturesomeness, social influence) would translate into increased suicide-related behaviour, and potentially manipulative suicidal behaviours or “bogus attempts” (Cleckley, 1955, p. 411). However, researches may want to investigate potential constituent, lower order factors of boldness as the associated emotional resiliency may suppress any evidence of a boldness – suicide relationship.

Counter to my hypothesis, no interactions existed between boldness and disinhibition in their associations with prosocial or negative outcomes. This is inconsistent with previous findings of Smith and colleagues (2013) as well as Marcus and Norris (2014). Although these studies looked at different outcomes (i.e., predatory aggression and risky sexual attitudes, respectively), it was expected that this interaction might exist for similar antisocial outcomes. It is possible this finding may be a statistical aberration of a single study, but it should be noted that others have failed to replicate the interaction between boldness and disinhibition (O’Connell & Marcus, 2015) in predicting risky sexual behaviours. The interactions reported between meanness and boldness in the present study are interesting considering others have failed to discover similar findings (e.g., Smith et al., 2013). In one instance, higher levels of boldness were associated with a weaker relationship between meanness and impulsiveness.

Meanness and disinhibition did interact to *increase* their association with rule-breaking. Others have suggested that boldness on its own is not sufficient for a diagnosis of psychopathy (much like meanness or disinhibition in isolation), but it is the interaction between boldness and established components of psychopathy where the dysfunction occurs (e.g., Lilienfeld & Widows, 2005; Poy et al., 2014; Sellbom, 2015). However, of the 50 interactions, there was only one interaction involving boldness that increased maladaptation. This may be the most compelling evidence against the relevance of boldness in psychopathy. The current results have established that boldness was not associated with negative outcomes on its own. Additionally, boldness did not typically contribute to the relationship of meanness and disinhibition with external criteria. Despite boldness being fairly orthogonal to meanness ( $r = .22$ ) and disinhibition

( $r = -.16$ ), it has been postulated that boldness might be a substantive aspect of the personality disorder because it might augment the severity of symptoms associated with established components of psychopathy. This was simply not the case in the present study. There were no interactions between boldness and disinhibition and very few interactions between boldness and meanness. Of these interactions, boldness typically dampened the strength of the relationship between disinhibition and harmful outcomes, suggesting that boldness does not increase the severity of meanness and disinhibition. Instead, it may attenuate the severity of these symptoms.

The interactions between boldness, meanness, and disinhibition are undoubtedly important to study. Nonetheless, their pattern with external criterion does not help disentangle the relevance of boldness in the conceptualization in psychopathy. Consider replacing boldness with psychotic symptoms in this line of research. If meanness or disinhibition interacted with psychosis to predict violence would it lead the researcher to conclude that psychotic symptoms should be included in the disorder? Ultimately, many variables in nature may interact, but it does not imply that they are subsumed by the same higher-order construct. Although investigating these interactions may be a necessary component of testing the relevance of boldness in psychopathy, it is certainly not a sufficient test on its own. Conceptual and theoretical analyses must be conducted to make the distinction of whether certain traits should be included in a personality disorder.

The findings suggest that boldness is adaptive, and that boldness diminishes the maladaptation associated with meanness and disinhibition. It is plausible that the findings concerning boldness could be a result of its operationalization. Boldness has both a positive and negative denotation. The Oxford English dictionary defines *bold* as “Of persons: Stout-hearted, courageous, daring, fearless; the opposite of ‘timid’ or ‘fearful’. Often, with admiration emphasized,” and notes that boldness is synonymous with brave. In contrast, *bold* is also defined “In [a] bad sense: Audacious, presumptuous, too forward; the opposite of ‘modest’” (Oxford English dictionary, 2015). The TriPM (and the PPI) items indexing boldness appear to highlight the admirable qualities of boldness. For instance, items tapping into social influence are conceptually adaptive (e.g., I’m a born leader). The same is the case for Triarchic boldness items that

tap into stress immunity (e.g., I function well in new situations, even when unprepared). Moreover, Triarchic items that tap into fearlessness are, at best, neutral (e.g., I'm afraid of far fewer things than most people; I stay away from physical danger as much as I can). Perhaps the TriPM operationalization of boldness simply does not tap into the dysfunctional aspects of this personality dimension. This is a possible explanation for the consistent pattern of adaptive functioning. If scholars have reason to assert that boldness is a salient and essential domain of psychopathy, then it may be useful to adjust the items so that they include maladaptive features. Granted, this might be a challenging endeavour considering the grandiosity and heightened impression management associated with psychopathy. Consequently, it might be time to consider alternative modes of assessment (e.g., clinical ratings) of boldness and the Triarchic model of psychopathy to properly address whether boldness can manifest itself in maladaptive forms (for more details see below in the Future Directions section).

In a broader context, comparative psychologists have noted that boldness is one extremity of a phenotypic personality dimension known as the shy-bold continuum that is evident in both humans and other species (Sloan Wilson, Coleman, Clark, & Biderman, 1993). From this research perspective, boldness is defined by a propensity for risk-taking that can be either adaptive or maladaptive (Ariyomo, Carter, & Watt 2013). Conversely, shyness is defined by avoidant or inhibited behaviour (Kagan, Reznick, & Snidman, 1988). Of note, the CAPP includes Shy as a foil symptom of psychopathy. Does this suggest that the counterpart to shyness (i.e., boldness) is also unrelated to psychopathy? Again, the Triarchic model of psychopathy and the CAPP seem to come to conceptual conflict with respect to the importance of boldness. Additionally, there also seems to be considerable overlap between boldness, shyness, and inhibition. Does this suggest that boldness might be better conceptualized as a subset of disinhibition? To disentangle these conceptual problems, more thought and research should consider whether this personality dimension is simply ubiquitous among humans and occurs in both psychopathic and non-psychopathic individuals, or whether it identifies those with psychopathy.

## Limitations and Strengths

The online nature of this study is a potential concern to the inferences drawn about boldness and psychopathy. Anecdotally, online studies appeared to have an appeal to undergraduate students that can be likely linked to the relative ease with which they could participate (i.e., no specific appointment, no travel required). As a result, students were extremely quick to sign up for and consent to the current study in comparison to the in-person studies offered on campus. It is plausible that the online protocol could have biased the participants into responding at random or without proper diligence. However, participants were removed from analyses that completed the study in extremely short periods of time (i.e., less than 10 minutes). Moreover, the general pattern of findings was consistent with previous literature. For example, the internal consistencies and intercorrelations of the TriPM subscales matched previous findings (Drislane et al., 2014; Poy et al., 2014; Sellbom & Phillips, 2013; Smith et al., 2013). As such, this potential limitation should be considered, but it is likely not influencing the nature of the findings in an undue manner.

Several outcome scales demonstrated poor internal consistency, specifically SEQ total and risky behaviour consequences scores. Considering the counterintuitive finding that boldness was associated with risky behaviour, it was disappointing that the consequences could not be properly interpreted as a result of its poor reliability. Another limitation concerned the mode of assessment of the TriPM and outcome measures. That is, all the measures were self-report assessments. Not only can a mono-methodological assessment fail to capture the full range of an individual's personality traits (Kubinger & Litzberger, 2006), but there is also the potential for inflated effect sizes due to a lack of method variance (Campbell & Fiske, 1959). Although the focus of this study was on the general pattern of functioning of boldness with respect to meanness and disinhibition, its findings are still limited to a discussion at a measurement level rather than a construct level.

With respect to the boldness validation aspect of this thesis, the prominent limitation was the inherent problems associated with a passive observational design. Not only did it lack random assignment, but it also lacked a control group that is

considered the foundation for the counterfactual scenario and causal inference (Shadish, Cook, & Campbell, 2002). From a methodological perspective, I was unable to discern the temporal precedence of participants' psychopathic traits and the behavioural outcomes. However, theoretically, there is some evidence that psychopathy begins to stabilize in adolescence. That is, although personality will likely not crystalize until 25 years of age and some diagnostic manuals do not recommend personality disorder diagnosis before 25 (see the 10<sup>th</sup> edition of the International Classification of Diseases and Related Health Problems [ICD-10], World Health Organization, 1992), there is moderate stability of psychopathic traits from late adolescence to early adulthood (see Hawes, Mulvey, Schubert, & Pardini, 2014)—the average age range of the participants in the current study. Thus, there is some confidence that psychopathic traits were present before the outcomes and played a causal role in their precipitation.

This study's strengths include its novel approach to measuring conceptual or lexical similarity between different models of psychopathy. It was hoped that studying laypeople's ratings of lexical similarity was an alternative method to answering the relevance of boldness in the context of psychopathy in contrast to the typical construct validation studies. Although the perceptions of experts are important, laypeople can provide an idea of conceptual and definitional similarities that are unhindered by scientific or clinical beliefs that are potentially confounding to the results. Additionally, much of the research has used traditional external criteria (e.g., other measures of psychopathy, violence) to assess the validity of boldness and the Triarchic model of psychopathy. However, the present research attempted to diversify the outcome variables by including measures of prosocial functioning and less severe forms of antisocial behaviour (e.g., risky behaviour, organizational deviance). Finally, the study benefitted from its large sample size. With 439 participants, the statistical power in this study was large even when implementing a stringent Type I rejection level ( $\alpha = .001$ ) for many of the analyses. The sample size provided the ability to detect small effect sizes for incremental change that allowed a proper examination of the potential additive value of boldness above and beyond meanness and disinhibition.

## Implications

The findings of this study suggest that boldness may not be a core domain of psychopathic personality disorder. Fearlessness is linked to the manifestation of boldness (Patrick et al., 2009), and more broadly, as an etiological marker of psychopathy (Lykken, 1995). However, there may be a need to adjust our views about fearlessness as an etiological mechanism of psychopathy if boldness is unrelated to psychopathy. Greater attention should be given to the methodology used to test causes of this personality disorder. Researchers should focus on the sensitivity and specificity of an etiological mechanism by including other disorders as comparisons to psychopathy. That is, is fearlessness unique to psychopathy, or do other forms of psychopathology involve poor harm avoidance?

If boldness is not relevant to psychopathy, this may have implications for the treatment of the disorder. Patrick, Drislane, and Strickland (2013) have suggested that treatment should focus on the feedback-modification of threat cues caused by the fearless temperament and phenotypic expression of boldness. Again, these recommendations rest on the assumption that boldness is necessary component of psychopathy. However, considering that the treatment for psychopathy is in its infancy, it is important to focus on the most central aspects of the disorder. Given the debate surrounding boldness, it may be best to focus on treating the established components of psychopathy.

Any implications of this study that are drawn to clinical populations (e.g., offenders; forensic psychiatric patients) should be considered with a deal of scepticism. There is research to suggest that measures of psychopathy are assessing the disorder across a dimension rather than as a category or taxon (Edens et al., 2006; Walters et al., 2011). However, these findings do not necessarily speak to the construct of psychopathy in the same manner that factor analysis does not inform us of the latent factors of psychopathy, but rather the factor structure of the *measure* of psychopathy. Consequently, whether the construct of psychopathy presents itself on a continuum of traits and whether this continuum is linear remains unresolved. With this in mind, the extrapolation of these findings to clinical populations rests on the assumption that the

nomological network at low levels of psychopathy manifests itself similarly at clinically diagnosable levels of the personality disorder.

The findings of the present study suggest that the addition of boldness in established clinical-based assessments (e.g., PCL-R) will not be very helpful in understanding future pathological behaviour. Assuming that the construct was included in our assessments of psychopathy, individuals with the presence of bold traits might serve as a small protective factor for the harmful outcomes that are so often relevant to psychopathic personality disorder. However, without any incremental value in understanding negative constructs, one is left wondering why boldness should be incorporated in the assessment of psychopathy?

Nonetheless, the influence of boldness is already seen in the DSM-5. As mentioned in the introduction, the emerging models section of the DSM-5 has included a psychopathy specifier in its diagnostic criteria for APD that includes features of a “bold interpersonal style that may mask maladaptive behaviors” (American Psychiatric Association, 2013, Alternative DSM-5 Model for Personality Disorders). Although this specifier correlates strongly with boldness, it was unrelated to meanness and disinhibition (Anderson et al. 2014), suggesting the specifier is a proxy for boldness. The results of the current study suggest that the inclusion of this specifier may be premature given the relatively weak conceptual similarity of boldness with other models of psychopathy, and its poor incremental value above and beyond meanness and disinhibition. These findings were consistent with initial findings that the DSM-5 psychopathy specifier did not contribute to the association between antagonism and disinhibition with externalizing behaviours (Few, Lynam, Maples, MacKillop, & Miller, 2015). From a policy perspective, until there is a body of evidence to suggest that traits associated with boldness provide incremental utility above and beyond existing measures of psychopathy, I would recommend continuing assessing psychopathy using the PCL-R.

