

THE VALIDITY OF A YOUTH MEASURE OF THE TRIARCHIC MODEL OF  
PSYCHOPATHY

A Thesis

by

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## ABSTRACT

The Triarchic Model suggests that psychopathy is comprised of three phenotypic constructs, including disinhibition (i.e., elevated impulsivity combined with negative affect), meanness (i.e., interpersonal antagonism and callousness), and boldness (i.e., social charm and resistance to stress). Recently, the field has just begun to examine whether Triarchic traits exist and can be measured in youth populations. Specifically, researchers have recently devised scales measuring these three constructs using items from the Youth Psychopathic Traits Inventory (YPI) and found some support for their validity in a college sample.

This study extended previous research by examining the psychometric properties of the YPI-Triarchic scales in a large, multi-site adolescent offender sample using a myriad of criterion measures (e.g., psychopathy, personality, antisocial behavior, psychopathology). Results suggested some limited support for the YPI-Triarchic scales, although significant concern exists regarding the practical utility of these scales in both clinical (e.g., predicting recidivism) and research settings.

## DEDICATION

To friends, family, and the faculty who have mentored me during my undergraduate and graduate studies.

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### **Contributors**

This work was supervised by a thesis committee consisting of Professors John Edens and Brent Donnellan of the Department of Psychology and Professor Timothy Elliott of the Department of Educational Psychology.

The YPI-Triarchic scale scores and pertinent statistics (e.g., internal consistency) were provided by Dr. Samuel Hawes. The specific measures and other analyses used were completed by the student under the supervision of committee members, particularly Professors John Edens and Brent Donnellan. The Pathways to Desistance project was supervised by investigators at the University of Pittsburgh, including Edward P. Mulvey, Ph.D., and Carol A. Schubert, M.P.H.

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## NOMENCLATURE

BSI	Brief Symptom Inventory
NEO-PI-SF	NEO-Five Factor Inventory, Short Form
PCL:YV	Psychopathy Checklist Youth Version
YPI	Youth Psychopathic Traits Inventory

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## INTRODUCTION

Psychopathic personality disorder (PPD), or psychopathy, has generated significant debate within clinical and personality psychology in terms of which traits are considered essential to the construct as well as how to appropriately measure those traits (Cooke, Hart, Logan, & Michie, 2012; Lilienfeld, Patrick, Benning, Berg, Sellbom, & Edens, 2012; Lynam & Miller, 2012; Miller, Jones, & Lynam, 2011; Patrick, Fowles, & Krueger, 2009). Cleckley (1941/1976) offered a seminal conceptualization of psychopathic traits, arguing that psychopaths have a “mask” of sanity that involves severe, emotional deficits that are absent in the psychopath’s outward appearance. Cleckley’s description of psychopathy served as the initial impetus for one of the most widely used measures of this disorder, the Psychopathy Checklist – Revised (PCL-R; Hare, 2003).

The PCL-R is a 20-item rating scale, involving an extensive file review and semi-structured interview, on which each item is scored on a three-point scale by a trained rater. Debates about the factor structure of this instrument to some extent reflect the ongoing debates concerning what features are most central to the construct of psychopathy. Although originally considered to be composed of two factors consisting of Interpersonal/Affective and Social Deviance dimensions (Harpur, Hakstian, & Hare, 1988), more recent research has suggested three and four-factor models (Cooke & Michie, 2001; Hare, 2003). Specifically, Cooke and Michie (2001) argued that the PCL-R is best described as a three factor model comprised of Arrogant and Deceitful

Interpersonal Style, Deficient Affective Experience, and Impulsive and Irresponsible Behavioral Style factors. In contrast, Hare (2003) argued that a fourth factor, or facet, should be included in the Cooke and Michie model that primarily reflects criminal history variables (i.e., an Antisocial factor).

Partly in response to the ongoing controversies regarding what are the essential traits of psychopathy, Patrick, Fowles, and Krueger (2009) proposed the Triarchic model. This model draws heavily from previous clinical descriptions (e.g., Cleckley, 1976) and theoretical and empirical research on psychopathy (e.g., Cooke & Michie, 2001; Lilienfeld & Andrews, 1995). Patrick and colleagues (2009) argue that psychopathy is comprised of three phenotypic constructs, including meanness, disinhibition, and boldness, that reflect genotypic dispositions (e.g., deficiencies in brain recognition of threatening stimuli). Meanness captures an exploitative interpersonal style where an individual actively seeks gratification without consideration of (and often at the expense of) others. Specifically, individuals high in meanness are antagonistic toward others and have difficulty forming sincere attachments with others. This combination of antagonism without genuine attachment can result in instrumental aggression, manipulation, verbal degradation, and other harmful, goal-oriented behaviors. Second, disinhibition describes the intersection of poor impulse control and negative affect that results in antisocial behavior (e.g., substance abuse, aggression). This phenotype describes an inability to engage in successful emotion regulation in tandem with elevated levels of impulsivity that result in externalizing pathology. Lastly, boldness refers to a reduced sensitivity to stress, elevated levels of social efficacy, and

low levels of neuroticism (Patrick et al., 2009). This phenotype describes the reduced response to punishment and low anxiety that research has linked to salubrious outcomes (Marcus, Fulton, & Edens, 2012; Patrick et al., 2009).

Although measures from other conceptualizations of psychopathy appear to tap certain aspects of the Triarchic Model to varying degrees, only a few self-report measures specifically tap all three phenotypes of the Triarchic Model. For example, the Triarchic Psychopathy Measure (TriPM; Patrick, 2010) is a 58-item self-report measure designed to assess boldness, meanness, and disinhibition. This instrument has demonstrated strong convergent validity with other self-report psychopathy measures, such as the Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996), the Self-Report Psychopathy Scale-III (SRP-III; Williams, Paulhus, & Hare, 2007), and the Levenson Self-Report Psychopathy Scale (LSRP; Levenson, Kiehl, & Fitzpatrick, 1995), across both forensic and undergraduate samples (Drislane, Patrick, Aarsal., 2014; Stanley, Wygant, & Sellbom, 2013).

Despite some controversies surrounding this model (see Lilienfeld et al., 2012; Lynam & Miller, 2012; Miller & Lynam, 2012), aspects of the Triarchic Model share significant conceptual overlap with previous descriptions of psychopathy and can be found in measures of psychopathy based on other theoretical models. Meanness is relatively uncontroversial within the field and is found across conceptualizations and measures. For example, Cleckley (1941/1976) described psychopaths as emotionally unresponsive to others and incapable of love and empathy. In other models, such as the Comprehensive Assessment of Psychopathic Personality (CAPP), meanness is captured

in symptoms such as deceitful, antagonistic, lacks emotional depth and remorse, among other symptoms (Cooke, et al., 2012). Within the child and adolescent literature, researchers have identified callous and unemotional traits as marking a particularly antisocial group of youths who appear phenotypically similar to adult psychopaths, as evidenced by symptoms such as lack of empathy and remorselessness (Frick, 2009). Meanness is captured in a variety of adult and youth measures of psychopathy, such as the SRP-III, LSRP, the Antisocial Process Screening Device (APSD; Frick & Hare, 2001) (Drislane, et al., 2014; Levenson, et al., 1995; Williams et al., 2007). The first factor of the PCL-R, for example, includes items measuring disingenuous attachment, lack of empathy, shifting blame to others, arrogance, deceptiveness, and cruelty to others (Hare, 2003).

Disinhibition also is a common construct found in conceptualizations and measurements of psychopathy. For example, the CAPP model includes symptoms, such as risk-taking and lacks planfulness, that index disinhibition and researchers note that impulsive features are frequently found throughout the psychopathy literature (Cooke, et al., 2012). Research also consistently identifies disinhibition as an important component of psychopathy in youth that is linked to antisocial behavior (Frick, 2009; Frick, O'Brien, Wootton, & McBurnett, 1994). This commonality across conceptualizations is partially because disinhibition is consistently linked to various types of antisocial behavior, such as aggression, substance abuse, and theft (Krueger, Markon, Patrick, Benning, & Kramer, 2007; Patrick et al., 2009). Furthermore, Cleckley (1976) argued that disinhibition is a pertinent feature of psychopathy that leads to externalizing

behavior. Additionally, disinhibition is found across youth and adult measures of psychopathy, such as the PCL-R, SRP-III, and the APSD (Drislane et al., 2014; Frick & Hare, 2001; Hare, 2003; Lilienfeld & Andrews, 1996). For example, the second factor of the PCL-R specifically includes items tapping issues of impulse control and externalizing behaviors (Hare, 2003).

Although meanness and disinhibition are relatively uncontroversial traits of psychopathy, boldness has stirred significant debate among scholars (see Lilienfeld, et al., 2012; Lynam & Miller, 2012). Patrick and colleagues (2009) argued that boldness is rooted in Cleckley's (1976) description of psychopathic traits, such that psychopaths possess a markedly lower level of neuroticism in combination with social potency that enables them to effectively charm and manipulate others. Furthermore, Cleckley (1946) suggested that many psychopaths experience significant success in their life (e.g., graduating with honors) and frequently present as likeable and intelligent. Recent research provides some support for these claims. For example, Marcus and colleagues (2012) used a meta-analytic approach to identify links between elevated levels of boldness, as operationalized by the Fearless Dominance scale of the PPI/PPI-R, to psychological health and positive adjustment. Although boldness in isolation is theoretically linked to healthy outcomes, Patrick and colleagues (2009) argued that the combination of boldness and disinhibition results in antisocial and hurtful behavior. For example, Smith, Edens, and McDermott (2013) found that the interaction between boldness and other psychopathic traits is predictive of predatory aggression. Additionally, Marcus and Norris (2014) reported that men with higher levels of boldness

and other psychopathic traits were more likely to endorse positive attitudes toward sexually predatory behaviors.