## Future Directions

Undoubtedly, one study will not solidify whether boldness is an essential part of psychopathy. How should future research add to this body of work? Under the lexical hypothesis, personality traits and models should remain stable across languages; thus, a natural progression would be to conduct similar studies using a host of different languages to examine the content validity of the Triarchic model. Because the mean ratings were all considerably lower than expected, it might be useful to study these ratings from researchers and clinicians involved in psychopathy. Unlike the present study, this research would need to address potential biases and allegiances towards particular models of psychopathy. Comparing the similarity ratings of experts and laypeople could give a more detailed understanding of areas of contention within the conceptualization of psychopathy. Additionally, other comparison models of psychopathy could be used such as the HEXACO, or six-factor model of personality for psychopathy (see Gaughan, Miller, & Lynam, 2012).

Quantitative analyses of the construct validity of the Triarchic model of psychopathy should be supplemented by including a conceptual analysis of boldness across the history of psychopathy. Top down logic is used too often in the psychopathy literature where an argument or theory is supported on the basis of a single clinician. Future research and theoretical models should consider a broader array of historical depictions of psychopathy. Additionally, the description of the history of psychopathy is often conducted in a narrative manner (i.e., biased and unorganized) during a study's literature review (much like the present thesis). A systematic and critical evaluation of boldness would help clarify how the construct developed and which constructs make up the constituent elements of boldness and psychopathy more broadly. For example, an expert-consensus approach could be applied to summarizing the history of psychopathy. This may resolve some of the arguments regarding historical descriptions of symptoms. Perhaps then the field could solidify the foundation of which we base our contemporary measurements and models of psychopathy.

The pattern of findings concerning boldness suggest it is primarily associated with adaptive outcomes. However, its operationalization has focused almost exclusively

on self-report measures (e.g., TriPM; PPI-R and MPQ as proxies). Although there are some noted benefits in assessing psychopathy via self-report (Lilienfeld & Fowler, 2006), psychopathy is characterized by manipulation, deceitfulness, and grandiosity. It is very plausible that those with psychopathic traits are more likely to minimize or exaggerate symptoms or behaviours than individuals without these traits. Moreover, there is initial evidence to suggest that the association between boldness and external criteria differs via the mode of assessment. For instance, in an undergraduate sample, the relationship between TriPM boldness and STAB aggression varied as function of the mode assessment: self-report vs. roommate observer ratings (Kelley, 2015). To fully conclude that boldness is an adaptive domain of personality and a non-essential component of psychopathy, it is advisable to operationalize boldness using more appropriate and sophisticated measures than self-report tools (e.g., clinical ratings). Moreover, clinical ratings of boldness would facilitate research on the incremental role of boldness above and beyond the PCL-R in predicting clinically relevant outcomes.

## Conclusions

Upon reading this thesis, where is the reader standing with respect to boldness? As discussed above, the crux of the argument lies in the following question: Can a considerable portion (i.e., one third) of a personality disorder be predominantly unrelated to distress or dysfunction? It appears inconsistent with current nosological systems' criteria of personality disorders. In the DSM-5, personality disorders should follow an "enduring pattern [leading] to clinically significant distress or impairment in social, occupational, or other important areas of functioning" (American Psychiatric Association, 2013). At clinically diagnosable expressions of psychopathy, there is no evidence to suggest a large portion of the *symptoms* are related to adaptive behaviours. To the best of my knowledge, there is also no evidence to suggest that other forms of psychopathology consistently provide a *broad* pattern of adaptive functioning. Granted, under certain conditions, certain disorders such as bipolar disorders or narcissistic personality disorder may be beneficial in the short-term, but ultimately these same symptoms result in significant clinical distress or impairment.

Some have argued that the most compelling case for the role of boldness in the conceptualization of psychopathy is its incremental value above APD symptoms in predicting PCL-R scores (Venables et al., 2014; Wall et al., 2015). The implication being that boldness is the missing link between the APD and PCL-R. However, this logic seems to be in contrast with the argument that boldness includes symptomatology of psychopathy that was missed by the PCL-R. All this finding illustrates is that measures boldness and measures of APD equate to the PCL-R operationalization of psychopathy. Perhaps then, boldness is simply a retooling of the PCL-R symptoms and that the debate should not focus on whether boldness is relevant to psychopathy, but rather if boldness is a variant of meanness and disinhibition hidden in the guise of new terminology. Indeed, there is initial evidence that aspects of fearlessness and low anxiety are already captured within many PCL-R items (Neumann, Johansson, & Hare, 2013).

Boldness was not lexically similar to a large portion of existing models of psychopathy, it was not associated with maladaptive outcomes, it did not add incrementally to meanness and disinhibition, and it did not interact with these established domains of psychopathy to better understand external criteria. Thus, although a definitive conclusion on the absolute role of boldness cannot be drawn currently, in comparison to meanness and disinhibition—or the behavioural, affective, and interpersonal domains suggested by Cooke & Michie (2001)—it appears that the importance of boldness in the conceptualization of psychopathy is relatively minor.

## References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. New York: Sage Publications Inc.
- American Psychiatric Association. (1952). *Diagnostic and statistical manual of mental disorders* (1<sup>st</sup> ed., text rev.). Washington, DC: American Psychiatric Press.
- American Psychiatric Association. (1968). *Diagnostic and statistical manual of mental disorders* (1<sup>st</sup> ed., text rev.). Washington, DC: American Psychiatric Press.
- American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (3<sup>rd</sup> ed., text rev.). Washington, DC: American Psychiatric Press.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4<sup>th</sup> ed., text rev.). Washington, DC: American Psychiatric Press.
- American Psychiatric Association. (2013). Alternative DSM-5 model for personality disorders. *In Diagnostic and statistical manual of mental disorders* (5<sup>th</sup> ed.). doi:10.1176/appi.books.9780890425596.AlternatePersonalityDisorders
- American Psychiatric Association. (2013). Personality disorders. *In Diagnostic and statistical manual of mental disorders* (5<sup>th</sup> ed.). doi:10.1176/appi.books.9780890425596.dsm18
- Anderson, J. L., Sellbom, M., Wygant, D. B., Salekin, R. T., & Krueger, R. F. (2014). Examining the associations between DSM-5 section III antisocial personality disorder traits and psychopathy in community and university samples. *Journal of Personality Disorders*, 28(5), 675-697. doi:10.1521/pedi\_2014\_28\_134
- Ariyomo, T. O., Carter, M., & Watt, P. J. (2013). Heritability of boldness and aggressiveness in the zebrafish. *Behavior Genetics*, 43(2), 161-167. doi:10.1007/s10519-013-9585-y
- Arrigo, B. A., & Shipley, S. (2001). The confusion over psychopathy (I): Historical considerations. *International Journal of Offender Therapy and Comparative Criminology*, 45(3), 325-344. doi:10.1177/0306624X01453005

- Barratt, E. S. (1985). Impulsiveness subtraits: Arousal and information processing. In J. T. Spence & C. E. Izard (Eds.), *Motivation, emotion and personality* (pp. 137-146). North Holland: Elsevier Science Publishers.
- Bennett, R. J., & Robinson, S. L. (2000). Development of a measure of workplace deviance. *Journal of Applied Psychology, 85*(3), 349-360. doi:10.1037/0021-9010.85.3.349
- Benning, S. D., Patrick, C. J., Blonigen, D. M., Hicks, B. M., & Iacono, W. G. (2005). Estimating facets of psychopathy from normal personality traits: A step toward community epidemiological investigations. *Assessment, 12*(1), 3-18. doi:10.1177/1073191104271223
- Benning, S. D., Patrick, C. J., Hicks, B. M., Blonigen, D. M., & Krueger, R. F. (2003). Factor structure of the psychopathic personality inventory: Validity and implications for clinical assessment. *Psychological Assessment, 15*(3), 340-350. doi:10.1037/1040-3590.15.3.340
- Berry, C. M., Ones, D. S., & Sackett, P. R. (2007). Interpersonal deviance, organizational deviance, and their common correlates: A review and meta-analysis. *Journal of Applied Psychology, 92*(2), 410-424. doi:10.1037/0021-9010.92.2.410
- Blackburn, R. (1998). Psychopathy and the contribution of personality to violence. In T. Millon, E. Simonsen, M. Birket-Smith, & R. D. Davis (Eds.), *Psychopathy: Antisocial, criminal and violent behaviour* (pp. 50-67). New York: Guilford Press.
- Bold. (2015). *Oxford English dictionary*. Retrieved from <http://www.oed.com.proxy.lib.sfu.ca/view/Entry/21056?rskey=V5qID3&result=2&isAdvanced=false#eid>
- Bramham, J., Morris, R. G., Hornak, J., Bullock, P., & Polkey, C. E. (2009). Social and emotional functioning following bilateral and unilateral neurosurgical prefrontal cortex lesions. *Journal of Neuropsychology, 3*(1), 125-143. doi:10.1348/174866408X293994
- Brislin, S. J., Drislane, L. E., Smith, S. T., Edens, J. F., & Patrick, C. J. (2015). Development and Validation of Triarchic Psychopathy Scales From the Multidimensional Personality Questionnaire. *Psychological Assessment, 27*(1), 1-11. doi:10.1037/pas0000087
- Burrige, A. C., Huw Williams, W., Yates, P. J., Harris, A., & Ward, C. (2007). Spousal relationship satisfaction following acquired brain injury: The role of insight and socio-emotional skill. *Neuropsychological Rehabilitation, 17*(1), 95-105. doi:10.1080/09602010500505070

- Burt, S. A., & Donnellan, M. B. (2009). Development and validation of the Subtypes of Antisocial Behavior Questionnaire. *Aggressive Behavior, 35*(5), 376-398.
- Burt, S. A., & Donnellan, M. B. (2010). Evidence that the Subtypes of Antisocial Behavior Questionnaire (STAB) predicts momentary reports of acting-out behaviors. *Personality and Individual Differences, 48*(8), 917-920. doi:10.1016/j.paid.2010.02.021
- Camp, J. P., Skeem, J. L., Barchard, K., Lilienfeld, S. O., & Poythress, N. G. (2013). Psychopathic predators? Getting specific about the relation between psychopathy and violence. *Journal of Consulting and Clinical Psychology, 81*(3), 467-480. doi:10.1037/a0031349
- Campbell, D.T. & Fiske, D. W. (1959). Convergent and discriminant validation by the Multitrait-Multimethod Matrix. *Psychological Bulletin, 56*, 81-105.
- Caprara, G. V., Alessandri, G., & Eisenberg, N. (2012). Prosociality: The contribution of traits, values, and self-efficacy beliefs. *Journal of Personality and Social Psychology, 102*(6), 1289-1303. doi:10.1037/a0025626
- Caprara, G. V., Di Giunta, L., Eisenberg, N., Gerbino, M., Pastorelli, C., & Tramontano, C. (2008). Assessing regulatory emotional self-efficacy in three countries. *Psychological Assessment, 20*(3), 227-237. doi:10.1037/1040-3590.20.3.227
- Caprara, G. V., Steca, P., Vecchio, G., Tramontano, C., & Alessandri, G. (2008, July). *Prosocial agency: Values and Self-Efficacy Beliefs as Determinants of Prosocial Behavior*. Paper presented at the International Congress of Psychology, Berlin, Germany.
- Caprara, G. V., Steca, P., Zelli, A., & Capanna, C. (2005). A New Scale for Measuring Adults' Prosocialness. *European Journal of Psychological Assessment, 21*(2), 77-89. doi:10.1027/1015-5759.21.2.77
- Clare, L., Nelis, S. M., Martyr, A., Roberts, J., Whitaker, C. J., Markova, I. S., & ... Morris, R. G. (2012). The influence of psychological, social and contextual factors on the expression and measurement of awareness in early-stage dementia: testing a biopsychosocial model. *International Journal of Geriatric Psychiatry, 27*(2), 167-177. doi:10.1002/gps.2705
- Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment, 7*(3), 309-319. doi:10.1037/1040-3590.7.3.309
- Cleckley, H. (1941). *The mask of sanity; an attempt to reinterpret the so-called psychopathic personality*. Oxford, England: Mosby.

- Cleckley, H. (1955). *The mask of sanity: An attempt to clarify some issues about the so-called psychopathic personality* (3rd ed.). St Louis, MO, US: C V Mosby Co. doi:10.1037/11395-055
- Cleckley, H. (1976). *The mask of sanity; an attempt to reinterpret the so-called psychopathic personality* (5<sup>th</sup> ed.). Oxford, England: Mosby.
- Cocco, K. M., & Carey, K. B. (1998). Psychometric properties of the Drug Abuse Screening Test in psychiatric outpatients. *Psychological Assessment*, 10(4), 408-414. doi:10.1037/1040-3590.10.4.408
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3<sup>rd</sup> ed.). New Jersey: Lawrence Erlbaum Associates.
- Cook, A. N., Hart, S. D., Van Dongen, S., van Marle, H. J. C., & Viljoen, S. (2013, June). Evaluation of the TriPM and PPI using the CAPP as a concept map in Canadian and Dutch samples. In S. Van Dongen (Chair), *New Conceptualizations of Psychopathy*. Symposium presented at the annual meeting of the International Association of Forensic Mental Health Services (IAFMHS), Maastricht, Netherlands.
- Cook, A. N., Viljoen, S., Hart, S. D., Layden, B. K., Murray, A. A., & McGinnis, C. R. (2013, March). *Validity of the PPI: SF and the TriPM using the CAPP as a concept map*. Paper presented at the annual meeting of the American Psychology-Law Society, New Orleans. Retrieved from Retrieved from [www.gcu.ac.uk/capp2/publications/presentations](http://www.gcu.ac.uk/capp2/publications/presentations)
- Cooke, D. J. (2011). *Psychopathy: Capturing an elusive concept* [Video file]. Retrieved from [www.gcu.ac.uk/capp2/publications/presentations](http://www.gcu.ac.uk/capp2/publications/presentations)
- Cooke, D. J., Hart, S. D., Logan, C., & Michie, C. (2012). Explicating the construct of psychopathy: Development and validation of a conceptual model, the comprehensive assessment of psychopathic personality (CAPP). *International Journal of Forensic Mental Health*, 11(4), 242-252.
- Cooke, D. J., Kosson, D. S., & Michie, C. (2001). Psychopathy and ethnicity: Structural, item, and test generalizability of the Psychopathy Checklist—Revised (PCL-R) in Caucasian and African American participants. *Psychological Assessment*, 13(4), 531-542. doi:10.1037/1040-3590.13.4.531
- Costa Jr., P., & McCrae, R. R. (1992). Neo personality inventory—revised (neo-pi-r) and neo five-factor inventory (neo-ffi) professional manual. Odessa, FL: Psychological Assessment Resources.
- Crego, C., & Widiger, T. A. (2014a). Psychopathy and the DSM. *Journal of Personality*. Advanced online publication. doi: 10.1111/jopy.12115

- Crego, C., & Widiger, T. A. (2014b). Psychopathy, DSM-5, and a caution. *Personality Disorders: Theory, Research, and Treatment*, 5(4), 335-347. doi:10.1037/per0000078
- De Fruyt, F., De Bolle, M., McCrae, R. R., Terracciano, A., & Costa, P. J. (2009). Assessing the universal structure of personality in early adolescence: The NEO-PI-R and NEO-PI-3 in 24 cultures. *Assessment*, 16(3), 301-311. doi:10.1177/1073191109333760
- Decuyper, M., De Pauw, S., De Fruyt, F., De Bolle, M., & De Clercq, B. J. (2009). A meta-analysis of psychopathy-, antisocial PD- and FFM associations. *European Journal of Personality*, 23(7), 531-565. doi:10.1002/per.729
- Derefinko, K. J., & Lynam, D. R. (2007). Using the FFM to conceptualize psychopathy: A test using a drug abusing sample. *Journal of Personality Disorders*, 21(6), 638-656. doi:10.1521/pedi.2007.21.6.638
- Dolan, M., O'Malley, K., & McGregor, K. (2013). The role of psychopathic traits and substance abuse in predicting violent victimization in patients with schizophrenia spectrum disorders. *Personality and Mental Health*, 7(1), 28-38. doi:10.1002/pmh.1220
- Douglas, K. S., & Edens, J. F. (2015). *Fearless dominance/boldness: The role of dysfunction and impression management*. Paper presented at the annual meeting of the American Psychology-Law Society, San Diego.
- Douglas, K. S., Nikolova, N. L., Kelley, S. E., & Edens, J. F. (2015). Psychopathy. In B. L. Cutler, P. A. Zapf (Eds.), *APA handbook of forensic psychology, Vol. 1: Individual and situational influences in criminal and civil contexts* (pp. 257-323). Washington, DC, US: American Psychological Association. doi:10.1037/14461-009
- Drislane, L. E., & Patrick, C. J. (2014). Triarchic model of psychopathy: Origins, operationalizations, and observed linkages with personality and general psychopathology. *Journal of Personality*. Advanced online publication. doi:10.1111/jopy.12119
- Drislane, L. E., Patrick, C. J., & Arsal, G. (2014). Clarifying the content coverage of differing psychopathy inventories through reference to the Triarchic Psychopathy Measure. *Psychological Assessment*, 26(2), 350-362. doi:10.1037/a0035152
- Drislane, L. E., Patrick, C. J., Sourander, A., Sillanmäki, L., Aggen, S. H., Elonheimo, H., & ... Kendler, K. S. (2014). Distinct variants of extreme psychopathic individuals in society at large: Evidence from a population-based sample. *Personality Disorders: Theory, Research, and Treatment*, 5(2), 154-163. doi:10.1037/per0000060

- Edens, J. F., Marcus, D. K., Lilienfeld, S. O., & Poythress Jr, N. G. (2006). Psychopathic, not psychopath: Taxometric evidence for the dimensional structure of psychopathy. *Journal of Abnormal Psychology, 115*(1), 131.
- Edens, J. F., Smith, S., Clark, J., Kristiansson, M., Sorman, K. Svensson, K. H., ... Fischer, H. (2013). *Layperson and expert perceptions of boldness and its relation to psychopathy*. Paper presented at the XIII International Congress on the Disorders of Personality, Copenhagen, Denmark. Retrieved from [http://www.isspd3013.com/web\\_Abstractbog\\_170x240mm\\_196s.pdf](http://www.isspd3013.com/web_Abstractbog_170x240mm_196s.pdf)
- El-Bassel, N., Schilling, R. F., Schinke, S., Orlandi, M., Wei-Huei, S., & Back, S. (1997). Assessing the utility of the Drug Abuse Screening Test in the workplace. *Research on Social Work Practice, 7*(1), 99-114.
- Fanti, K. A., & Kimonis, E. R. (2012). Bullying and victimization: The role of conduct problems and psychopathic traits. *Journal of Research on Adolescence, 22*(4), 617-631. doi:10.1111/j.1532-7795.2012.00809.x
- Feighner J. P., Robins, E., Guze, SB., Woodruff, R. A., Winokur, G., Munoz, R. (1972). Diagnostic criteria for use in psychiatric research. *Archives of General Psychiatry, 26*, 57-63.
- Few, L. R., Lynam, D. R., Maples, J. L., MacKillop, J., & Miller, J. D. (2015). Comparing the utility of DSM-5 Section II and III antisocial personality disorder diagnostic approaches for capturing psychopathic traits. *Personality Disorders: Theory, Research, and Treatment, 6*(1), 64-74. doi:10.1037/per0000096
- Flóres, G., Casas, A., Kreis, M. K., Forti, L., Martínez, J., Fernández, J., ... Cooke, D. J. (2014). A prototypicality validation of the Comprehensive Assessment of Psychopathic Personality (CAPP) model Spanish version. *Journal of Personality Disorders*. Advanced online publication. doi: 10.1521/pedi\_2014\_28\_167
- Forouzan, E., & Cooke, D. J. (2005). Figuring out la femme fatale: Conceptual and assessment issues concerning psychopathy in females. *Behavioral Sciences and the Law, 23*(6), 765-778. doi:10.1002/bsl.669
- Fowles, D.C. (1980). The three arousal model: Implications of Gray's two-factor learning theory for heart rate, electrodermal activity, and psychopathy. *Psychophysiology, 17*, 87-104.
- Frick, P. J., & Hare, R. D. (2001). *The antisocial process screening device*. Toronto, Ontario, Canada: Multi-Health Systems.
- Games, P. A., & Howell, J. F. (1976). Pairwise multiple comparison procedures with unequal n's and/or variances. *Journal of Educational Statistics, 1*, 113-125.

- Gandek, B., Sinclair, S. J., Jette, A. M., & Ware, J. E. (2007). Development and initial psychometric evaluation of the participation measure for post-acute care (PM-PAC). *American Journal of Physical Medicine and Rehabilitation*, *86*, 57-71. doi: 10.1097/01.phm.0000233200.43822.21
- Garson, D. (2013a). *Factor analysis*. North Carolina: Statistical Associates Publishing.
- Garson, D. (2013b). *Logistic regression: Binary & multinomial*. North Carolina: Statistical Associates Publishing.
- Garson, D. (2015). *GLM multivariate, MANOVA, & canonical correlation*. North Carolina: Statistical Associates Publishing.
- Garson, D. (2012). *Missing values analysis and data imputation*. North Carolina: Statistical Associates Publishing. Retrieved from: <http://www.statisticalassociates.com/missingvaluesanalysis.pdf>
- Gatner, D. T. (2012). *Examining the mediating role of the externalizing spectrum on the relationship between suicide and psychopathy* (Honours thesis). Simon Fraser University, Burnaby, Canada.
- Gatner, D. T., Blanchard, A. J. E., & Douglas, K. S. (2014, June). *Examining the association between psychopathy and substance abuse in a civil psychiatric sample*. Poster presentation for the annual conference of the International Association of Forensic Mental Health Services, Toronto.
- Gatner, D. T., Blanchard, A. J. E., & Douglas, K. S., Lilienfeld, S. O., & Edens, J. F. (manuscript in preparation). Investigating multiple measures of psychopathy in Hispanic, African American and Caucasian offenders.
- Gaughan, E. T., Miller, J. D., & Lynam, D. R. (2012). Examining the utility of general models of personality in the study of psychopathy: A comparison of the HEXACO-PI-R and NEO PI-R. *Journal of Personality Disorders*, *26*(4), 513-523. doi:10.1521/pedi.2012.26.4.513
- Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist*, *48*(1), 26-34. doi:10.1037/0003-066X.48.1.26
- Hall, J. R., & Benning, S. D. (2006). The “successful” psychopath: Adaptive and subclinical manifestations of psychopathy in the general population. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 459 – 478). New York: Guilford Press.
- Hall, J. R., Drislane, L. E., Patrick, C. J., Morano, M., Lilienfeld, S. O., & Poythress, N. G. (2014). Development and validation of Triarchic Construct Scales from the Psychopathic Personality Inventory. *Psychological Assessment*, *26*(2), 447-461. doi:10.1037/a0035665

- Hare, R. D. (1965). Temporal gradient of fear arousal in psychopaths. *Journal of Abnormal Psychology, 70*(6), 442-445. doi:10.1037/h0022775
- Hare, R. D. (1980). A research scale for the assessment of psychopathy in criminal populations. *Personality and Individual Differences, 1*(2), 111-119. doi:10.1016/0191-8869(80)90028-8
- Hare, R. D. (1991). *The Hare Psychopathy Checklist–Revised*. Toronto, Ontario, Canada: Multi-Health Systems.
- Hare, R. D. (2003). *The Hare Psychopathy Checklist–Revised* (2nd ed.). Toronto, Ontario, Canada: Multi-Health Systems.
- Hare, R. D., Hart, S. D., & Harpur, T. J. (1991). Psychopathy and the DSM-IV criteria for antisocial personality disorder. *Journal of Abnormal Psychology, 100*(3), 391-398. doi:10.1037/0021-843X.100.3.391
- Hare, R. D., & Neumann, C. S. (2010). The role of antisociality in the psychopathy construct: Comment on Skeem and Cooke (2010). *Psychological Assessment, 22*(2), 446-454. doi:10.1037/a0013635
- Hart, S. D., Lim, Y., & Cook, A. (2015). *Evaluating the Triarchic model of psychopathy: Is boldness associated with problems in daily living?* Paper presented at the annual meeting of the American Psychology-Law Society, San Diego.
- Hart, S. D., & Storey, J. E. (2013). Clinical and forensic issues in the assessment of psychopathy. In R. K. Otto, & I. B. Weiner (Eds.), *Handbook of psychology Vol. 11, forensic psychology* (2<sup>nd</sup> ed.), (pp. 556-578). Hoboken, NJ US: John Wiley & Sons Inc.
- Hauke J., & Kossowski T. (2011). Comparison of values of Pearson's and Spearman's correlation coefficient on the same sets of data. *Quaestiones Geographicae, 30*(2), 87-93. doi: 10.2478/v10117-011-0021-1
- Hawes, S. W., Boccaccini, M. T., & Murrie, D. C. (2013). Psychopathy and the combination of psychopathy and sexual deviance as predictors of sexual recidivism: Meta-analytic findings using the Psychopathy Checklist—Revised. *Psychological Assessment, 25*(1), 233-243. doi:10.1037/a0030391
- Hawes, S. W., Mulvey, E. P., Schubert, C. A., & Pardini, D. A. (2014). Structural coherence and temporal stability of psychopathic personality features during emerging adulthood. *Journal of Abnormal Psychology, 123*(3), 623-633. doi:10.1037/a0037078
- Hemphill, J. F., Hart, S. D., & Hare, R. D. (1994). Psychopathy and substance use. *Journal of Personality Disorders, 8*(3), 169-180. doi:10.1521/pedi.1994.8.3.169