Despite the controversy surrounding boldness, various self-report and interview-based measures of psychopathy do seem to tap boldness to varying degrees. For example, although the PCL-R does not provide extensive coverage of this concept, it does include items measuring superficial charm and a grandiose sense of self-worth (Patrick et al., 2009). Additionally, Wall, Wygant, and Sellbom (2015) found that boldness predicted scores on the interpersonal deficits that are indexed by the PCL-R. These results suggest that boldness is partially measured by instruments designed around other models of psychopathy and that boldness potentially is part of the construct of psychopathy.

Given that the Triarchic Model and the concept of boldness to some extent grew out of the PPI/PPI-R literature, it is not surprising that the PPI/PPI-R more directly measures boldness, with items tapping fearlessness, social potency, and resilience to stressful situations. However, Patrick and colleagues (2009) state that the PPI-R appears to tap a ‘healthier’ side of boldness and neglects some of the darker characteristics of boldness that should lead to antisocial behavior, which other researchers have linked to sexual coercion and predatory aggression (Marcus & Norris, 2014; Smith et al., 2013).

### **Extension of Psychopathy to Youth**

Over the years, psychologists have developed a myriad of instruments (e.g., YPI and APSD) intended to tap psychopathic personality disorder in youth. Prominently, the Psychopathy Checklist: Youth Version (PCL:YV; Forth, Kosson, & Hare, 2003)

represents an attempt to adapt the widely used PCL-R to adolescent populations. For example, research has found similar factor structures between the PCL-R and PCL:YV (i.e., three factor structure) and exhibits similar patterns of relations with correlates, such as substance abuse, conduct disorder symptoms, and poor attachment to parents (Andershed, Hodgins, & Tengstrom, 2007; Bauer, Whitman, & Kosson, 2011; Kosson, Neumann, Forth, Salekin, Hare, Krischer, & Sevecke, 2013; Kosson, Cyterski, Steuerwald, Neumann, & Walker-Matthews, 2002; Neumann, Kosson, Forth, & Hare, 2006; Hare, 2003). Additionally, the PCL:YV shifts the instrument's focus toward problematic relations with peers and family members and difficulties in school, thereby measuring psychopathy in the context of an adolescent's, rather than adult's, life (Edens, Skeem, Cruise, & Cauffman, 2001; Forth et al., 2003). Much like the PCL:YV's adult counterpart, the PCL:YV is scored using an interview and available files, with each item ranked on a three point-ordinal scale (Forth, et al., 2003).

Another prominent measure of psychopathy in youth is the APSD. The APSD is a 20-item measure of psychopathy in adolescence intended for ages 13 to 18 and validated across a range of samples (e.g., community, offender, university) (Frick & Hare, 2001; Frick, Bodin, & Barry, 2000; Goodwin, Sellbom, & Salekin, 2015; Munoz & Frick, 2007; Poythress, Dembo, Wareham, & Greenbaum, 2006; Vitacco, Rogers, & Neumann, 2003). Consistent with some research on the PCL-R (see Cooke & Michie, 2001), Vitacco and colleagues (2003) found a three factor model, which includes callous-unemotional (CU) traits, impulsivity, and narcissism, although other research has not replicated these results (Poythress, et al., 2006). These CU traits share significant



conceptual overlap with the interpersonal deficits found in adult psychopathy (see Frick, et al., 1994) and are referenced in the Diagnostic and Statistical Manual of Mental Disorders – 5 as limited prosocial emotions (LPE). LPE is a specifier for Conduct Disorder that includes a lack of empathy, remorse, and/or guilt (American Psychiatric Association, 2013). Despite the clear theoretical link between adult and adolescent psychopathy found in the APSD, empirical research has found that the APSD correlates poorly with the interpersonal deficits as measured by the PCL:YV (Lee, Vincent, Hart, & Corrado, 2003). In contrast, the APSD does exhibit expected relationships with pertinent constructs, such as antisocial behavior, and has some degree of predictive validity (Falkenbach, Poythress, & Heide, 2003; Goodwin, et al., 2015; Douglas, Epstein, & Poythress, 2008; Munoz & Frick, 2007; Poythress, et al., 2006).

There is significant research suggesting the APSD has other limitations. Specifically, Andershed, Kerr, Stattin, and Levander (2002) suggested that the items are worded in a clearly negative manner, which potentially facilitates response distortion. The items do not fully operationalize psychopathic traits and, arguably, do not measure all of the essential traits (Andershed et al., 2002). In response to these putative limitations, Andershed and colleagues (2002) developed the Youth Psychopathy Inventory (YPI). The YPI is a 50-item self-report survey designed to operationalize the three-factor model of the PCL-R (see Cooke & Michie, 2001).

To this end, the YPI is comprised of interpersonal, affective, and impulsive/irresponsibility domains. The interpersonal domain includes items that operationalize glibness, feelings of grandiosity, conning, and other pertinent deficits.

The affective domain includes items that operationalize callousness, shallow emotions, and guiltlessness, among other psychopathic traits. Finally, the impulsive/irresponsibility domain includes items that operationalize a myriad of difficulties, such as issues with impulse control, a tendency toward novel and thrilling situations, and low conscientiousness. Furthermore, items were created with consideration of psychopaths' poor insight and propensity to lie and shine a favorable light on themselves. As a result, items are worded to reduce face validity to avoid the likelihood and ease of response distortion (Andershed et al., 2002). Although initially intended for use with community samples, the measure has demonstrated across sample types (e.g., college, forensic) strong psychometric properties (Andershed, et al., 2007; Campbell, Doucette, & French, 2009; Declerq, Markey, Vandist, & Verhaeghe, 2009; Dolan & Rennie, 2007; Poythress et al., 2006; Skeem & Cauffman, 2003).

Despite these promising instruments, some controversy surrounds the translation of the construct and corresponding instruments to youth populations. Specifically, there is debate about whether psychologists can accurately measure psychopathy in youth and potential implications for the legal system (Edens, et al., 2001; Frick, 2009). For example, Edens and colleagues (2001) argued that psychopathy may be a potentially unstable construct in youth given the significant developmental changes that are the hallmark of adolescence. Furthermore, demarcating when a trait, such as impulsivity, is pathological versus developmentally appropriate for an adolescent is particularly challenging (Edens et al., 2001).

Currently, a sizeable body of research appears to suggest that psychopathy is a modestly stable construct throughout adolescence and into adulthood (Frick, Kimonis, Dandreaux, & Farell, 2003; Gretton, Hare, & Catchpole, 2004; Loney, Taylor, Butler, & Iacono, 2007; Lynam, Caspi, Moffit, Loeber, & Stouthamer-Loeber, 2007; Lynam, Charnigo, Moffitt, Raine, Loeber, & Stouthamer-Loeber, 2009; Salekin, Rosenbaum, & Lee, 2008). Importantly, Lynam and colleagues (2007) found stability ( $r = .31$ ) from adolescence to adulthood across different measurement approaches and sources of information, thereby suggesting some level of stability that is not simply an artifact of the instrument and source of information used. Beyond just the stability of psychopathic traits, adolescent psychopathy is somewhat predictive of real-world outcomes later in life (Gretton, et al., 2004; Loney et al., 2007; Murrie, Cornell, Kaplan, McConville, & Levy-Elkon, 2004; Salekin, Rosenbaum, & Lee, 2008). For example, Edens, Campbell, and Weir (2006) meta-analyzed data across 21 samples and found that psychopathy was predictive of general and violent recidivism. Overall, these studies suggest that psychopathy in adolescence is a relatively stable, viable construct related to theoretically pertinent real-world outcomes, such as recidivism.

### **Extracting Triarchic Constructs out of the YPI**

Recently, the literature has experienced an initial push toward the development as well as validation of adolescent measures of the Triarchic Model. Specifically, Drislane and colleagues (2015) developed Triarchic Model scales from the YPI, referred to as YPI-Triarchic scales. They utilized a consensus-based construct rating approach, whereby multiple respondents rated the relevance of individual items to the Triarchic

Model construct it was purported to measure. In other words, respondents were provided with an item and asked to rate on a five point scale how representative that item was of Boldness, Meanness, or Disinhibition. This process yielded an initial item pool from the YPI that underwent a further examination, where item-total correlations were examined for each item in relation to the target scale. Next, they deleted items with unacceptable item-total correlations and/or if the removal of items improved internal consistency and reduced cross-correlations between scales. Finally, other items that were rated as strongly indicative by two out of four raters and as somewhat indicative of a Triarchic Model construct were considered for addition to these initial scales. These items were added to the final scales if they met this rater criterion, correlated highly with a particular scale above and beyond other scales, and improved internal consistency. Overall, this process yielded a Boldness, Disinhibition, and Meanness scale that included 9, 14, and 10 items, respectively. The Boldness items were taken primarily from the Grandiose-Manipulative Dimension (5 items), while the Disinhibition items were taken primarily from the Impulsive-Irresponsibility Dimension (12 items). Third, the Meanness items were taken entirely from the Callous-Unemotional Dimension (10 items). Additionally, only the Meanness scale included both positively and negatively worded items, whereas the Boldness and Disinhibition scales included only positively worded items (Drislane, et al., 2015).

Drislane and colleagues (2015) then examined the psychometric properties of these scales, which suggested some promising results. Specifically, the scales demonstrated relatively modest correlations with each other ( $r = .33-.48$ ) and had

acceptable alpha coefficients ( $\alpha = .75-.82$ ). To further examine the validity of the YPI-Triarchic scales, Drislane and colleagues (2015) assessed their relationship with child and adult psychopathy measures as well as normal-range personality measures. For example, the YPI-Disinhibition scale was related to the TriPM disinhibition scale ( $r = .66, p < .05$ ) and measures of impulsivity ( $r = .39-.68, p < .05$ ), whereas the YPI-Meanness scale was related to the PPI Coldheartedness scale ( $r = .51, p < .05$ ), the NEO Personality Inventory – Revised Antagonism scale ( $r = .57, p < .05$ ) and the APSD’s Callous-Unemotionality scale ( $r = .31, p < .05$ ).