- Hicks, B. M., Carlson, M. D., Blonigen, D. M., Patrick, C. J., Iacono, W. G., & McGue, M. (2012). Psychopathic personality traits and environmental contexts: Differential correlates, gender differences, and genetic mediation. *Personality Disorders: Theory, Research, and Treatment*, 3(3), 209-227. doi:10.1037/a0025084
- Hoff, H. A., Rypdal, K., Hystad, S. W., Hart, S. D., Mykletun, A., Kreis, M. F., & Cooke, D. J. (2014). Cross-language consistency of the Comprehensive Assessment of Psychopathic Personality (CAPP) model. *Personality Disorders: Theory, Research, and Treatment*, 5(4), 356-368. doi:10.1037/per0000069
- Hoff, H. A., Rypdal, K., Mykletun, A., & Cooke, D. J. (2012). A prototypicality validation of the Comprehensive Assessment of Psychopathic Personality (CAPP). *Journal of Personality Disorders*, 26(3), 414-427. doi:10.1521/pedi.2012.26.3.414
- Jenkins, R. L. (1960). The psychopathic or antisocial personality. *The Journal of Nervous and Mental Disease*, 131(4), 318-334.
- Kagan, J., Reznick, J. S., & Snidman, N. (1988). Biological bases of childhood shyness. *Science*, 240(4849), 167-171. doi:10.1126/science.3353713
- Karpman, B. (1941). On the need of separating psychopathy into two distinct clinical types: the symptomatic and the idiopathic. *Journal of Criminal Psychopathology*, 3, 112-137.
- Karpman, B. (1948). The myth of the psychopathic personality. *The American Journal of Psychiatry*, 104, 523-534.
- Kelley, S. (2015). *Self and informant perceptions and value judgments of psychopathic traits*. Texas A&M, College Station, Texas.
- Kennealy, P. J., Skeem, J. L., Walters, G. D., & Camp, J. (2010). Do core interpersonal and affective traits of PCL-R psychopathy interact with antisocial behavior and dishinhibition to predict violence? *Psychological Assessment*, 22(3), 569-580.
- Kreis, M. K., Cooke, D. J., Michie, C., Hoff, H. A., & Logan, C. (2012). The comprehensive assessment of psychopathic personality (CAPP): Content validation using prototypical analysis. *Journal of Personality Disorders*, 26(3), 402-413.
- Krueger, R. F., Derringer, J., Markon, K. E., Watson, D., & Skodol, A. E. (2012). Initial construction of a maladaptive personality trait model and inventory for DSM-5. *Psychological Medicine*, 42(9), 1879-1890
- Krueger, R. F., Markon, K. E., Patrick, C. J., Benning, S. D., & Kramer, M. (2007). Linking antisocial behavior, substance use, and personality: An integrative quantitative model of the adult externalizing spectrum. *Journal of Abnormal Psychology*, 116, 645-666.

- Kubinger, K. D., & Litzenger, M. (2006). On the shortcomings of a mono-methodical approach to personality assessment. *Individual Differences Research*, 4(3), 139-158.
- Lance, C. E., Butts, M. M., & Michels, L. C. (2006). The sources of four commonly reported cutoff criteria: What did they really say?. *Organizational Research Methods*, 9(2), 202-220. doi:10.1177/1094428105284919
- Leistico, A-M. R., Salekin, R. T., DeCoster, J., & Rogers, R. (2008). A larger-scale meta-analysis relating the Hare measures of psychopathy to antisocial conduct. *Law and Human Behavior*, 32, 28-45.
- Levenson, M. R., Kiehl, K. A., & Fitzpatrick, C. M. (1995). Assessing psychopathic attributes in a noninstitutional population. *Journal of Personality and Social Psychology*, 68, 151– 158. doi: 10.1037/0022-3514.68.1.151
- Lilienfeld, S. O., & Fowler, K. A. (2006). The self-report assessment of psychopathy: Problems, pitfalls, and promises. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 107-132). New York, NY, US: Guilford Press.
- Lilienfeld, S. O., Patrick, C. J., Benning, S. D., Berg, J., Sellbom, M., & Edens, J. F. (2012). The role of fearless dominance in psychopathy: Confusions, controversies, and clarifications. *Personality Disorders: Theory, Research, and Treatment*, 3(3), 327-340. doi:10.1037/a0026987
- Lilienfeld, S. O., & Andrews, B. P. (1996). Development and preliminary validation of a self-report measure of psychopathic personality traits in noncriminal populations. *Journal of Personality Assessment*, 66(3), 488-524. doi:10.1207/s15327752jpa6603\_3
- Lilienfeld, S. O., & Widows, M. R. (2005). *Psychopathic Personality Inventory—Revised: Professional Manual*. Lutz, FL: Psychological Assessment Resources.
- Lim, Y. L. & Hart, S. (2014, March). *Psychopathic personality according to students: Students' prototypicality ratings of the Comprehensive Assessment of Psychopathic Personality*. Poster presented at the annual meeting of the Canadian Psychological Association, Vancouver.
- Long, R. G. (2008). The crux of the method: Assumptions in ordinary least squares and logistic regression. *Psychological Reports*, 103(2), 431-434. doi:10.2466/PRO.103.2.431-434
- Luengo, M. A., Carrillo-de-la-Peña, M. T., & Otero, J. M. (1991). The components of impulsiveness: A comparison of the I.7 Impulsiveness Questionnaire and the Barratt Impulsiveness Scale. *Personality and Individual Differences*, 12(7), 657-667. doi:10.1016/0191-8869(91)90220-6

- Lykken, D. T. (1957). A study of anxiety in the sociopathic personality. *The Journal of Abnormal and Social Psychology*, 55(1), 6-10. doi:10.1037/h0047232
- Lykken, D. T. (1995). *The antisocial personalities*. Hillsdale: Lawrence Erlbaum.
- Lynam, D. R. (2010). Child and adolescent psychopathy and personality. In R. T. Salekin, D. R. Lynam (Eds.), *Handbook of child and adolescent psychopathy* (pp. 179-201). New York, NY, US: Guilford Press.
- Lynam, D. R., & Derefinko, K. J. (2006). Psychopathy and personality. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 133-155). New York, NY, US: Guilford Press.
- Lynam, D. R., Gaughan, E. T., Miller, J. D., Miller, D. J., Mullins-Sweatt, S., & Widiger, T. A. (2011). Assessing the basic traits associated with psychopathy: Development and validation of the Elemental Psychopathy Assessment. *Psychological Assessment*, 23(1), 108-124. doi:10.1037/a0021146
- Marcus, D. K., Fulton, J. J., & Edens, J. F. (2013). The two-factor model of psychopathic personality: Evidence from the psychopathic personality inventory. *Personality Disorders: Theory, Research, and Treatment*, 4(1), 67-76. doi:10.1037/a0025282
- Marcus, D. K., & Norris, A. L. (2014). A new measure of attitudes toward sexually predatory tactics and its relation to the triarchic model of psychopathy. *Journal of Personality Disorders*, 28(2), 247-261. doi:10.1521/pedi\_2013\_27\_118
- Marion, B. E., Sellbom, M., Salekin, R. T., Toomey, J. A., Kucharski, L. T., & Duncan, S. (2013). An examination of the association between psychopathy and dissimulation using the MMPI-2-RF validity scales. *Law and Human Behavior*, 37, 219– 230. doi: 10.1037/lhb0000008
- Maslow, A. H. (1954). *Motivation and personality*. New York, NY, US: Harper & Row Publishers.
- McCord, W., & McCord, J. (1964). *The psychopath: An essay on the criminal mind*. Princeton, New Jersey: D. Van Norstrand Company, Inc.
- McCrae, R. R., & Costa Jr., P. T. (1997). Personality trait structure as a human universal. *American Psychologist*, 52(5), 509.
- McCrae, R. R., & Costa, P. J. (2013). Introduction to the empirical and theoretical status of the five-factor model of personality traits. In T. A. Widiger & P. J. Costa (Eds.), *Personality disorders and the five-factor model of personality* (3rd ed.) (pp. 15-27). Washington, DC, US: American Psychological Association. doi:10.1037/13939-002

- Mertler, C. A., Vannatta, R. A. (2005). *Advanced and multivariate statistical methods: Practical application and interpretation* (3<sup>rd</sup> ed.). Glendale, CA: Pyrczak Publishing.
- Miller, J. D., & Lynam, D. R. (2003). Psychopathy and the Five-factor model of personality: A replication and extension. *Journal of Personality Assessment*, 81(2), 168-178. doi:10.1207/S15327752JPA8102\_08
- Miller, J. D., & Lynam, D. R. (2012). An examination of the psychopathic personality inventory's nomological network: A meta-analytic review. *Personality Disorders: Theory, Research, and Treatment*, 3(3), 305-326. doi:10.1037/a0024567
- Miller, J. D., Lynam, D. R., Widiger, T. A., & Leukefeld, C. (2001). Personality disorders as extreme variants of common personality dimensions: Can the Five-Factor Model adequately represent psychopathy?. *Journal of Personality*, 69(2), 253-276. doi:10.1111/1467-6494.00144
- Millon, T. (2009). Personality and its disorders: Structural models, mathematical models, and theoretical conceptions. In P. H. Blaney and T. Millon (Eds.), *Oxford textbook of psychopathology* (2<sup>nd</sup> edition) (pp. 551-585). New York: Oxford University Press.
- Moeller, F. G., Barratt, E. S., Dougherty, D. M., Schmitz, J. M., & Swann, A. C. (2001). Psychiatric aspects of impulsivity. *The American Journal of Psychiatry*, 158(11), 1783-1793. doi:10.1176/appi.ajp.158.11.1783
- Monahan, J., Steadman, H. J., & Silver, E. (2001). *Rethinking risk assessment: The MacArthur study of mental disorder and violence*. Cary, NC, USA: Oxford University Press.
- Morey, L. C. (1991). *Personality Assessment Inventory Professional Manual*. Odessa, FL: Psychological Assessment Resources.
- Morris, R., Bramham, J., Smith, E., & Tchanturia, K. (2014). Empathy and social functioning in anorexia nervosa before and after recovery. *Cognitive Neuropsychiatry*, 19(1), 47-57. doi:10.1080/13546805.2013.794723
- Neumann, C. S., Johansson, P. T., & Hare, R. D. (2013). The Psychopathy Checklist-Revised (PCL-R), low anxiety, and fearlessness: A structural equation modeling analysis. *Personality Disorders: Theory, Research, and Treatment*, 4(2), 129-137. doi:10.1037/a0027886
- Nikolova, N. L. (2009). *Comprehensive Assessment of Psychopathic Personality Disorder-Institutional Rating Scale (CAPP-IRS)—validation* (Master's thesis). Simon Fraser University, Burnaby, Canada.

- Nimon, K. F. (2012). Statistical assumptions of substantive analyses across the general linear model: A mini-review. *Frontiers In Psychology, 3*  
doi:10.3389/fpsyg.2012.00322
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.
- O'Connell, D. & Marcus, D. (2015, March). *Attitudes toward Sexually Predatory Tactics in College Women in Relation to the Triarchic Model of Psychopathy*. Paper presented at the annual meeting of the American Psychology-Law Society, San Diego.
- Osherson, D. N., & Smith, E. E. (1981). On the adequacy of prototype theory as a theory of concepts. *Cognition, 9*(1), 35-58.
- Patrick, C. J. (2006). Back to the Future: Cleckley as a Guide to the Next Generation of Psychopathy Research. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 605-617). New York, NY, US: Guilford Press.
- Patrick, C. J. (2010). Operationalizing the triarchic conceptualization of psychopathy: Preliminary description of brief scales for assessment of boldness, meanness, and disinhibition. Unpublished Manual, Department of Psychology, Florida State University, Tallahassee, FL. Retrieved from [Http://www.Phenxtoolkit.Org](http://www.Phenxtoolkit.Org),
- Patrick, C., Drislane, L. E., & Strickland, C. (2012). Conceptualizing psychopathy in Triarchic terms: Implications for treatment. *The International Journal of Forensic Mental Health, 11*(4), 253-266. doi:10.1080/14999013.2012.746761
- Patrick, C. J., Fowles, D. C., & Krueger, R. F. (2009). Triarchic conceptualization of psychopathy: Developmental origins of disinhibition, boldness, and meanness. *Development and Psychopathology, 21*(Special Issue 03), 913-938. doi:10.1017/S0954579409000492
- Patrick, C. J., Vaidyanathan, U., Benning, S. D., Hicks, B. M., & Kramer, M. D. (2010). Refining measurement of the fearless-dominance component of psychopathy: Development and validation of the Boldness Inventory. Manuscript in preparation.
- Patrick, C. J., Venables, N. C., & Drislane, L. E. (2013). The role of fearless dominance in differentiating psychopathy from antisocial personality disorder: Comment on Marcus, Fulton, and Edens. *Personality Disorders: Theory, Research, and Treatment, 4*(1), 80-82. doi:10.1037/a0027173
- Patton, J. H., Stanford, M. S., Barratt, E. S. (1995). Factor structure of the Barratt Impulsiveness Scale. *Journal of Clinical Psychology, 6*, 768-774.