Results for the YPI-Boldness scale proved somewhat more mixed (Drislane et al., 2015). Specifically, this scale was related, as expected, to measures of social dominance, such as the Multidimensional Personality Questionnaire’s Social Potency scale ( $r = .52, p < .05$ ), and TriPM’s Boldness scale ( $r = .57, p < .05$ ). YPI-Boldness was also negatively related to the Multidimensional Personality Questionnaire’s Stress Reaction scale ( $\beta = -.23, p < .05$ ). However, YPI-Boldness exhibited high relations to measures that were proposed to be more relevant to Meanness and Disinhibition. For example, this scale was correlated with APSD’s Impulsivity scale ( $r = .32, p < .05$ ), Inventory of Callous-Unemotional Traits’ Unemotional scale ( $r = .14, p < .05$ ) and PPI-Based Triarchic Meanness scale ( $r = .40, p < .05$ ). However, some of these relations disappeared to some degree after controlling for shared variance with other YPI-Triarchic scales. For example, the relationship between YPI-Boldness and PPI-Based Triarchic Meanness scale became nonsignificant after controlling for the other YPI-Triarchic scales.

## **Current Study**

Although these results for the YPI-Triarchic scales are promising, significantly more work is necessary to demonstrate adequate psychometric properties. For example, the initial study utilized a college sample, which greatly limits the generalizability of the results to other populations of interest, such as those involved in the criminal justice system. Potentially, the YPI-Triarchic scales could exhibit different patterns of relations or exhibit lower internal consistency in other sample types. Additionally, given some current conceptualizations of psychopathy emphasizing externalizing psychopathology (e.g., the PCL-R model of psychopathy), research is needed to validate the YPI-Triarchic scales specifically in forensic populations. Furthermore, research on other measures have yielded different psychometric properties across sample types (e.g., Williams, et al., 2007), suggesting that further analysis of the YPI-Triarchic scales in a forensic population is necessary before making claims that it demonstrates strong psychometric properties. Additionally, the initial study only included other measures of psychopathy and normal range personality measures (Drislane et al., 2015). Although these measures are necessary for validation of a measure of psychopathy, they only shed light on a small portion of the potential nomological network.

Furthermore, Drislane and colleagues only included self-report measures, which may produce relationships that are the result of common-method variance, rather than true relationships between constructs. The current study addressed the limitations present in initial research on the YPI-Triarchic scales by examining the correlates of the YPI-Triarchic scales in an offender population and include measures beyond self-reported

psychopathy and normal range personality measures. This study also included some limited informant report measures, thereby allowing for a fuller examination of the validity of the YPI-Triarchic scales that is not possible using only self-report measures.

Broadly speaking, I hypothesized that boldness will be related to adaptive correlates, given boldness is described by heightened levels of stress immunity and social potency (Patrick et al., 2009). Similarly, I expected positive relationships between boldness and positive relations with significant others (e.g., parents) as well as Factor 1 of the PCLY:YV. I hypothesized that boldness will be positively related to openness and agreeableness, but negatively related to neuroticism. Furthermore, boldness was expected to be negatively related to measures of psychopathology (e.g., anxiety, depression), but positively associated with measures of emotion regulation.

Next, because disinhibition is defined by issues of impulse control and negative affect (Patrick et al., 2009), it should exhibit significant, positive relationships with other measures of impulsivity (Patrick et al., 2009). Also, disinhibition was expected to relate to antisocial behavior, specifically general and violent offending, and poorer relationships with parents. Furthermore, disinhibition was expected to relate to elevated levels of psychopathology (e.g., anxiety, depression). Finally, I hypothesized that disinhibition should be negatively related to conscientiousness and agreeableness, but positively related to neuroticism.

Third, because meanness is defined by an exploitative interpersonal style where the person uses individuals callously to achieve goals (Patrick et al., 2009), I hypothesized relationships between this scale and instruments measuring an antagonistic

approach to interpersonal relations. For example, I expected meanness to relate to poorer relationships with parents and exhibit more interpersonal and affective deficits, as indexed by the PCL:YV's Factor 1. I also hypothesized that meanness would relate to antisocial behavior. Overall, I posited that these relationships between the individual scales would endure after controlling for the other scales (e.g., meanness will relate to agreeableness after controlling for boldness and disinhibition).



## METHOD

### **Participants**

Participants were 928 male, adolescent offenders ( $M_{age} = 16.62$ ,  $SD = 1.15$ ) who were recruited into the Pathways to Desistance study (see Mulvey, 2004 for an extensive description of the study rationale, and Schubert et al., 2004 for extended details of study procedures). The sample consisted of individuals from a variety of racial/ethnic backgrounds. Of the participants, 42.5% identified as Black, 18.9% identified as Caucasian, 34.1% identified as Hispanic, and 4.6% identified as other. Participants were eligible for enrollment if convicted of a serious crime, such as sexual assault or a felony, and between the ages of 14-17 at the time they committed the index offense. Additionally, Schubert and colleagues (2004) restricted the number of adolescents convicted of drug offenses to only 15% of the sample to ensure some degree of heterogeneity within the sample with respect to index offense. Furthermore, the sample size is limited for informant report measures and varies as a result.

### **Measures**

The measures below are organized by construct of interest (e.g., measures of psychopathology are grouped together). These categories are then largely organized alphabetically, although personality is placed first to provide an initial theoretical framework to understand the Triarchic constructs as measured by the YPI-Triarchic scales.

*Youth Psychopathic Traits Inventory (YPI;* Andershed, Kerr, Stattin, & Levander, 2002). The YPI is a self-report measure of psychopathic traits in youth and is comprised

of three dimensions: Grandiose Manipulative, Callous Unemotional, and Impulsive Irresponsible. These dimensions include psychopathic traits such as low empathy, sensation seeking, and the exploitation of others. Participants rated items on a 4-point Likert scale (1 = does not apply at all, 4 = applies very well). Andershed, Hodgins, and Tengstrom (2007) found moderate correlations between the YPI and the PCL:YV, while Campbell, Doucette, and French (2009) found acceptable validity, when correlated with other measures of psychopathy and personality, and stability in a sample of undergraduates. I pulled items from the original YPI scales to create the YPI-Meanness ( $\alpha = .64$ ), YPI-Boldness ( $\alpha = .77$ ), and YPI-Disinhibition ( $\alpha = .79$ ) scales for the proposed analyses as done in Drislane and colleagues (2015).

### **Measures of Personality**

*NEO-Five Factor Inventory, Short Form* (NEO-PI-SF; Costa & McCrae, 1992; McCrae & Costa, 2004). The NEO-PI-SF is a self-report measure of the five dimensions of personality, which includes neuroticism, extraversion, openness, agreeableness, and conscientiousness. The participant rated items on a 5-point scale ranging from disagree strongly (1) to agree strongly (5). Gaughan, Miller, Pryor, and Lynam (2009) found associations between the full Revised NEO Personality Inventory (NEO-PI-R; Costa & McCrae, 1992) and self-report measures of psychopathy and other measures of personality, suggesting appropriate construct validity, and the NEO-PI-R is one of the most prominent measures of personality in psychology. I hypothesized that YPI-Boldness is negatively related to neuroticism, but positively related to openness and agreeableness. Second, I hypothesized that YPI-Disinhibition would be negatively related

to conscientiousness and agreeableness, but positively associated with neuroticism.

Third, I hypothesized that YPI-Meanness would be negatively related to agreeableness.

*Psychopathy Checklist Youth Version (PCL:YV; Forth, Kosson, & Hare, 2003):*

The PCL:YV is a semi-structured interview that assesses for psychopathic traits in adolescent samples. This measure is a translation of the widely used adult measure of psychopathy: Psychopathy Checklist - Revised (PCL-R; Hare, 2003). Similar to the PCL-R, the PCL:YV assesses for psychopathic traits and related behaviors, such as low levels of empathy, impulsivity, deception, and criminal behavior. Previous research has also found the PCL:YV to demonstrate modest correlations with the YPI (see Dolan & Rennie, 2006) and Edens, Campbell, and Weir (2006) found some evidence of predictive validity for recidivism. I hypothesized modest positive relationships between Factor 1 and YPI-Boldness and YPI-Meanness, while Factor 2 will be positively related to YPI-Disinhibition.

### **Indicators of Antisocial Behavior**

*Offense History.* Participants reported the offense type and offense frequency through 24 items, which covers violent, drug, sexual, and other offending behaviors (see Elliott, 1990). Considering the skew present in this dataset, I conducted a square root transformation for analyses (see Cauffman, Kimonis, Dmitrieva, & Monahan, 2009). I hypothesized that YPI-Disinhibition would relate to more general and violent offending over the previous six month recall period.

*Official Arrest Data.* Pathways to Desistance researchers also collected official recidivism data, which included variables regarding the severity and types of offending

behavior. For this study, I was interested in future recidivism, both general and violent, six months following the first YPI administration. I dichotomized these variables, such that participants were identified as either recidivating or not. Approximately 16.5% and 16.81% of the sample perpetrated violent and/or general offenses, respectively. Similar to the self-reported offending variables, I hypothesized that YPI-Disinhibition would predict general and violent recidivism at six months.

### **Measures of Impulsivity**

*Disruptive Behavior Disorder.* The Disruptive Behavior Disorder Inventory (DBD; Pelham, Evans, Gnagy, & Greenslade, 1992) was completed by parents and measured the presence of Attention Deficit/Hyperactivity Disorder symptoms in the adolescents during elementary school and in the past year before baseline data collection. DuPaul, Anastopoulos, Power, Reid, Ikeda, and McGoe (1998) developed normative data that is nationally representative of the U.S. Using factor analysis, DuPaul and colleagues identified a two factor model comprised of a Hyperactivity-Impulsivity factor and Inattention factor, which corresponds with the current conceptualization of ADHD in the DSM-5 (APA, 2013; DuPaul et al., 1998). For the Pathways to Desistance Project, scores were calculated to reflect the number and onset of inattention and hyperactivity symptoms in the past and currently. However, a bivariate correlation identified substantial overlap between the two factors ( $r = .72$ ). Due to this overlap, I computed a total DBD score by averaging scores on these factors. I hypothesized YPI-Disinhibition would positively relate to DBD scores.