- Paulhus, D. L., Hemphill, J. F., & Hare, R. D. (in press). *Manual for the Self-Report Psychopathy Scale (SRP-III)*. Toronto, Ontario, Canada: Multi-Health Systems.
- Pedersen, L., Kunz, C., Rasmussen, K., & Elsass, P. (2010). Psychopathy as a risk factor for violent recidivism: Investigating the Psychopathy Checklist Screening Version (PCL:SV) and the Comprehensive Assessment of Psychopathic Personality (CAPP) in a forensic psychiatric setting. *The International Journal of Forensic Mental Health*, 9(4), 308-315. doi:10.1080/14999013.2010.526681
- Pinel, P. (1806). Section IV: Mental derangement distributed into different species: Second species of mental derangement. In *treatise on insanity* (pp. 150-156). London United Kingdom: Messers Cadell & Davies, Strand. doi:10.1037/10550-005
- Poy, R., Segarra, P., Esteller, À., López, R., & Moltó, J. (2014). FFM description of the triarchic conceptualization of psychopathy in men and women. *Psychological Assessment*, 26(1), 69-76. doi:10.1037/a0034642
- Robins, L. N. (1966). *Deviant children grown up: A sociological and psychiatric study of sociopathic personality*. Oxford, England: Williams & Wilkins.
- Robinson, S. L., & Bennett, R. J. (1995). A typology of deviant workplace behaviors: A multidimensional scaling study. *Academy of Management Journal*, 38(2), 555-572. doi:10.2307/256693
- Rogers, R., Dion, K. L., & Lynett, E. (1992). Diagnostic validity of antisocial personality disorder: A prototypical analysis. *Law and Human Behavior*, 16(6), 677-689. doi:10.1007/BF01884023
- Rosch, E. (1999). Principles of categorization. In E. Margolis & S. Laurence (Eds.), *Concepts: Core readings* (pp. 189-206). Cambridge, MA: MIT Press.
- Salekin, R. T., Rogers, R., & Sewell, K. W. (1996). A review and meta-analysis of the Psychopathy Checklist and Psychopathy Checklist—Revised: Predictive validity of dangerousness. *Clinical Psychology: Science and Practice*, 3(3), 203-215. doi:10.1111/j.1468-2850.1996.tb00071.x
- Sandvik, A. M., Hansen, A. L., Kristensen, M. V., Johnsen, B. H., Logan, C., & Thornton, D. (2012). Assessment of psychopathy: Inter-correlations between Psychopathy Checklist Revised, Comprehensive Assessment of Psychopathic Personality—Institutional Rating Scale, and Self-Report of Psychopathy Scale—III. *The International Journal of Forensic Mental Health*, 11(4), 280-288. doi:10.1080/14999013.2012.746756

- Saucier, G., & Goldberg, L. R. (1996). The language of personality: Lexical perspectives on the five-factor model. In J. S. Wiggins (Ed.), *The five-factor model of personality: Theoretical perspectives* (pp. 21-50). New York, NY, US: Guilford Press.
- Saucier, G., & Goldberg, L. R. (2001). Lexical studies of indigenous personality factors: Premises, products, and prospects. *Journal of Personality*, 69(6), 847-880. doi:10.1111/1467-6494.696167
- Schafer, J. L., & Olsen, M. K. (1998). Multiple imputation for multivariate missing-data problems: A data analyst's perspective. *Multivariate Behavioral Research*, 33(4), 545-571. doi:10.1207/s15327906mbr3304\_5
- Schneider, K. (1958). *Psychopathic personalities*. London: Cassell.
- Sellbom, M. (2015, March). *Operationalizing the Triarchic Psychopathy Model via the MMPI-2-RF*. Paper presented at the annual meeting of the American Psychology-Law Society, San Diego.
- Sellbom, M., & Phillips, T. R. (2013). An examination of the triarchic conceptualization of psychopathy in incarcerated and nonincarcerated samples. *Journal of Abnormal Psychology*, 122(1), 208-214. doi:10.1037/a0029306
- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston: Houghton Mifflin Company.
- Skeem, J. L., & Cooke, D. J. (2010). Is criminal behavior a central component of psychopathy? Conceptual directions for resolving the debate. *Psychological Assessment*, 22(2), 433-445. doi:10.1037/a0008512
- Skeem, J. L., Edens, J. F., Camp, J., & Colwell, L. H. (2004). Are there ethnic differences in levels of psychopathy? A meta-analysis. *Law And Human Behavior*, 28(5), 505-527. doi:10.1023/B:LAHU.0000046431.93095.d8
- Skinner, H. A. (1982). The Drug Abuse Screening Test. *Addictive Behavior*, 7, 363-371.
- Skodol, A. E., Clark, L. A., Bender, D. S., Krueger, R. F., Morey, L. C., Verheul, R., & ... Oldham, J. M. (2011). Proposed changes in personality and personality disorder assessment and diagnosis for DSM-5 Part I: Description and rationale. *Personality Disorders: Theory, Research, and Treatment*, 2(1), 4-22. doi:10.1037/a0021891
- Sloan Wilson, D. S., Coleman, K., Clark, A. B., & Biederman, L. (1993). Shy – bold continuum in a Pumpkinseed Sunfish (*Lepomis gibbosus*): An ecological study of a psychological trait. *Journal of Comparative Psychology*, 107(3), 250-260.

- Smith, S. T., Edens, J. F., Clark, J., & Rulseh, A. (2014). 'So, what is a psychopath?' Venireperson perceptions, beliefs, and attitudes about psychopathic personality. *Law and Human Behavior*, 38(5), 490-500. doi:10.1037/lhb0000091
- Smith, S. T., Edens, J. F., & McDermott, B. E. (2013). Fearless dominance and self-centered impulsivity interact to predict predatory aggression among forensic psychiatric inpatients. *International Journal of Forensic Mental Health*, 12(1), 33-41.
- Sörman, K., Edens, J. F., Smith, S. T., Svensson, O., Howner, K., Kristiansson, M., & Fischer, H. (2014). Forensic mental health professionals' perceptions of psychopathy: A prototypicality analysis of the Comprehensive Assessment of Psychopathic Personality in Sweden. *Law and Human Behavior*, 38(5), 405-417. doi:10.1037/lhb0000072
- Staley, D., & El-Guebaly, N. (1990). Psychometric properties of the Drug Abuse Screening Test in a psychiatric patient population. *Addictive Behaviors*, 15(3), 257-264. doi:10.1016/0306-4603(90)90068-9
- Stanford, M. S., Mathias, C. W., Dougherty, D. M., Lake, S. L., Anderson, N. E., & Patton, J. H. (2009). Fifty years of the Barratt Impulsiveness Scale: An update and review. *Personality and Individual Differences*, 47, 385-395.
- Stanley, J. H., Wygant, D. B., & Sellbom, M. (2013). Elaborating on the construct validity of the Triarchic Psychopathy Measure in a criminal offender sample. *Journal of Personality Assessment*, 95(4), 343-350.
- Stevens, J. (2002). *Applied Multivariate Statistics for the Social Sciences*. Mahwah, N.J.: Lawrence Erlbaum Associates, Inc.
- Strickland, C. M., Drislane, L. E., Lucy, M., Krueger, R. F., & Patrick, C. J. (2013). Characterizing psychopathy using DSM-5 personality traits. *Assessment*, 20(3), 327-338. doi:10.1177/1073191113486691
- Swogger, M. T., Conner, K. R., Meldrum, S. C., & Caine, E. D. (2009). Dimensions of psychopathy in relation to suicidal and self-injurious behavior. *Journal of Personality Disorders*, 23(2), 201-210. doi:10.1521/pedi.2009.23.2.201
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Upper Saddle River, NJ: Pearson Allyn & Bacon.
- Taylor, J., & Lang, A. R. (2006). Psychopathy and substance use disorders. In C. J. Patrick (Ed.), *The handbook of psychopathy* (pp. 495-511). New York: The Guilford Press.
- Tellegen, A. (1982). *Brief Manual for the Multidimensional Personality Questionnaire*. Unpublished manuscript, University of Minnesota, Minneapolis.

- Thau, S., Bennett, R. J., Mitchell, M. S., & Marrs, M. B. (2009). How management style moderates the relationship between abusive supervision and workplace deviance: An uncertainty management theory perspective. *Organizational Behavior and Human Decision Processes*, *108*(1), 79-92. doi:10.1016/j.obhdp.2008.06.003
- Venables, N. C., Hall, J. R., & Patrick, C. J. (2014). Differentiating psychopathy from antisocial personality disorder: A triarchic model perspective. *Psychological Medicine*, *44*(5), 1005-1013. doi:10.1017/S003329171300161X
- Verona, E., Patrick, C. J., & Joiner, T. E. (2001). Psychopathy, antisocial personality, and suicide risk. *Journal of Abnormal Psychology*, *110*(3), 462-470. doi:10.1037/0021-843X.110.3.462
- Wall, S. E., Williams, W. H., Morris, R. G., & Bramham, J. (2011). The development of a new measure of social-emotional functioning for young adolescents. *Clinical Child Psychology and Psychiatry*, *16*(3), 301-315. doi:10.1177/1359104511401187
- Wall, T. D., Wygant, D. B., & Sellbom, M. (2015). Boldness explains a key difference between psychopathy and antisocial personality disorder. *Psychiatry, Psychology and Law*, *22*(1), 94-105. doi:10.1080/13218719.2014.919627
- Walters, G. D., Marcus, D. K., Edens, J. F., Knight, R. A., & Sanford, G. M. (2011). In search of the psychopathic sexuality taxon: Indicator size does matter. *Behavioral Sciences & the Law*, *29*(1), 23-39.
- Widiger, T. A. (1993). The DSM-III—R categorical personality disorder diagnoses: A critique and an alternative. *Psychological Inquiry*, *4*(2), 75-90. doi:10.1207/s15327965pli0402\_1
- Widiger, T. A., & Costa, P. J. (2013). Personality disorders and the five-factor model of personality: Rationale for the third edition. In T. A. Widiger & P. J. Costa, (Eds.), *Personality disorders and the five-factor model of personality* (3rd ed.) (pp. 3-11). Washington, DC, US: American Psychological Association. doi:10.1037/13939-001
- Widiger, T. A., & Lynam, D. R. (1998). Psychopathy and the five-factor model of personality. In T. Millon, E. Simonsen, M. Birket-Smith, R. D. Davis (Eds.), *Psychopathy: Antisocial, criminal, and violent behavior* (pp. 171-187). New York, NY, US: Guilford Press.
- World Health Organization. (1992). *The ICD-10 classification of mental and behavioural disorders: Clinical descriptions and diagnostic guidelines*. Geneva: World Health Organization.

Yudko, E., Lohzkina, O., & Fouts, A. (2007). A comprehensive review of the psychometric properties of the Drug Abuse Screening Test. *Journal of Substance Abuse Treatment, 32*, 189-198.

## **Appendix A.**

### **Robins Criteria for Sociopathic Personality Disorder**

1. Poor Work History
2. Poor Marital History
3. Excessive Drugs
4. Heavy Drinking
5. Repeated Arrests
6. Physical Aggression
7. Sexual Promiscuity
8. Suicide (Attempts)
9. Impulsive Behaviour
10. School Problems and Truancy
11. Public Financial Care
12. Poor Armed Services Record
13. Vagrancy
14. Many Somatic Symptoms
15. Pathological Lying
16. Lack of Friends
17. Use of Aliases
18. Lack of Guilt About Sexual Exploits and Crimes
19. Reckless Youth

## **Appendix B.**

### **Online Research Participation System Recruitment Statement**

We are interested in looking at the role of personality traits in a variety of life outcomes (relationships, prosocial and antisocial behaviour). In this study, you will complete a set of ratings about the similarity of personality traits. You will also answer some questions about your own personality, the way you think, and any recent positive or negative life events.