*The Stroop Color and Word Test* (Golden, 1978). The Stroop Color and Word Test measured the ability of a participant to inhibit an automatic response. Specifically, participants were provided with colored words that switch between corresponding and not corresponding with the actual word. The participant were asked to either identify the color of the word or read the word. For example, red may be the stimulus word, but it may be in green ink. The participant could be asked to identify the color of the word “red”, which, in this example, is green. Previous research has successfully used this test as a measure of impulsivity (e.g., White, Moffitt, Caspi, Bartusch, Needles, & Stouthamer-Loeber, 1994). I hypothesized that YPI-Disinhibition would be positively related to impulsivity.

### **Measures of Interpersonal Relations**

*The Contact with Caring Adults Inventory*. This measure is comprised of items from a variety of sources (see Institute of Behavioral Science, 1990; Nakkula et al., 1990; Phillips & Springer, 1992) and included items tapping the number of adults providing social support to the respondent. Although the Pathways to Desistance dataset contained a number of variables, for the purposes of this project only variables indicating total number of caring adults, number of unique caring adults, and number of unique, non-family caring adults were included. I hypothesized that YPI-Boldness was positively related to a greater number of adults providing social support given the emphasis within boldness on social potency. In contrast, I hypothesized that YPI-Meanness was negatively related to number of adults providing social support given the emphasis within meanness on an antagonistic and exploitative interpersonal style.

*Moral Disengagement.* The Mechanisms of Moral Disengagement (Bandura, Barbarnelli, Caprara, & Pastorelli, 1996) is a self-report measure of attitudes surrounding the treatment of others. Participants rated items on a 3-point scale ranging from “Disagree” to “Agree”, such that higher scores reflect a higher level of moral disengagement. This instrument measured eight domains of moral disengagement, including moral justification, euphemistic language, advantageous comparison, displacement of responsibility, diffusion of responsibility, distorting consequences, attribution of blame, and dehumanization. For the purposes of the Pathways to Desistance Project, only total scores were calculated to reflect moral disengagement. Specifically, two total scores were calculated using the mean of items as well as the count of endorsed items. For this study, I used the overall count of endorsed items and I hypothesized that YPI-Meanness is positively related to moral disengagement.

*Parental Warmth and Hostility.* The Quality of Parental Relationships Inventory (Conger, Ge, Elder, Lorenz, & Simons, 1994) was modified for the Pathways project to measure the parental warmth and hostility of the mother and father separately. Participants rated items on a 4 – point Likert scale ranging from “Always” to “Never,” such that higher scores on each scale reflects higher levels of warmth and hostility. I hypothesized that YPI-Boldness was related to lower levels of hostility and higher levels warmth, but opposite relationships with YPI-Meanness and YPI-Disinhibition.

## **Psychopathology**

*Alcohol and Drug Use.* For this study, alcohol and drug use was measured by The Substance Use/Abuse Inventory, which is a modified version of a measure

originally developed by Chassin, Rogosch, and Barrera (1991). This measure was comprised of two subscales: Substance Use and Social Consequences, Dependency, and Treatment. The first subscale, Substance Use, measured alcohol and substance since the previous wave of data collection as well as alcohol and substance use in the past 24 hours. I hypothesized that YPI-Disinhibition would be preferentially related to greater levels of substance use, given previous research relating impulsivity and substance use (e.g., Messina, Silvestri, Diulio, Murphy, Garza, & Correla, 2014).

*Brief Symptom Inventory (BSI).* The Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983) is a self-report measure tapping various types of psychopathology. Specifically, the BSI includes nine subscales measuring somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, psychoticism, and paranoid anxiety. Additionally, scores are collated to produce the Global Severity Index, which averages scores across all subscales to give an overall portrait of the level of internal psychological distress. Derogatis (2001) reported appropriate convergent validity with the Symptom Checklist-90-R (SCL-90-R; Derogatis, 1994) in a community sample of over 1,000 individuals. However, Boulet and Boss (1991) reported significant response bias and questionable validity when correlated with Minnesota Multiphasic Personality Inventory's (MMPI) validity and other scales. Although items can be combined in other ways (e.g., Positive Symptoms Total), for the purposes of this project I used the Global Severity Index to tap general psychological distress. I hypothesized that YPI-Boldness is negatively related to psychopathology, as

indicated by the Global Severity Index, while YPI-Disinhibition is positively related to psychopathology.

*Composite International Diagnostic Interview.* The Composite International Diagnostic Interview (CIDI; World Health Organization, 1990) is a structured interview intended to measure psychopathology and identify whether participants have met criteria for mental health diagnoses over the course of their lifetime, in the past year, and in the past 30 days. Pathways' researchers assessed for Dysthymia, Alcohol Abuse, Alcohol Dependence, Drug Abuse, Major Depressive Disorder, Manic Episode, Posttraumatic Stress Disorder, and Drug Dependence, while also asking further questions to determine whether endorsed psychopathology is the result of medications, drugs, alcohol, or injury. For the overall CIDI, research has found acceptable inter-rater reliability between clinicians (Wittchen, Robins, Cottler, Sartorius, & Regier, 1991) and is widely used in psychological research. For this study, I utilized counts of Major Depressive Disorder and Posttraumatic Stress Disorder. For example, boldness includes an adaptive response to stressful situations where bold individuals can effectively cope with significant stressors, such as traumatic experiences. I hypothesized that YPI-Boldness would be negatively related to depressive and Posttraumatic Stress Disorder symptoms, while YPI-Disinhibition would hold positive associations with these measures.

*Emotional Activity, Sociability, and Impulsivity Inventory (EASI).* Drawing 9 items from the EASI (Buss & Plomin, 1984), this scale was designed to tap respondent's internal emotionality. Participants rated items on a 5-point scale anchored by "Strongly disagree" and "Strongly agree," such as "I tend to be nervous in new situations." I



hypothesized that YPI-Boldness would be negatively related to internal emotionality, while YPI-Disinhibition would be positively related to internal emotionality.

Additionally, I expected a similar pattern of relationship for informant reports of this measure.

*Revised Children's Manifest Anxiety Scale.* The Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1985, 2000) is a self-report measure tapping the type and severity of anxiety. This measure can be summarized using a Total Anxiety score, which reflects general anxiety. However, items within this scale can be compiled to measure physiological anxiety, worry/oversensitivity, and social concerns/concentrations. Scores on the physiological anxiety subscale reflect anxiety that manifests itself physically (e.g., sleep difficulty). Scores on the worry/oversensitivity subscale reflect obsessions and fears of loneliness and social exclusion. Third, scores on the social concerns/concentrations subscales reflects the participant's concern that they are not meeting the expectations that others have for the participant (Reynolds & Richards, 1985, 2000). Reynolds (1982) found expected correlations with trait measures of anxiety, suggesting acceptable convergent validity. Furthermore, Wisniewski, Mulick, Genshaft, and Coury (1987) found test-retest reliability over a five week period. Due to the statistically significant overlap between Total Anxiety score and subscales, I included only results using the Total Anxiety score. I hypothesized that YPI-Boldness would negatively relate to anxiety, while YPI-Disinhibition would share a positive relation.

## **Other**

*Children's Emotional Intensity Child Report* (Walden). This scale was comprised of 12 items from Walden, Harris, and Catron's (2003) self-report measure of emotion for children and measures emotion regulation. From the overall measure, Walden et al. found scores were stable over two years, generally acceptable levels of internal consistency, and related as expected to measures of positive and negative emotion. I hypothesized that YPI-Boldness and YPI-Meanness would be positively related to emotion regulation, while YPI-Disinhibition would be negatively related to emotion regulation. I expected a similar pattern of results for informant reports of emotion regulation.

*Employment.* These items measured the adolescent's prior and current employment experience, including the number and duration of jobs. Additionally, these items measure the type of work adolescent's engaged in, which includes illegal and legal work. Some items measuring financial responsibility are drawn from the PCL:YV (Forth et al., 2003). Due to this overlap, I excluded these items from this variable and focused only on those unique variables measuring employment. The variables included in these analyses indexed hours worked per work, length of time the participant held a job in days, the longest time the participant held one job in days, and the number of times they were fired from their job. I expected that YPI-Disinhibition and YPI-Meanness would be negatively related to number of hours worked per week and length of time the

participant held a job and held any job, but positively related to number of times fired from their job.

*Exposure to Violence.* The Exposure to Violence Inventory (ETV; Selner-O'Hagan, Kindlon, Buka, Raudenbush, & Earls, 1998) measured the exposure to violence in adolescents. Selner and colleagues found acceptable levels of internal consistency across scales ( $\alpha = .68 - .93$ ) in a sample of ethnically diverse Chicago residents using the interview version of the measure. Additionally, DeCou and Lynch (2015), in a review of measures assessing adult exposure to community violence, noted research has found ETV to be empirically supported and psychometrically sound. For the purposes of this paper, this inventory was restricted to measure just the frequency of exposure to violent events and captures 17 events. Participants also identified as either the victim or witness of violent events and, based on whether they endorsed the event, participants provided information regarding the frequency of the event. Follow-up information, regarding the frequency of the event, relationship between participant and perpetrator, and location of the event, was asked if the participant endorses being a victim of sexual assault. I hypothesized that YPI-Boldness was negatively related to being victims and witnesses of violent events, while YPI-Disinhibition and YPI-Meanness was positively related to victimization and witnessing of violent events.

*The Wechsler Abbreviated Scale of Intelligence.* The Wechsler Abbreviated Scale of Intelligence (WASI; Wechsler, 1999) provided an estimate of intelligence for participants through a Full Scale IQ score. Recently, Watts and colleagues (2016) identified relations between psychopathic traits as measured by the PPI and various

conceptualizations of intelligence. In terms of cognitive intelligence, Watts et al. found PPI Fearless Dominance held small, positive correlations, or none at all, while PPI Self-Centered Impulsivity and Coldheartedness exhibited small, negative correlations, or none at all. Considering the conceptual overlap between the Triarchic Model and the PPI based psychopathic traits (Patrick et al., 2009; Lilienfeld & Andrews, 1996), I hypothesized that YPI-Boldness was positively correlated with WASI scores, while YPI-Meanness and YPI-Disinhibition were negatively correlated with WASI scores.

### **Procedure**

Upon obtaining informed consent from the adolescents and their legal guardian or parent, research assistants (RAs) administered various testing at six month intervals over the course of a seven year period (Schubert et al., 2004). Interviews were administered via laptop computers under the supervision of the RA and occurred most frequently in the adolescent's home (41.8%), with some taking place in the adolescent's current correctional facility (52.2%) and other locations (6%). Despite the large number of testing and information collected from participants and collateral, for the purposes of this project I focus on those most relevant to the research hypotheses.

## RESULTS

As an initial examination of the functioning of the derived YPI-Triarchic scales, I examined the relationship between them and the original YPI dimensions (see Table 1). The YPI-Triarchic scales shared substantial overlap with the corresponding, original YPI dimensions ( $r = .67 - .96$ ). For example, YPI-Disinhibition exhibited a strong, positive correlation ( $r = .96$ ) with the Impulsive-Irresponsibility Dimension. Also, the YPI-Triarchic scales demonstrated substantial correlations with the original, non-corresponding YPI Dimensions ( $r = .56 - .67$ ). For example, YPI-Disinhibition exhibited a strong, positive correlation ( $r = .67$ ) with the Grandiose-Manipulative Dimension. Finally, the YPI-Triarchic scales shared a substantial amount of variance with the original YPI-Total score ( $r = .72 - .85$ ). Next, I examined the intercorrelations of the YPI-Triarchic scales (see Table 2). The YPI-Triarchic scales correlated strongly with each other ( $r = .55 - .60$ ). In sum, results suggest that the YPI-Triarchic scales correlated strongly with each other, the original YPI Dimensions, and the YPI Total Score. Finally, due to the magnitude of the relationship between the YPI-Triarchic scales and Total YPI scores, I examined correlations between the Total YPI scores and correlates to determine whether the magnitude of associations are similar between the newly derived YPI-Triarchic scales and the original Total YPI scores. These large correlations between the original YPI and the YPI-Triarchic scales raised some concerns whether the YPI-Triarchic scales are providing information that is comparable to the original YPI. Inclusion of Total YPI scores allowed for some comparison between the original and newly developed psychopathy measures.

Table 1

*YPI-Triarchic Scales, Original YPI Factors and Total Scores*

	Boldness	Disinhibition	Meanness
Grandiose-Manipulative	<b>.82</b>	<b>.67</b>	<b>.62</b>
Impulsive-Irresponsibility	<b>.65</b>	<b>.96</b>	<b>.59</b>
Callous-Unemotional	<b>.61</b>	<b>.56</b>	<b>.67</b>
Total Score	<b>.82</b>	<b>.85</b>	<b>.72</b>

Note:  $N = 928$ . YPI administered six months after baseline. Correlations of  $p < .05$  are italicized. Correlations of  $p < .01$  are bolded.

Table 2

*YPI-Triarchic Scale Intercorrelations*

	Boldness	Disinhibition	Meanness
Boldness	-		
Disinhibition	<b>.58</b>	-	
Meanness	<b>.55</b>	<b>.60</b>	-

Note:  $N = 928$ . YPI administered six months after baseline. Correlations of  $p < .05$  are italicized. Correlations of  $p < .01$  are bolded.

Next, correlations between the YPI-Triarchic scales and a measure of the five dimensions of personality (NEO-PI-R) revealed mixed support for the YPI-Triarchic scales (see Table 3). Contrary to hypotheses, YPI-Boldness was positively correlated with Extraversion ( $r = .17$ ) and Conscientiousness ( $r = .09$ ) and unrelated to Neuroticism and Openness to Experience. However, after controlling for other scales' contributions, YPI-Boldness was negatively correlated with Neuroticism ( $r = -.19$ ), positively correlated with Openness to Experiences ( $r = .07$ ). YPI-Boldness was also correlated, as expected, with Agreeableness ( $r = -.20$ ) even after controlling for shared variance ( $r = -.08$ ). Consistent with expectations, YPI-Disinhibition was positively associated with Neuroticism ( $r = .21$ ) and negatively related to Agreeableness ( $r = -.26$ ) and

Conscientiousness ( $r = -.26$ ), even after controlling for the contribution of other scales. YPI-Meanness was also negatively correlated with Agreeableness ( $r = -.13$ ) but, inconsistent with hypotheses, unrelated after controlling for YPI-Boldness and YPI-Disinhibition. Total YPI scores were also positively, albeit very modestly, related to Neuroticism ( $r = .12$ ) and negatively related to Agreeableness ( $r = -.32$ ) and Conscientiousness ( $r = -.11$ ).

I also examined relationships between the YPI-Triarchic scales and the PCL:YV (see Table 3). At the bivariate level, all three scales ( $r = .18 - .28$ ) and Total YPI scores ( $r = .35$ ) correlated significantly with Total PCL:YV scores. After controlling for other scales, only YPI-Boldness ( $r = .16$ ) and YPI-Disinhibition ( $r = .12$ ) were positively associated with Total PCL:YV scores. Similar to correlations with Total PCL:YV scores, YPI-Triarchic scales were positively correlated with Factor 1 ( $r = .17 - .29$ ) and Factor 2 ( $r = .16 - .24$ ) scores. After controlling for other scales, YPI-Boldness correlated significantly with Factor 1 ( $r = .20$ ) and Factor 2 ( $r = .09$ ). Similarly, YPI-Disinhibition remained positively associated with Factor 1 ( $r = .07$ ) and Factor 2 ( $r = .14$ ). However, YPI-Meanness was unrelated to both Factors 1 and 2 after controlling for other scales. Total YPI scores were positively associated with both Factor 1 ( $r = -.02$ ) and Factor 2 ( $r = .28$ ).

Table 3

*YPI-Triarchic Scale Correlations with Measures of Personality*

	Boldness		Disinhibition		Meanness		Total YPI
	<i>r</i>	<i>Partial r</i>	<i>r</i>	<i>Partial r</i>	<i>r</i>	<i>Partial r</i>	<i>r</i>
NEO							
Neuroticism	-.04	<b>-.19</b>	<b>.21</b>	<b>.26</b>	.08	.00	<b>.12</b>
Extraversion	<b>.17</b>	<b>.18</b>	.04	-.05	.05	-.03	.05
Openness to Experience	.07	.07	.00	-.04	.03	.01	-.02
Agreeableness	<b>-.20</b>	-.08	<b>-.26</b>	<b>-.19</b>	<b>-.13</b>	.06	<b>-.32</b>
Conscientiousness	<b>.09</b>	<b>.24</b>	<b>-.21</b>	<b>-.32</b>	-.02	.06	<b>-.11</b>
PCL:YV							
Total	<b>.28</b>	<b>.16</b>	<b>.26</b>	<b>.12</b>	<b>.18</b>	-.02	<b>.35</b>
Factor 1	<b>.29</b>	<b>.20</b>	<b>.22</b>	.07	<b>.17</b>	-.02	<b>.33</b>
Factor 2	<b>.21</b>	.09	<b>.24</b>	<b>.14</b>	<b>.16</b>	-.01	<b>.28</b>

Note:  $N = 852-889$ . Correlations of  $p < .05$  are italicized. Correlations of  $p < .01$  are bolded.

Next, I examined the bivariate and partial correlations between the YPI-Triarchic scales and indicators of impulsivity (see Table 4). Specifically, YPI-Disinhibition exhibited expected correlations with a measure of Disruptive Behavior Disorder symptoms at the bivariate level and after partialling out shared variance with the other scales. YPI-Meanness did not correlate with these symptoms, whereas YPI-Boldness correlated modestly with these symptoms ( $r = .09$ ) but not after partialling out shared variance with other scales. Interestingly, the Total YPI score correlated comparably in magnitude ( $r = .12$ ) to YPI-Disinhibition. Finally, YPI-Disinhibition and YPI-Meanness did not correlate with the Stroop task, whereas YPI-Boldness held a small, negative correlation ( $r = -.08$ ) with the Stroop task after partialling out the other YPI-Scales. The YPI-Total score also did not correlate with the Stroop task.



Table 4

*YPI-Triarchic Scale Correlations with Measures of Impulsivity*

	Boldness		Disinhibition		Meanness		Total YPI
	<i>r</i>	<i>Partial r</i>	<i>r</i>	<i>Partial r</i>	<i>r</i>	<i>Partial r</i>	<i>r</i>
Disruptive Behavior Disorder Symptoms	<i>.09</i>	.03	<b>.15</b>	<b>.14</b>	.04	-.07	<b>.12</b>
Stroop (Interference)	-.04	-.08	.03	.04	.02	.03	.00

Note:  $N = 827-910$ . Correlations of  $p < .05$  are italicized. Correlations of  $p < .01$  are bolded.

I also examined the pattern of relationships between the YPI-Triarchic scales and measures of interpersonal relations (see Table 5). Higher scores on YPI-Boldness, even after partialling out any shared variance, indicated higher numbers of total adults who the participant perceived as supportive ( $r = .13$ ), as well as higher numbers of unrelated adults perceived as supportive ( $r = .11$ ). YPI-Boldness, in contrast, was unrelated to depth of perceived social support (i.e., unique adults mentioned in three or more domains of support). In contrast, YPI-Disinhibition and YPI-Meanness were unrelated, even after partialling shared variance, to total number of adults mentioned, depth of social support, and diversity of unrelated adults perceived as supportive, with the exception of YPI-Disinhibition having a very modest, positive correlation ( $r = .09$ ) with diversity of unrelated adults at the bivariate level. Additionally, Total YPI score was positively correlated ( $r = .09$ ) with the diversity of unrelated adults, negatively correlated with the depth of perceived social support ( $r = -.07$ ), and unrelated to the total number of adults perceived as supportive.