To take part in this ON-LINE study, you will first make an appointment on the RPS system for a certain day and time. The researcher will then contact you within 24 hours after your appointment time to provide you with an on-line link to the study. Once you receive the link from the researcher in an email, you will have exactly 72 hours to complete the study. The researcher will then assign your credits within 48 hours. Please contact the researcher directly at [XXX]@sfu.ca if you have any questions regarding the procedure for completing this study.

## Appendix C.

### FFM of Psychopathy Prototype Profile

#### **Neuroticism**

Anxiety (*low*)

Angry hostility

Depressiveness (*low*)

Self-consciousness (*low*)

Impulsiveness (*high*)

Vulnerability (*low*)

#### **Extraversion**

Warmth (*low*)

Gregariousness

Assertiveness (*high*)

Activity

Excitement seeking (*high*)

Positive emotions

#### **Openness**

Fantasy

Aesthetics

Feelings (*low*)

Actions (*high*)

Ideas

Values

#### **Agreeableness**

Trust (*low*)

Straightforwardness (*low*)

Altruism (*low*)

Compliance (*low*)

Modesty (*low*)

Tendermindedness (*low*)

#### **Conscientiousness**

Competence (*high*)

Order

Dutifulness (*low*)

Achievement striving

Self-discipline (*low*)

Deliberation (*low*)

## Appendix D.

### Triarchic Domain Similarity Ratings with CAPP Symptoms

**Boldness** is defined as the nexus (connection) of high dominance, low anxiousness, and venturesomeness. It involves a capacity to remain calm under pressure and recover quickly from stressors, high social efficacy, and a tolerance for unfamiliarity and danger.

**Meanness** reflects tendencies toward callousness, cruelty, predatory aggression, and excitement seeking. It involves poor empathy, disdain (disregard) for and lack of close attachments with others, rebelliousness, excitement seeking, exploitativeness, and empowerment through cruelty.

**Disinhibition** reflects tendencies toward impulsiveness, irresponsibility, oppositionality, and anger/hostility. It involves poor planfulness, impaired regulation of affect (emotion), and poor behavioral restraint (control).

Based on the description above, how similar is **Boldness** to the following terms.

\*\*\*During the study, this would be one of **Boldness, Meanness, or Disinhibition.** \*\*\*\*

Extremely Dissimilar	Very Dissimilar	Somewhat Dissimilar	Neutral/ Mixed	Somewhat Similar	Very Similar	Extremely Similar
1	2	3	4	5	6	7
Self-Centered (Egocentric, Selfish, Self-Absorbed)						_____
Self-Aggrandizing (Self-important, Conceited, Condescending)						_____
Sense of Uniqueness (Sense of Being Extraordinary, Exceptional, Special)						_____
Sense of Entitlement (Demanding, Insistent, Sense of Being Deserving)						_____
Sense of Invulnerability (Sense of Being Invincible, Indestructible, Unbeatable)						_____
Self-Justifying (Minimizing, Denying, Blaming)						_____

Unstable Self-Concept (Labile, Incomplete, Chaotic Sense of Self) \_\_\_\_\_

**Boldness** is defined as the nexus (connection) of high dominance, low anxiousness, and venturesomeness. It involves a capacity to remain calm under pressure and recover quickly from stressors, high social efficacy, and a tolerance for unfamiliarity and danger.

Lacks Anxiety (Unconcerned, Unworried, Fearless) \_\_\_\_\_

Lacks Pleasure (Pessimistic, Gloomy, Unenthusiastic) \_\_\_\_\_

Lacks Emotional Depth (Unemotional, Indifferent, Inexpressive) \_\_\_\_\_

Lacks Emotional Stability (Temperamental, Moody, Irritable) \_\_\_\_\_

Lacks Remorse (Unrepentant, Unapologetic, Unashamed) \_\_\_\_\_

Extremely Dissimilar	Very Dissimilar	Somewhat Dissimilar	Neutral/ Mixed	Somewhat Similar	Very Similar	Extremely Similar
-------------------------	--------------------	------------------------	-------------------	---------------------	-----------------	----------------------

1	2	3	4	5	6	7
---	---	---	---	---	---	---

**Boldness** is defined as the nexus (connection) of high dominance, low anxiousness, and venturesomeness. It involves a capacity to remain calm under pressure and recover quickly from stressors, high social efficacy, and a tolerance for unfamiliarity and danger.

Antagonistic (Hostile, Disagreeable, Contemptuous) \_\_\_\_\_

Domineering (Arrogant, Overbearing, Controlling) \_\_\_\_\_

Deceitful (Dishonest, Deceptive, Duplicitous) \_\_\_\_\_

Manipulative (Devious, Exploitative, Calculating) \_\_\_\_\_

Insincere (Superficial, Slick, Evasive) \_\_\_\_\_

Garrulous (Glib, Verbose, Pretentious) \_\_\_\_\_

**Boldness** is defined as the nexus (connection) of high dominance, low anxiousness, and venturesomeness. It involves a capacity to remain calm under pressure and recover quickly from stressors, high social efficacy, and a tolerance for unfamiliarity and danger.

- Detached (Remote, Distant, Cold) \_\_\_\_\_
- Uncommitted (Unfaithful, Undevoted, Disloyal) \_\_\_\_\_
- Unempathic (Uncompassionate, Cruel, Callous) \_\_\_\_\_
- Uncaring (Inconsiderate, Thoughtless, Neglectful) \_\_\_\_\_

**Boldness** is defined as the nexus (connection) of high dominance, low anxiousness, and venturesomeness. It involves a capacity to remain calm under pressure and recover quickly from stressors, high social efficacy, and a tolerance for unfamiliarity and danger.

- Lacks perseverance (Idle, Undisciplined, Unconscientious) \_\_\_\_\_
- Unreliable (Undependable, Untrustworthy, Irresponsible) \_\_\_\_\_
- Reckless (Rash, Impetuous, Risk-taking) \_\_\_\_\_
- Restless (Overactive, Fidgety, Energetic) \_\_\_\_\_
- Disruptive (Disobedient, Unruly, Unmanageable) \_\_\_\_\_
- Aggressive (Threatening, Violent, Bullying) \_\_\_\_\_

**Boldness** is defined as the nexus (connection) of high dominance, low anxiousness, and venturesomeness. It involves a capacity to remain calm under pressure and recover quickly from stressors, high social efficacy, and a tolerance for unfamiliarity and danger.

- Suspicious (Distrustful, Guarded, Hypervigilant) \_\_\_\_\_
- Lacks Concentration (Distractible, Inattentive, Unfocused) \_\_\_\_\_
- Intolerant (Narrow-minded, Bigoted, Hypercritical) \_\_\_\_\_
- Inflexible (Stubborn, Rigid, Uncompromising) \_\_\_\_\_
- Lacks Planfulness (Aimless, Unsystematic, Disorganized) \_\_\_\_\_

Extremely Dissimilar	Very Dissimilar	Somewhat Dissimilar	Neutral/ Mixed	Somewhat Similar	Very Similar	Extremely Similar
1	2	3	4	5	6	7

**Boldness** is defined as the nexus (connection) of high dominance, low anxiousness, and venturesomeness. It involves a capacity to remain calm under pressure and recover quickly from stressors, high social efficacy, and a tolerance for unfamiliarity and danger.

Perfectionist \_\_\_\_\_

Strange \_\_\_\_\_

Dependent \_\_\_\_\_

Restrained \_\_\_\_\_

Self-conscious \_\_\_\_\_

Considerate \_\_\_\_\_

Cautious \_\_\_\_\_

Shy \_\_\_\_\_

Conscientious \_\_\_\_\_

## Appendix E.

### Triarchic Domain Similarity Ratings with FFM of Psychopathy Facets

**Boldness** is defined as the nexus (connection) of high dominance, low anxiousness, and venturesomeness. It involves a capacity to remain calm under pressure and recover quickly from stressors, high social efficacy, and a tolerance for unfamiliarity and danger.

**Meanness** reflects tendencies toward callousness, cruelty, predatory aggression, and excitement seeking. It involves poor empathy, disdain (disregard) for and lack of close attachments with others, rebelliousness, excitement seeking, exploitativeness, and empowerment through cruelty.

**Disinhibition** reflects tendencies toward impulsiveness, irresponsibility, oppositionality, and anger/hostility. It involves poor planfulness, impaired affect (emotional) regulation, and poor behavioral restraint (control).

Based on the description above, how similar is **Meanness** to the following terms.

\*\*\*During the study, this would be one of **Boldness, Meanness, or Disinhibition.**\*\*\*

Extremely Dissimilar	Very Dissimilar	Somewhat Dissimilar	Neutral/ Mixed	Somewhat Similar	Very Similar	Extremely Similar
1	2	3	4	5	6	7
Anxiety: nervous, tense, jittery						_____
Angry hostility: frustration, bitterness, not calm						_____
Depressiveness: guilt, sadness, hopelessness						_____
Self-consciousness: uncomfortable around others, sensitive, feeling of inferiority.						_____
Impulsiveness: inability to control urges, strong desires, cannot resist temptations						_____
Vulnerability: hopeless, unable to cope with stress or becoming dependent						_____

**Meanness** reflects tendencies toward callousness, cruelty, predatory aggression, and excitement seeking. It involves poor empathy, disregard for and lack of close attachments with others, rebelliousness, excitement seeking, exploitativeness, and empowerment through cruelty.

Warmth: affectionate, friendly, form close attachments to others \_\_\_\_\_

Gregariousness: enjoys company of others, wants to be around more people, not a loner \_\_\_\_\_

Assertiveness: dominant, forceful, socially influential \_\_\_\_\_

Activity: vigorous movement, sense of energy, keeps busy \_\_\_\_\_

Excitement seeking: craves stimulation, sensation seeking, dislikes boring life \_\_\_\_\_

Positive emotions: tendency to experience joy, happiness, love \_\_\_\_\_

Extremely Dissimilar	Very Dissimilar	Somewhat Dissimilar	Neutral/ Mixed	Somewhat Similar	Very Similar	Extremely Similar
1	2	3	4	5	6	7

**Meanness** reflects tendencies toward callousness, cruelty, predatory aggression, and excitement seeking. It involves poor empathy, disregard for and lack of close attachments with others, rebelliousness, excitement seeking, exploitativeness, and empowerment through cruelty.

Fantasy: vivid imagination, daydreams, creates interesting inner world \_\_\_\_\_

Aesthetics: appreciates art, moved by poetry, absorbed in music \_\_\_\_\_

Feelings: receptive to one's feelings, evaluates emotions, experiences emotions intensely \_\_\_\_\_

Actions: tries different activities, goes new places, prefers novelty to familiarity \_\_\_\_\_

Ideas: enjoys philosophical arguments, curious, does not limit interests \_\_\_\_\_

Values: reexamines sociopolitical values, does not accept authority, not dogmatic \_\_\_\_\_

**Meanness** reflects tendencies toward callousness, cruelty, predatory aggression, and excitement seeking. It involves poor empathy, disregard for and lack of close attachments with others, rebelliousness, excitement seeking, exploitativeness, and empowerment through cruelty.

Trust: believes others are honest and well intentioned, not cynical \_\_\_\_\_

Straightfowardness: frank, sincere, not deceptive \_\_\_\_\_

Altruism: generosity, consideration for others, willingness to help others \_\_\_\_\_

Compliance: defers to others, inhibits aggression, forgives \_\_\_\_\_

Modesty: humble, keeps self in background, does not feel superior to others \_\_\_\_\_

Tendermindedness: moved by others' needs, not hardheaded, unmoved by pity \_\_\_\_\_

**Meanness** reflects tendencies toward callousness, cruelty, predatory aggression, and excitement seeking. It involves poor empathy, disregard for and lack of close attachments with others, rebelliousness, excitement seeking, exploitativeness, and empowerment through cruelty.

Competence: capable, sensible, well prepared to deal with life \_\_\_\_\_

Order: neat, tidy, well-organized \_\_\_\_\_

Dutifulness: follows ethical principles, fulfills moral obligations, dependable \_\_\_\_\_

Achievement striving: high aspiration, works hard to achieve goals, sense life direction \_\_\_\_\_

Self-discipline: self-motivation, does not procrastinate, does not quit \_\_\_\_\_

Deliberation: cautions, deliberate, not hasty \_\_\_\_\_

## Appendix F.

### Subject Information and Consent Form – Student (Online)

Comparing the Role of Boldness, Meanness and Disinhibition in the Conceptualization of Psychopathy

Principal Investigator: XXX XXX, B.A.

Co-Investigator: Dr. [XXX XXX] Dr. [XXX XXX]

Simon Fraser University (Department of Psychology)  
8888 University Drive  
V5A 1S6  
(778) [XXX XXXX]

Sponsors: Simon Fraser University Department of Psychology

#### WHY ARE WE DOING THIS STUDY?

You are being invited to take part in this study because we are interested in studying personality traits and their effect on a variety of life outcomes. The study is being completed for a Masters thesis

#### YOUR PARTICIPATION IS VOLUNTARY

Your participation is entirely voluntary. It is up to you to decide whether or not you take part in this study. If you decide to participate, you can withdraw from the study at anytime without any negative consequences. If you do not wish to participate, you do not

have to provide any reason for your decision nor will there be any negative consequences for not participating.

#### WHO IS CONDUCTING THE STUDY?

This study is being conducted under the auspices of Simon Fraser University. It is being completed by researchers from the Department of Psychology at SFU.

#### WHAT DOES THE STUDY INVOLVE?

If you agree to participate in the study, we will ask you to complete a set of ratings about the similarity of personality traits. You will also answer some questions about your own personality, the way you think, and any recent positive or negative life events. These questionnaires should take approximately 1 hour.

#### WHAT ARE THE POSSIBLE RISKS OF PARTICIPATING?

You should not experience any significant pain or harm from this study. There is a possibility that you find some questions mildly upsetting. There is a possibility that you may reveal illegal activities that occurred in the past such as violence, theft or substance use problems. We will keep these responses private from anyone else. If any question upsets you, please let any of the research staff know if you have any concerns. You do not have to answer any question that you do not want.

#### WHAT ARE THE BENEFITS OF PARTICIPATING?

There is a chance you may learn more about yourself after answering some questions in this study. In the future, others may benefit from what we learn in this study.

#### WHAT IF YOU DECIDE TO WITHDRAW YOUR CONSENT TO PARTICIPATE?

If you decide to take part in this study, you may choose to stop at anytime without giving a reason and without any negative consequences. You will still receive your remuneration for participation.

## WILL YOU BE PAID FOR TAKING PART IN THE RESEARCH STUDY?

By taking part in this study, you will receive 2 RPS credits from the Psychology Department.

## HOW WILL YOUR PRIVACY BE KEPT?

Your confidentiality will be respected as we will not be sharing your answers with anyone. You will be given a unique identifying subject number for this study. The list that matches your name with your unique number will not be released, and will be kept separately from your questionnaire responses. You should know that if someone reports serious violence that is going to occur soon, then we have a duty to report this to an appropriate authority. However, we believe the chance of this happening in this study is extremely unlikely. Also, in the unlikely event that a judge requests us to disclose confidential data we may have to provide that information. Although we want to make you aware of this possibility, none of the researchers for this project have had this happen across thousands of research participants, and we do not anticipate it happening in this study.

All information will be kept on an online, password protected, and secure server at SFU. This information can only be accessed from computers in a locked office at Simon Fraser University and only approved researchers will have access to this data. We are required to store your research data for seven years after the date of the first published research article. This is because we have professional and ethical duties to share data with other researchers to check the accuracy of our findings if we are asked to do so (which is extremely rare). We may also combine our data with other research projects. However, in both cases, individual responses will remain anonymous and private by using a unique study number. Finally we hope to publish our research findings. If this happens, will be only publish findings about the entire sample and will never mention individual participants.

## WHO CAN YOU CONTACT IF YOU HAVE QUESTION ABOUT THE STUDY?

If you have questions about the study before or during the participation, you can contact [XXX XXX] at [XX@XXX] or [XXX-XXX-XXXX], or [XXX XXX] at [XXX@XXX] or [XXX-XXX-XXX]

WHO CAN YOU CONTACT IF YOU HAVE ANY CONCERNS OR COMPLAINTS ABOUT THE STUDY?

If you have any concerns about your rights as a research participant and/or your experiences while participating in this study, you may contact Dr. [XXX XXX], [XXXX], Office of Research Ethics [XXX@XXX] or {XXX-XXX-XXXX}.

## Appendix G.

### Study Protocol (TriPM and Outcome Measures)

**Directions:** This questionnaire contains statements that different people might use to describe themselves. Each statement is followed by four choices:    . The meaning of these four different choices is as follows:

= True

= somewhat true

= somewhat false

= False

For each statement, fill in the bubble for the choice that describes you best. There are no right or wrong answers; just choose the answer that best describes you.

Like this:  Not like this:

**Remember: Fill only one bubble per item.** If you make a mistake cross out the incorrect answer with an X and fill in the correct option. Answer all of the items. Please work rapidly and do not spend too much time on any one statement.

#### TriPM

I'm optimistic more often than not.

How other people feel is important to me.

I often act on immediate needs.

I have no strong desire to parachute out of an airplane.

I've often missed things I promised to attend.

I would enjoy being in a high-speed chase.	+	<input type="checkbox"/>	L	Y
I am well-equipped to deal with stress.	+	<input type="checkbox"/>	L	Y
I don't mind if someone I dislike gets hurt.	+	<input type="checkbox"/>	L	Y
My impulsive decisions have caused problems with loved ones.	+	<input type="checkbox"/>	L	Y
I get scared easily.	+	<input type="checkbox"/>	L	Y
I sympathize with others' problems.	+	<input type="checkbox"/>	L	Y
I have missed work without bothering to call in.	+	<input type="checkbox"/>	L	Y
I'm a born leader.	+	<input type="checkbox"/>	L	Y
I enjoy a good physical fight.	+	<input type="checkbox"/>	L	Y
I jump into things without thinking.	+	<input type="checkbox"/>	L	Y
I have a hard time making things turn out the way I want.	+	<input type="checkbox"/>	L	Y
I return insults.	+	<input type="checkbox"/>	L	Y
I've gotten in trouble because I missed too much school.	+	<input type="checkbox"/>	L	Y
I have a knack for influencing people.	+	<input type="checkbox"/>	L	Y
It doesn't bother me to see someone else in pain.	+	<input type="checkbox"/>	L	Y

I have good control over myself.	+	<input type="checkbox"/>	L	Y
I function well in new situations, even when unprepared.	+	<input type="checkbox"/>	L	Y
I enjoy pushing people around sometimes.	+	<input type="checkbox"/>	L	Y
I have taken money from someone's purse or wallet without asking.	+	<input type="checkbox"/>	L	Y
I don't think of myself as talented.	+	<input type="checkbox"/>	L	Y
I taunt people just to stir things up.	+	<input type="checkbox"/>	L	Y
People often abuse my trust.	+	<input type="checkbox"/>	L	Y
I'm afraid of far fewer things than most people.	+	<input type="checkbox"/>	L	Y
I don't see any point in worrying if what I do hurts someone else.	+	<input type="checkbox"/>	L	Y
I keep appointments I make.	+	<input type="checkbox"/>	L	Y
I often get bored quickly and lose interest.	+	<input type="checkbox"/>	L	Y
I can get over things that would traumatize others.	+	<input type="checkbox"/>	L	Y
I am sensitive to the feelings of others.	+	<input type="checkbox"/>	L	Y
I have conned people to get money from them.	+	<input type="checkbox"/>	L	Y
It worries me to go into an unfamiliar situation without knowing all the details.	+	<input type="checkbox"/>	L	Y

I don't have much sympathy for people.	+	<input type="checkbox"/>	L	Y
I get in trouble for not considering the consequences of my actions.	+	<input type="checkbox"/>	L	Y
I can convince people to do what I want.	+	<input type="checkbox"/>	L	Y
For me, honesty really is the best policy.	+	<input type="checkbox"/>	L	Y
I've injured people to see them in pain.	+	<input type="checkbox"/>	L	Y
I don't like to take the lead in groups.	+	<input type="checkbox"/>	L	Y
I sometimes insult people on purpose to get a reaction from them.	+	<input type="checkbox"/>	L	Y
I have taken items from a store without paying for them.	+	<input type="checkbox"/>	L	Y
It's easy to embarrass me.	+	<input type="checkbox"/>	L	Y
Things are more fun if a little danger is involved.	+	<input type="checkbox"/>	L	Y
I have a hard time waiting patiently for things I want.	+	<input type="checkbox"/>	L	Y
I stay away from physical danger as much as I can.	+	<input type="checkbox"/>	L	Y
I don't care much if what I do hurts others.	+	<input type="checkbox"/>	L	Y
I have lost a friend because of irresponsible things I've done.	+	<input type="checkbox"/>	L	Y
I don't stack up well against most others.	+	<input type="checkbox"/>	L	Y

Others have told me they are concerned about my lack of self-control.	+	<input type="checkbox"/>	└	γ
It's easy for me to relate to other people's emotions.	+	<input type="checkbox"/>	└	γ
I have robbed someone.	+	<input type="checkbox"/>	└	γ
I never worry about making a fool of myself with others.	+	<input type="checkbox"/>	└	γ
It doesn't bother me when people around me are hurting.	+	<input type="checkbox"/>	└	γ
I have had problems at work because I was irresponsible.	+	<input type="checkbox"/>	└	γ
I'm not very good at influencing people.	+	<input type="checkbox"/>	└	γ
I have stolen something out of a vehicle.	+	<input type="checkbox"/>	└	γ

## DAST

1. Have you used drugs other than those required for medical reasons? Y/N
2. Have you abused prescription drugs? Y/N
3. Do you abuse more than one drug at a time? Y/N
4. Can you get through the week without using drugs (other than those required for medical reasons)? Y/N
5. Are you always able to stop using drugs when you want to? Y/N
6. Do you abuse drugs on a continuous basis? Y/N
7. Do you try to limit your drug use to certain situations? Y/N
8. Have you had “blackouts” or “flashbacks” as a result of drug use? Y/N
9. Do you ever feel bad about your drug abuse? Y/N
10. Does your spouse (or parents) ever complain about your involvement with drugs? Y/N
11. Do your friends or relatives know or suspect you abuse drugs? Y/N
12. Has drug abuse ever created problems between you and your spouse? Y/N
13. Has any family member ever sought help for problems related to your drug use? Y/N
14. Have you ever lost friends because of your use of drugs? Y/N
15. Have you ever neglected your family or missed work because of your use of drugs? Y/N
16. Have you ever been in trouble at work because of drug abuse? Y/N
17. Have you ever lost a job because of drug abuse? Y/N
18. Have you gotten into fights when under the influence of drugs? Y/N
19. Have you ever been arrested because of unusual behaviour while under the influence of drugs? Y/N
20. Have you ever been arrested for driving while under the influence of drugs? Y/N
21. Have you engaged in illegal activities in order to obtain drugs? Y/N
22. Have you ever been arrested for possession of illegal drugs? Y/N
23. Have you ever experienced withdrawal symptoms as a result of heavy drug intake? Y/N
24. Have you had medical problems as a result of your drug use Y/N

(e.g., memory loss, hepatitis, convulsions, bleeding, etc.)?

25. Have you ever gone to anyone for help for a drug problem? Y/N

26. Have you ever been in hospital for medical problems related to your drug use? Y/N

27. Have you ever been involved in a treatment programme specifically related to drug use? Y/N

28. Have you been treated as an out-patient for problems related to drug abuse? Y/N

## MAC

1. In the past six months, did anyone throw an object at you, push grab or shove you? Y/N
  2. In the past six months, did you throw something at anyone? Y/N
  3. In the past six months, did you push, grab or shove anyone? Y/N
  4. In the past six months, did anyone slap, kick, hit you with a fist or object, or try to Y/N  
physical force you to have sex?
  5. In the past six months, did you slap anyone? Y/N
  6. In the past six months, did you kick, bite or choke anyone? Y/N
  7. In the past six months, did you hit anyone with a fist or beat anyone up? Y/N
  8. In the past six months, did you try to physically force anyone to have sex against Y/N  
his or her will?
  9. In the past six months, did anyone threaten you with or use a rock, knife, Y/N  
gun or other lethal weapon?
  10. In the past six months, did you threaten anyone with a knife, gun, Y/N  
or other lethal weapon?
  11. In the past six months, did you use a knife or fire a gun at anyone? Y/N
  12. In the past six months, did you do anything else that might be considered violent? Y/N
  13. In your lifetime, have you done anything that would be considered violent? Y/N
  14. In your lifetime, have you been a victim of any of the behaviours mentioned above Y/N  
(e.g. hitting, slapping, weapon use)?
- 
1. Did anyone threaten to harm you, but without any kind of weapon in hand? Y/N
  2. Did you threaten to harm anyone, but without any kind of weapon in hand? Y/N
  3. Did anyone yell or scream at you in a way that frightened you? Y/N
  4. Did you yell or scream at anyone in a way that probably frightened them? Y/N
  5. Did anyone do anything else to you that made you afraid for your safety? Y/N
  6. Did you do anything else that probably made someone afraid for their safety Y/N

## STAB

The following items describe a number of different behaviors. Please read each item and report how often you have done this using the following scale.