I also correlated the YPI-Triarchic scales with Moral Disengagement and the self-reported warmth and hostility of both the mother and the father. At the bivariate level, all three scales ( $r = .31 - .38$ ) and the Total YPI score ( $r = .47$ ) were positively correlated with Moral Disengagement. Partial correlations revealed a reduction of magnitude in the relationship between the YPI-Triarchic scales, but all three scales remained positively correlated with Moral Disengagement ( $r = .07 - .20$ ). The YPI-Triarchic scales ( $r = -.10 - -.15$ ) and Total YPI score ( $r = -.18$ ) were significantly related to the warmth of the mother, although partial correlations revealed only significant relationships between YPI-Disinhibition and maternal warmth ( $r = -.10$ ). Bivariate correlations only revealed significant correlations between paternal warmth and YPI-Boldness ( $r = -.10$ ), YPI-Disinhibition ( $r = -.15$ ), and Total YPI scores ( $r = -.20$ ), whereas partial correlations were only significant between paternal warmth and YPI-Disinhibition ( $r = -.11$ ). The YPI Triarchic scales ( $r = .22 - .26$ ) and Total YPI scores ( $r = .28$ ) were positively correlated with maternal hostility but, after controlling for other YPI-Triarchic scales, only YPI-Boldness ( $r = .11$ ) and YPI-Disinhibition ( $r = .11$ ) were correlated with maternal hostility. In a somewhat similar pattern, the YPI-Triarchic scales ( $r = .15 - .27$ ) and Total YPI scores ( $r = .25$ ) were positively correlated with paternal hostility, but only YPI-Disinhibition ( $r = -.11$ ) remained correlated with paternal hostility after controlling for the other YPI-Triarchic scales.

Table 5

*YPI-Triarchic Scale Correlations with Interpersonal Relations*

	Boldness		Disinhibition		Meanness		Total YPI
	<i>r</i>	<i>Partial r</i>	<i>r</i>	<i>Partial r</i>	<i>r</i>	<i>Partial r</i>	<i>r</i>
Contact with Caring Adults							
Total Adults Mentioned	<b>.13</b>	<b>.15</b>	.02	-.05	.02	-.04	.04
Depth of Social Support	.01	.05	-.04	-.03	-.06	-.06	-.07
Diversity of Non-Family Social Support	<b>.11</b>	<i>.08</i>	<b>.09</b>	.05	.04	-.05	<b>.09</b>
Moral Disengagement	<b>.33</b>	<b>.11</b>	<b>.38</b>	<b>.20</b>	<b>.31</b>	<i>.07</i>	<b>.47</b>
Parental Warmth							
Mother	<b>-.10</b>	-.01	<b>-.15</b>	<b>-.10</b>	<b>-.10</b>	-.01	<b>-.18</b>
Father	<i>-.12</i>	-.04	<b>-.16</b>	<i>-.11</i>	-.09	.02	<b>-.20</b>
Parental Hostility							
Mother	<b>.25</b>	<b>.11</b>	<b>.26</b>	<b>.11</b>	<b>.22</b>	.05	<b>.28</b>
Father	<b>.15</b>	-.01	<b>.27</b>	<b>.21</b>	<b>.16</b>	-.01	<b>.25</b>

Note:  $N = 421-924$ . Correlations of  $p < .05$  are italicized. Correlations of  $p < .01$  are bolded.

Correlations with measures of psychopathology also revealed some support for the validity of the YPI-Triarchic scales (see Tables 6 and 7). Initially, all three Triarchic scales ( $r = .07 - .25$ ) were associated with greater quantity and frequency of alcohol use and a greater number of drugs used. Partial correlations, however, revealed YPI-Disinhibition was positively correlated with both quantity and frequency of alcohol use ( $r = .21$ ) and number of drugs used ( $r = .21$ ), which is consistent with prior hypotheses. However, YPI-Meanness was unexpectedly negatively correlated with alcohol use ( $r = -.09$ ) and substance use ( $r = -.09$ ), although these correlations were modest. Total YPI

scores also correlated positively with both quantity and frequency of alcohol use ( $r = .17$ ) and number of drugs used ( $r = .22$ ).

Correlations between YPI-Boldness and measures of psychopathology other than substance abuse yielded mixed results. Consistent with expectations, YPI-Boldness was negatively associated with RCMAS ( $r = -.09$ ), both self and informant reported EASI scores ( $r = -.09 - -.10$ ), and NEO Neuroticism scores ( $r = -.19$ ), after controlling for other scales' contributions. Inconsistent with expectations, YPI-Boldness was unrelated to Major Depressive Disorder and Post-Traumatic Stress Disorder symptoms and, even more problematic, modestly positively related to the BSI: Global Severity Index ( $r = .09$ ).

YPI-Disinhibition and YPI-Meanness demonstrated largely theoretically consistent correlations with measures of psychopathology. YPI-Disinhibition, specifically, was correlated as expected with RCMAS ( $r = .18$ ), both self and informant reported EASI scores ( $r = .09 - .16$ ), NEO Neuroticism ( $r = .26$ ), and the BSI: Global Severity Index ( $r = .08$ ). However, YPI-Disinhibition was unrelated to Major Depressive Disorder and Post Traumatic Stress Disorder symptoms. In comparison, YPI-Meanness was largely uncorrelated with measures of psychopathology, but did exhibit some theoretically inconsistent relationships with the BSI: Global Severity Index ( $r = .12$ ) and the RCMAS ( $r = .07$ ). Interestingly, Total YPI scores were positively associated with the BSI: Global Severity Index ( $r = .27$ ), Major Depressive Disorder ( $r = .10$ ) and Post Traumatic Stress Disorder ( $r = .07$ ) symptoms, the RCMAS ( $r = .15$ ), and NEO Neuroticism ( $r = .12$ ), but unrelated to self and informant reported EASI scores.

Table 6

*YPI-Triarchic Scale Correlations with Measures of Psychopathology*

	Boldness		Disinhibition		Meanness		Total YPI
	<i>r</i>	<i>Partial r</i>	<i>r</i>	<i>Partial r</i>	<i>r</i>	<i>Partial r</i>	<i>r</i>
Substance Use							
Quantity/Frequency used beer/wine/liquor	<b>.13</b>	.02	<b>.23</b>	<b>.21</b>	.07	<b>-.09</b>	<b>.17</b>
Number dugs used (recall period)	<b>.16</b>	.05	<b>.25</b>	<b>.21</b>	<b>.09</b>	<i>-.09</i>	<b>.22</b>
CIDI (Symptom Count)							
Major Depressive Disorder	<b>.09</b>	.04	.08	.01	<b>.09</b>	.04	<b>.10</b>
Post-Traumatic Stress Disorder	.07	.01	.08	.02	<b>.10</b>	.06	.07
RCMAS	.07	<b>-.09</b>	<b>.22</b>	<b>.18</b>	<b>.16</b>	.07	<b>.15</b>
EASI							
Self-report	<i>-.08</i>	<b>-.10</b>	.02	<b>.16</b>	<i>-.04</i>	.03	<i>-.05</i>
Informant-report	.02	<b>-.09</b>	<b>.17</b>	<b>.09</b>	<b>.10</b>	<i>-.04</i>	.06
NEO Neuroticism	<i>-.04</i>	<b>-.19</b>	<b>.21</b>	<b>.26</b>	.08	.00	<b>.12</b>

Note:  $N = 777-928$ . Correlations of  $p < .05$  are italicized. Correlations of  $p < .01$  are bolded.

Table 7

*YPI-Triarchic Scale Correlations with the Brief Symptoms Inventory*

	Boldness		Disinhibition		Meanness		Total YPI
	<i>r</i>	<i>Partial r</i>	<i>r</i>	<i>Partial r</i>	<i>r</i>	<i>Partial r</i>	<i>r</i>
Somatization	<b>.14</b>	.07	<b>.11</b>	.00	<b>.16</b>	<b>.10</b>	.06
Obsessive-Compulsive	<b>.20</b>	.04	<b>.24</b>	<b>.11</b>	<b>.25</b>	<b>.12</b>	<b>.14</b>
Interpersonal Sensitivity	<b>.13</b>	-.02	<b>.21</b>	<b>.11</b>	<b>.23</b>	<b>.14</b>	<b>.13</b>
Depression	<b>.14</b>	.05	<b>.18</b>	<b>.10</b>	<b>.15</b>	.05	.06
Anxiety	<b>.17</b>	.03	<b>.21</b>	.08	<b>.23</b>	<b>.13</b>	<b>.12</b>
Hostility	<b>.33</b>	<b>.19</b>	<b>.31</b>	<b>.14</b>	<b>.25</b>	.04	<b>.22</b>
Phobic Anxiety	<b>.10</b>	-.00	<b>.14</b>	.06	<b>.16</b>	<b>.10</b>	<b>.12</b>
Paranoid Ideation	<b>.27</b>	<b>.18</b>	<b>.19</b>	.01	<b>.22</b>	.09	<b>.17</b>
Psychoticism	<b>.13</b>	.03	<b>.13</b>	.01	<b>.20</b>	<b>.14</b>	.07
Positive Symptom Total	<b>.21</b>	.05	<b>.27</b>	<b>.13</b>	<b>.26</b>	<b>.12</b>	<b>.17</b>
Global Severity Index	<b>.25</b>	<b>.10</b>	<b>.26</b>	<b>.10</b>	<b>.28</b>	<b>.13</b>	<b>.17</b>

Note:  $N = 773-777$ . Correlations of  $p < .05$  are italicized. Correlations of  $p < .01$  are bolded.

The Pathways to Desistance database also included a range of other pertinent correlates to psychopathic personality, including intelligence, emotion regulation, employment, and exposure to violence (see Table 8). Intelligence, as measured by the WASI, was positively associated with Total YPI scores ( $r = .08$ ) and only YPI-Boldness ( $r = .15$ ), even after controlling for other scales ( $r = .14$ ). Employment was largely unrelated to the YPI-Triarchic scales and wholly unrelated to Total YPI scores. YPI-Boldness was, however, positively correlated with the longest time the participant held a job after controlling for shared variance with other YPI-Triarchic scales ( $r = .10$ ). Additionally, YPI-Disinhibition was negatively associated with longest time the

participant held a job at the bivariate level ( $r = -.10$ ), even after controlling for shared variance ( $r = -.14$ ). These results are largely inconsistent with hypotheses that YPI-Disinhibition would be negatively related to employment, although these correlations are relatively modest.

The Pathways to Desistance dataset also incorporated both self and informant reports of exposure to violence (see Table 8). YPI-Boldness was positively associated with self-reported witnessing of violence ( $r = .22$ ) and being a victim of violence ( $r = .21$ ), even after controlling for shared variance ( $r = .13 - .18$ ). These relationships contradict hypotheses that exposure to violent events would be negatively associated with YPI-Boldness. Consistent with hypotheses, YPI-Disinhibition and YPI-Meanness were correlated at the bivariate level to self-reported witnessing violent acts ( $r = .11 - .12$ ) and being a victim of violent acts ( $r = .14 - .17$ ). However, these relationships were non-significant using partial correlations. Total YPI scores were correlated with both witnessing violent acts ( $r = .21$ ) and being a victim of violent acts ( $r = .21$ ). Informant reports for these variables, however, were unrelated to YPI-Triarchic scales and Total YPI scores.

I also examined the relationship between the YPI-Triarchic scales and the Walden Self-Regulation scale, which taps emotion regulation and, in this dataset, includes both self and informant reports (see Table 8). Bivariate correlations revealed no significant relationships between self-reported emotion regulation and the YPI-Triarchic scales and Total YPI scores. After controlling for shared variance, YPI-Boldness ( $r = .08$ ) and YPI-Disinhibition ( $r = -.09$ ) held theoretically consonant relationships with self-

reported emotion regulation. In contrast, informant-report emotion regulation was negatively associated with the YPI-Triarchic scales ( $r = -.07 - -.11$ ) and Total YPI scores ( $r = -.10$ ) and uniquely related with only YPI-Disinhibition ( $r = -.07$ ).

Table 8  
*YPI-Triarchic Scale Correlations with Other Correlates*

	Boldness		Disinhibition		Meanness		Total YPI
	<i>r</i>	<i>Partial r</i>	<i>r</i>	<i>Partial r</i>	<i>r</i>	<i>Partial r</i>	<i>r</i>
WASI	<b>.15</b>	<b>.14</b>	.05	-.03	.05	-.02	.08
Employment							
Hours Worked Per Week	.01	.05	-.04	-.05	-.03	-.02	.01
Length of Time Had Job (in days)	-.05	-.05	-.02	-.00	-.01	.02	-.04
Longest Time Held One Job (in days)	.02	<i>.10</i>	<i>-.10</i>	<b>-.14</b>	-.02	.02	-.03
Number of Times Fired	.14	.10	.05	-.09	.15	.12	.14
Exposure to Violence							
Witnessed Score							
Self-report	<b>.22</b>	<b>.18</b>	<b>.12</b>	-.01	<b>.11</b>	-.01	<b>.21</b>
Informant-report	.02	.06	-.05	-.07	-.01	.00	-.01
Victim Score							
Self-report	<b>.21</b>	<b>.13</b>	<b>.17</b>	.06	<b>.14</b>	-.00	<b>.21</b>
Informant-report	.01	-.01	.03	.04	.00	-.03	.02
Walden Self-Regulation Scale							
Self-report	.04	<b>.08</b>	-.05	<b>-.09</b>	.01	.03	-.03
Informant-report	-.07	-.01	<i>-.11</i>	-.08	-.07	-.00	<b>-.10</b>

Note:  $N = 87-928$ . Correlations of  $p < .05$  are italicized. Correlations of  $p < .01$  are bolded.



Next, I examined the relation between the YPI-Triarchic scales and Total YPI scores with self-reported offending (Table 9). After conducting a square root transformation due to the distribution of scores (see Cauffman et al., 2009 for the same procedure), results identified significant associations between YPI-Triarchic scales and violent ( $r = .13 - .21$ ) and general offending ( $r = .11 - .16$ ). The magnitude of relationship was greater, though, between Total YPI scores and self-reported offending ( $r = .18 - .23$ ). After controlling for shared variance and consistent with hypotheses, only YPI-Disinhibition was significantly associated with violent ( $r = .14$ ) and general ( $r = .10$ ) offending.

Table 9  
*YPI-Triarchic Scale Correlations with Self-Reported Offending*

	Boldness		Disinhibition		Meanness		Total YPI
	<i>r</i>	<i>Partial r</i>	<i>r</i>	<i>Partial r</i>	<i>r</i>	<i>Partial r</i>	<i>r</i>
Offense History							
General	<b>.13</b>	.04	<b>.16</b>	<b>.10</b>	<b>.11</b>	.00	<b>.18</b>
Violent	<b>.16</b>	.05	<b>.21</b>	<b>.14</b>	<b>.13</b>	-.01	<b>.23</b>

*Note:*  $N = 928-929$ . Correlations of  $p < .05$  are italicized. Correlations of  $p < .01$  are bolded.

In addition to self-reported offending, I conducted binary logistic regressions to identify whether the YPI-Triarchic scales predict recidivism over the course of six months after the YPI administration (see Table 10). Results revealed that none of the

YPI-Triarchic scales or Total YPI scores significantly predicted future violent and general recidivism.

Table 10  
*YPI-Triarchic Scales Predicting Official Arrest Data*

	Official Arrest Data					
	General			Violent		
	B	Exp(B)	Nagelkerke R Square	B	Exp(B)	Nagelkerke R Square
Boldness	-.01	.99	.00	.01	1.01	.00
Disinhibition	.02	1.02	.00	-.01	.99	.00
Meanness	.02	1.01	.00	-.01	.99	.00
Total YPI	.00	1.00	.00	.00	1.00	.00

*Note:*  $N = 927$ . Asterisks (\*) denotes a significant predictor.

## CONCLUSIONS

The current study sought to examine the validity of the recently derived YPI-Triarchic scales (see Drislane et al., 2015) using a large, multi-site sample of adolescent offenders. Drislane and colleagues provided some initial support for the validity of the YPI-Triarchic scales in an undergraduate sample using external correlates measuring psychopathic and normal range personality traits. This research is in line with a growing trend to derive Triarchic scales from existing measures of psychopathic personality (e.g., PPI; Hall, Drislane, Patrick, Morano, Lilienfeld, & Poythress, 2014) and normal range personality (e.g., MPQ; Blonigen, Hicks, Krueger, Patrick, & Iacono, 2006), which allows researchers to use preexisting datasets to further refine the conceptualization and measurement of psychopathic traits. Indeed, the YPI-Triarchic scales represent a novel extension of the Triarchic Model for use with adolescent samples. I also extended Drislane and colleagues' previous work using a more comprehensive array of theoretically pertinent external correlates across multiple sources of information (e.g., collateral, behavioral measures, official arrest records) in a sample that would be expected to demonstrate greater severity of psychopathic traits than an undergraduate or community sample.

Although Drislane et al. (2015) reported largely promising findings, the current results were much more mixed. The YPI-Triarchic scales intend to specifically tap psychopathic traits as conceptualized by the Triarchic Model of psychopathy (i.e., boldness, meanness, and disinhibition). However, analyses revealed large correlations between the YPI-Triarchic scales and original YPI factors. For example, most of the

YPI-Boldness items were derived from YPI Grandiose-Manipulative dimension and the scales shared a large portion of variance ( $r = .82$ ). The magnitude of these correlations suggests that the original YPI scales are conceptually quite similar to the Triarchic Model and/or the YPI-Triarchic scales are tapping the original psychopathic traits of the YPI. Considering each YPI-Triarchic scale pulls a significant portion of items from corresponding YPI dimensions, the strength of associations between the YPI-Triarchic scales and the YPI is unsurprising. This issue is most evident in the YPI-Meanness scale which is derived entirely from the YPI's Callous-Unemotional dimension. Similarly, YPI-Disinhibition pulls 12 out of 14 items from the Impulsive-Irresponsible dimension and YPI-Boldness derives over half the scale's items from the Grandiose-Manipulative dimension.

Despite this issue, the Triarchic Model and the YPI dimensions do clearly share substantial conceptual overlap (Andershed et al., 2002). The YPI is comprised of three dimensions, including Grandiose-Manipulative, Impulsive-Irresponsible, and Callous-Unemotional dimensions. The Grandiose-Manipulative dimensions describes symptoms of grandiosity, a manipulative interpersonal style, and frequent deception of other individuals (Andershed et al., 2002). In comparison, Patrick et al. (2009) described boldness as the confluence of social dominance and assertiveness, sensation seeking, and low anxiety. Both the YPI dimension and boldness similarly incorporate components that would suggest a confident, self-assured individual. However, the Grandiose-Manipulative dimension incorporates a deceptive, exploitative approach to relationships,

whereas the Triarchic Model's boldness incorporates sensation seeking and a resistance to psychological distress.

Although there are some discrepancies between boldness and the Grandiose-Manipulative dimension, Disinhibition and the Impulsive-Irresponsible dimension are conceptually nearly identical. Both are defined by poor impulse control that often results in antisocial behavior. Lastly, Meanness and the Callous-Unemotional dimension share substantial overlap as well (Andershed et al., 2002; Patrick et al., 2009). Meanness describes a lack of close relationships, an interpersonal style characterized by the exploitation of others for personal gain, and difficulties experiencing empathic concern for others (Patrick et al., 2009). In comparison, the Callous-Unemotional dimension is defined by an absence of psychological distress and an exploitation of others for personal gain without concern for others (Andershed et al., 2002). Despite both sharing a focus on difficulties forming attachments and the manipulation of others for personal gain, the Callous-Unemotional dimension includes emotional deficits beyond simply a lack of empathic concern for others (Andershed et al., 2002; Patrick et al., 2009). Although this conceptual overlap should reflect substantial shared variance, the results suggest that YPI-Meanness and YPI-Boldness correlations with their corresponding YPI dimensions are in excess of what one would expect based on theory. In contrast, YPI-Disinhibition and the Impulsive-Irresponsibility dimension are statistically almost identical, which is expected due to their theoretical similarities.