- |           | <b>1</b>  | <b>2</b>    | <b>3</b>  | <b>4</b>   | <b>5</b>            |
|-----------|---|-------------|-----------|------------|---------------------|
|           | never   | hardly ever | sometimes | frequently | nearly all the time |
| 1. _____  | Felt like hitting people  |             |           |            |                     |
| 2. _____  | Broke into a store, mall or warehouse                                   |             |           |            |                     |
| 3. _____  | Blamed others   |             |           |            |                     |
| 4. _____  | Hit back when hit others  |             |           |            |                     |
| 5. _____  | Broke the windows of an empty building                                  |             |           |            |                     |
| 6. _____  | Tried to hurt someone's feelings  |             |           |            |                     |
| 7. _____  | Got angry quickly   |             |           |            |                     |
| 8. _____  | Shoplifted things   |             |           |            |                     |
| 9. _____  | Made fun of someone behind their back                                   |             |           |            |                     |
| 10. _____ | Threatened others   |             |           |            |                     |
| 11. _____ | Littered public areas by smashing bottles, tipping trash cans, etc.     |             |           |            |                     |
| 12. _____ | Excluded someone from group activities when angry with him/her          |             |           |            |                     |
| 13. _____ | Had trouble controlling temper  |             |           |            |                     |
| 14. _____ | Stole a bicycle   |             |           |            |                     |
| 15. _____ | Gave someone the silent treatment when angry with him/her               |             |           |            |                     |
| 16. _____ | Hit others when provoked  |             |           |            |                     |
| 17. _____ | Stole property from school or work                                      |             |           |            |                     |
| 18. _____ | Revealed someone's secrets when angry with him/her                      |             |           |            |                     |
| 19. _____ | Got into fights more than the average person                            |             |           |            |                     |
| 20. _____ | Left home for an extended period of time without telling family/friends |             |           |            |                     |
| 21. _____ | Intentionally damaged someone's reputation                              |             |           |            |                     |

22. \_\_\_\_\_ Swore or yelled at others
23. \_\_\_\_\_ Sold drugs, including marijuana
24. \_\_\_\_\_ Tried to turn others against someone when angry with him/her
25. \_\_\_\_\_ Got into physical fights
26. \_\_\_\_\_ Was suspended, expelled, or fired from school or work
27. \_\_\_\_\_ Called someone names behind his/her back
28. \_\_\_\_\_ Felt better after hitting
29. \_\_\_\_\_ Failed to pay debts
30. \_\_\_\_\_ Was rude towards others
31. \_\_\_\_\_ Had trouble keeping a job
32. \_\_\_\_\_ Made negative comments about other's appearance

**BIS**

DIRECTIONS: People differ in the ways they act and think in different situations. This is a test to measure some of the ways in which you act and think. Read each statement and pick the appropriate response. Do not spend too much time on any statement. Answer quickly and honestly.

1	2	3	4
Rarely/Never	Occasionally	Often	Almost Always/Always

- 1. I plan tasks carefully. \_\_\_\_\_
- 2 I do things without thinking. \_\_\_\_\_
- 3 I make-up my mind quickly. \_\_\_\_\_
- 4 I am happy-go-lucky. \_\_\_\_\_
- 5 I don't "pay attention." \_\_\_\_\_
- 6 I have "racing" thoughts. \_\_\_\_\_
- 7 I plan trips well ahead of time. \_\_\_\_\_
- 8 I am self controlled. \_\_\_\_\_
- 9 I concentrate easily. \_\_\_\_\_
- 10 I save regularly. \_\_\_\_\_
- 11 I "squirm" at plays or lectures. \_\_\_\_\_
- 12 I am a careful thinker. \_\_\_\_\_
- 13 I plan for job security. \_\_\_\_\_
- 14 I say things without thinking. \_\_\_\_\_
- 15 I like to think about complex problems. \_\_\_\_\_
- 16 I change jobs. \_\_\_\_\_
- 17 I act "on impulse." \_\_\_\_\_
- 18 I get easily bored when solving thought problems. \_\_\_\_\_
- 19 I act on the spur of the moment. \_\_\_\_\_
- 20 I am a steady thinker. \_\_\_\_\_

- 21 I change residences. \_\_\_\_\_
- 22 I buy things on impulse. \_\_\_\_\_
- 23 I can only think about one thing at a time. \_\_\_\_\_
- 24 I change hobbies. \_\_\_\_\_
- 25 I spend or charge more than I earn. \_\_\_\_\_
- 26 I often have extraneous thoughts when thinking. \_\_\_\_\_
- 27 I am more interested in the present than the future. \_\_\_\_\_
- 28 I am restless at the theater or lectures. \_\_\_\_\_
- 29 I like puzzles. \_\_\_\_\_
- 30 I am future oriented. \_\_\_\_\_

\_\_\_\_\_

## PSA

The following items describe a number of different behaviors. Please read each item and report how often you have done this using the following scale.

1	2	3	4	5
never	hardly ever	sometimes	frequently	nearly all the time

1. \_\_\_\_\_ I am pleased to help my friends/colleagues in their activities
2. \_\_\_\_\_ I share the things that I have with my friends
3. \_\_\_\_\_ I try to help others
4. \_\_\_\_\_ I am available for volunteer activities to those who are in need.
5. \_\_\_\_\_ I am empathetic for those who are in need.
6. \_\_\_\_\_ I help immediately those who are in need.
7. \_\_\_\_\_ I do what I can to help others avoid getting in trouble.
8. \_\_\_\_\_ I intensely feel what others feel.
9. \_\_\_\_\_ I am willing to make my knowledge and abilities available to others
10. \_\_\_\_\_ I try to console those who are sad.
11. \_\_\_\_\_ I easily lend money or other things.
12. \_\_\_\_\_ I easily put my self in the shoes of others who are in discomfort.
13. \_\_\_\_\_ I try to be close to and take care of those who are in need.
14. \_\_\_\_\_ I easily share with friends any good opportunity that comes to me
15. \_\_\_\_\_ I spend time with those friends who feel lonely
16. \_\_\_\_\_ I immediately sense my friends discomfort even when it is not directly communicated to me

## SEQ

Please say how much you agree or disagree with the following statements. You can strongly agree, slightly agree, be in between, slightly disagree or strongly disagree. Please circle the number to the right of the question.

1	2	3	4	5
Strongly disagree	Slightly disagree	In between	Slightly agree	Strongly agree
1. I express my feelings appropriately in public				1 2 3 4 5
2. I avoid arguments				1 2 3 4 5
3. When others are afraid, I reassure them				1 2 3 4 5
4. I speak my mind				1 2 3 4 5
5. I notice when other people are happy				1 2 3 4 5
6. I am critical of others				1 2 3 4 5
7. I am amusing				1 2 3 4 5
8. I notice when other people are frightened				1 2 3 4 5
9. When others are happy, I am pleased for them				1 2 3 4 5
10. I am not aggressive				1 2 3 4 5
11. I co-operate with others				1 2 3 4 5
12. I notice when other people are disgusted				1 2 3 4 5
13. I am impatient with other people				1 2 3 4 5
14. I am apologetic				1 2 3 4 5
15. When others are angry, I calm them down				1 2 3 4 5
16. I am confident meeting new people				1 2 3 4 5
17. I have difficulties making and keeping close relationships				1 2 3 4 5
18. I notice when other people are sad				1 2 3 4 5
19. I am sociable				1 2 3 4 5
20. When others are disgusted, I am appalled for them				1 2 3 4 5

- |   |           |
|---|-----------|
| 21. I take a long time to make decisions                  | 1 2 3 4 5 |
| 22. I do what I want to and do not care what others think | 1 2 3 4 5 |
| 23. I notice when other people are angry                  | 1 2 3 4 5 |
| 24. I do things without thinking                          | 1 2 3 4 5 |
| 25. I have good manners                                   | 1 2 3 4 5 |
| 26. I am close to my family                               | 1 2 3 4 5 |
| 27. I let someone know if I find them attractive          | 1 2 3 4 5 |
| 28. I keep in touch with old friends                      | 1 2 3 4 5 |
| 29. I prefer being alone than with others                 | 1 2 3 4 5 |
| 30. When others are sad, I comfort them                   | 1 2 3 4 5 |

## IODS

Please select how often you have done these behaviours at work and or school. By SCHOOL we mean any college, university or trade school that you were enrolled in at 18 OR OLDER. Please do NOT include behaviours from high school.

Never	Once year	a Twice year	a Several times year	a Monthly	Weekly	Daily
1	2	3	4	5	6	7

1. Worked on a personal matter while in class or work.
2. Taken property from work/school without permission
3. Spent too much time fantasizing or daydreaming instead of working
4. Made fun of someone at work/school
5. Falsified a receipt to get reimbursed for more money than you spent on business or school expenses
6. Said something hurtful to someone at work/school
7. Taken an additional or a longer break than is acceptable at your workplace/school
8. Repeated a rumor or gossip about your company/school
9. Made an ethnic, religious, or racial remark or joke at work/school
10. Come in late to work/school without permission
11. Littered your work/school environment
12. Cursed at someone at work/school
13. Called in sick when you were not
14. Told someone about the lousy place where you work or go to school
15. Lost your temper while at work/school
16. Neglected to follow your boss's or instructor's instructions
17. Intentionally worked slower than you could have worked at work/school

18. Discussed confidential company/school information with an unauthorized person
19. Left work/school early without permission
20. Played a mean prank on someone at work/school
21. Left your work/schoolwork for someone else to finish
22. Acted rudely toward someone at work/school
23. Repeated a rumor or gossip about your boss or coworkers or fellow students
24. Made an obscene comment at work/school
25. Used an illegal drug or consumed alcohol on the job or at school
26. Put little effort into your work/schoolwork
27. Publicly embarrassed someone at work/school
28. Dragged out work in order to get overtime or engaged in academic dishonesty at school.

**RB**

Please let us know if you have ever done the following behaviours.

- |   |     |
|---|-----|
| 1. Have you ever stolen anything from a friend or family member?              | Y/N |
| If YES, did this have a negative consequence or cause harm for you or others? | Y/N |
| 2. Have you ever ridden a bike or motorcycle without a helmet?                | Y/N |
| If YES, did this have a negative consequence or cause harm for you or others? | Y/N |
| 3. Have you ever gambled money away excessively?                              | Y/N |
| If YES, did this have a negative consequence or cause harm for you or others? | Y/N |
| 4. Have you ever cheated on an intimate partner?                              | Y/N |
| If YES, did this have a negative consequence or cause harm for you or others? | Y/N |
| 5. Have you ever driven recklessly in a car by yourself?                      | Y/N |
| If YES, did this have a negative consequence or cause harm for you or others? | Y/N |
| 6. Have you ever driven recklessly in a car with others?                      | Y/N |
| If YES, did this have a negative consequence or cause harm for you or others? | Y/N |
| 7. Have you ever drank alcohol and then drove?                                | Y/N |
| If YES, did this have a negative consequence or cause harm for you or others? | Y/N |
| 8. Have you ever used drugs which got you "high" and then drove?              | Y/N |
| If YES, did this have a negative consequence or cause harm for you or others? | Y/N |
| 9. Have you ever been in a car with someone who used drugs or alcohol         |     |

- and then drove? Y/N
- If YES, did this have a negative consequence or cause harm for you or others? Y/N
10. Have you ever been in a car and intentionally not worn your seatbelt? Y/N
- IF YES, did this have a negative consequence or cause harm for you or others? Y/N
11. Have you ever made a risky financial decision over \$100? Y/N
- IF YES, did this have a negative consequence or cause harm for you or others? Y/N
12. Have you ever done an activity while travelling that you thought was risky (e.g., water rafting, bungee jumping, rent motorbike)? Y/N
- IF YES, did this have a negative consequence or cause harm for you or others? Y/N
13. Have you ever travelled to a foreign country without proper medication? Y/N
- IF YES, did this have a negative consequence or cause harm for you or others? Y/N
14. Have you ever drank alcohol in public a location (i.e., in a place where you should not)? Y/N
- IF YES, did this have a negative consequence or cause harm for you or others? Y/N
15. Have you ever quit your job without another job lined up? Y/N
- IF YES, did this have a negative consequence or cause harm for you or others? Y/N
16. Have you ever trespassed private property? Y/N
- IF YES, did this have a negative consequence or cause harm for you or others? Y/N
17. Have you ever eaten a meal at a restaurant and purposely left without paying? Y/N
- IF YES, did this have a negative consequence or cause harm for you or others? Y/N
18. Have you ever texted on your phone while driving? Y/N
- IF YES, did this have a negative consequence or cause harm for you or others? Y/N

19. Have you ever lied or manipulated the truth (e.g., change details) to a National border security agent? Y/N

If YES, did this have a negative consequence or cause harm for you or others? Y/N

20. Have you ever done anything else that you would consider risky behaviour? Y/N

If YES, what was it?

---

If YES, did this have a negative consequence or cause harm for you