Furthermore, these theoretical distinctions are consistent with Drislane and colleagues' (2015) original findings, as they reported correlations that suggest the YPI-

Triarchic scales are measuring psychopathic traits that are somewhat different than the Triarchic constructs. At the bivariate level, correlations reflected some shared variance between the YPI-Triarchic scales and corresponding TriPM scales ( $r_s = .49 - .66$ ). The magnitude of these relations indicate that the YPI-Triarchic scales are not exactly measuring the Triarchic Model, at least as operationalized by the TriPM. The TriPM has often served as the essential validation measure for developing Triarchic scales (Hall et al., 2014; Drislane et al., 2015) and newly developed measures intending to tap the Triarchic constructs should share substantial overlap with the TriPM. For example, the PPI-Boldness scale correlated strongly ( $r = .79$ ) with TriPM boldness, suggesting both scales measure largely the same construct.

Additionally and inconsistent with expectations, the YPI-Triarchic scales exhibited strong intercorrelations. Patrick et al. (2009) posit that psychopathic traits are the manifestation of underlying deficiencies. Trait fearlessness contributes to the manifestation of boldness, whereas an externalizing vulnerability contributes to the manifestation of disinhibition (Patrick & Bernat, 2009; Patrick et al., 2009). Past research has typically demonstrated no relation between boldness and disinhibition, a moderate correlation between meanness and disinhibition, and a small correlation between boldness and meanness (e.g., Drislane et al., 2015; Cohen, 1988). In contrast, the YPI-Triarchic scales exhibited large correlations ( $r_s = .55 - .60$ ) that directly contradicts Patrick and colleagues' Triarchic Model and is inconsistent with previous efforts developing measures of the Triarchic Model (e.g., Hall et al., 2014). Using an undergraduate sample, Drislane and colleagues (2015) found smaller, but significant

correlations between the YPI-Triarchic scales ( $r_s = .33 - .48$ ), suggesting that perhaps this issue is more pronounced in forensic, rather than undergraduate, samples.

### **Relations with External Correlates**

These issues notwithstanding, the results provide some degree of support for the YPI-Triarchic scales' construct validity. Analyses included an array of external correlates, including scales assessing psychopathology, personality, impulsivity, interpersonal relations, and externalizing behavior. Broadly speaking, the YPI-Triarchic scales exhibited some theoretically consistent relations, although notably some of these relations attenuated after restricting the analyses to the unique variance explained by individual YPI-Triarchic scales.

### **YPI-Triarchic Scales from a Five Factor Trait Perspective**

One essential approach to understanding psychopathic traits, particularly the Triarchic Model, is the use of a normative personality theory as a framework for elucidating the nature of the Triarchic constructs. According to these results, YPI-Boldness is best characterized by lower levels of Neuroticism and Agreeableness, but higher levels of Openness to Experience, Extraversion, and Conscientiousness. Lower levels of Neuroticism are consistent with expectations that bold individuals should experience an enhanced ability to recover from stressful situations. Higher levels of Openness to Experience are consistent with Patrick and colleagues' (2009) conceptualization that boldness includes aspects of venturesomeness and sensation seeking. Furthermore, higher levels of Extraversion and lower levels of Agreeableness suggest an individual who is perhaps outgoing and socially dominant, consistent with

boldness. Although these are theoretically consistent, the magnitude of these associations are comparatively more modest than those previously found (e.g., Donnellan & Burt, 2016, Stanley et al., 2013). For example, Donnellan and Burt found a large correlation between Neuroticism and Boldness ( $r = -.64$ ), whereas this current study found a comparably modest correlation ( $r = -.19$ ) only after controlling for shared variance.

Finally, Conscientiousness exhibited an unexpected positive association with boldness that is greater in magnitude than any of the theoretically consistent relations. Notably, Stanley and colleagues (2013) found a similar association between TriPM Boldness and Conscientiousness, which is in contrast with meta-analytic work identifying no association between PPI Fearless-Dominance and Conscientiousness (Miller & Lynam, 2012). In the original conceptualization of the Triarchic Model, Patrick and colleagues (2009) did not posit that Conscientiousness is related to boldness. Accordingly, results from this current study suggest some limited discriminant and convergent validity of the YPI-Boldness scale.

YPI-Disinhibition largely exhibited an expected pattern of associations. Disinhibition was related to greater levels of Neuroticism and lower levels of Conscientiousness both before and after controlling for the contribution of other scales. Additionally, lower levels of Agreeableness indicated higher levels of Disinhibition. Together, these results suggest individuals high on Disinhibition experience greater psychopathology, pay less attention to details, have difficulties planning, and are harder to get along with than others. Relations to Neuroticism and Conscientiousness bear a



greater theoretical link to Disinhibition than Agreeableness. However, considering Disinhibition is a propensity for antisocial behavior that is rooted in impatience and difficulties regulating one's behavior, one would expect higher levels of Disinhibition to relate to lower levels of Agreeableness. Overall, this pattern of associations is largely consistent with some previous work using the TriPM, although the size of these correlations is noticeably smaller (Donnellan & Burt, 2016; Stanley et al., 2013).

Although results suggest some support for YPI-Boldness and YPI-Disinhibition, YPI-Meanness was unrelated to the five factor traits after controlling for the contribution of other scales. At the bivariate level, YPI-Meanness was related to lower levels of Agreeableness and higher levels of Neuroticism. Although Meanness is theoretically related to lower levels of Agreeableness, there is no clear theoretical reason to expect those who exhibit higher levels of remorselessness and an antagonistic interpersonal style to also experience higher levels of Neuroticism. Moreover, a lack of unique association between Agreeableness and YPI-Meanness suggests significantly limited convergent validity and raises questions regarding the construct that YPI-Meanness is measuring.

### **Relations Between YPI-Triarchic Scales and the PCL:YV**

Findings suggest the PCL:YV shares some overlap with the YPI-Triarchic Scales. Specifically, YPI-Boldness is related to the interpersonal and affective deficits (Factor 1) as well as the antisocial and impulsive features of the Hare model (Factor 2). Importantly, the magnitude of the associations suggest preferential overlap with Factor 1, consistent with previous work relating Boldness to Factor 1 and Factor 2 of the PCL:R

(Wall et al., 2015). Second, YPI-Disinhibition exhibited preferential associations with Factor 2 and slightly smaller associations with Factor 1, which is consistent with previous work (Wall et al., 2015). Thirdly, YPI-Meanness was only related to the interpersonal and affective deficits (Factor 1) of the PCL:R before controlling for the contribution of other scales (Wall et al., 2015). Although the pattern of associations are somewhat similar to previous work examining the theoretical associations of the Triarchic Model, the magnitude of some of the associations are somewhat smaller. For example, YPI-Disinhibition held a modest correlation with Factor 2 ( $r = .14$ ), whereas Wall and colleagues found a moderate association between TriPM Disinhibition and Factor 2 ( $r = .48$ ). In contrast, YPI-Boldness exhibited larger correlations than those found in previous research. For example, Wall and colleagues identified no association between Factor 2 and TriPM Boldness, whereas these results identified a relatively modest correlation ( $r = .21$ ).

### **Antisocial Behavior**

The Pathways dataset also included official arrest data and self-reported offending behavior. Results identified significant relations only between self-reported Triarchic psychopathic traits and self-reported offending behavior, whereas these traits bore no predictive validity for official recidivism over a 6-month follow up period. Moreover, only YPI-Disinhibition modestly related to self-reported general and violent offending after controlling for shared variance. Scores on YPI-Disinhibition uniquely accounted for only 1%-2% of the variance in self-reported offending behavior, which suggests limited practical utility of the YPI-Triarchic scales. These largely null findings

are fairly consistent with previous findings in the literature (e.g., Cauffman et al., 2009; Skeem & Cauffman, 2003). These lack of significant findings raise concerns about their clinical utility in predicting future offending behavior. In particular, these results suggest the YPI-Triarchic scales should not be used in the context of a forensic evaluation determining risk for recidivism. This point is of particular concern due to the perhaps limited probative value of the YPI-Triarchic scales and past research suggesting psychological testimony about psychopathic traits in juvenile defendants is prejudicial (e.g., Edens, Guy, & Fernandez, 2003).

### **Relations Between YPI-Triarchic Scales and Impulsivity**

Analyses identifying associations between scales assessing impulsivity and pertinent symptoms (i.e., Disruptive Behavior Disorder) yielded mixed findings. YPI-Meanness and YPI-Boldness exhibited no significant relations to symptoms of Disruptive Behavior Disorders and the Stroop task, a measure of cognitive inhibition (e.g., Cheng & Lee, 2016; Gohier et al., 2009). In contrast, YPI-Disinhibition was only related to symptoms of Disruptive Behavior Disorders, suggesting that YPI-Disinhibition reflects poor behavioral constraint, rather than deficient suppression of cognitive, automatic responses. Additionally, this pattern of results is somewhat consistent with Patrick and Bernat's (2009) two-process theory of psychopathy. The two-process theory posits that disinhibition is the manifestation of an underlying deficit (i.e., externalizing vulnerability) that is distinct from deficits that largely underpin boldness (i.e., trait fearlessness) (Patrick et al., 2009). Results suggest that disinhibition is preferentially related to impulse control, whereas boldness and meanness are not.

However, this interpretation is severely limited by the sizable correlations between YPI-Disinhibitions and the other Triarchic scales.

### **Relations Between YPI-Triarchic Scales and Interpersonal Relations**

YPI-Triarchic scales displayed some theoretically consistent correlations with indicators of interpersonal relationships. YPI-Boldness largely indicated a marginally greater sense of social support from adults, whereas YPI-Disinhibition and YPI-Meanness were generally unrelated, with the exception of YPI-Disinhibition exhibiting a small correlation with diversity of non-family social support. These results provide some limited support that Boldness serves some adaptive functioning, which is consistent with Patrick and colleagues' (2009) characterization of bold individuals as socially charming. However, YPI-Meanness was unrelated to social support from adults. Meanness is characterized by poor attachment (Patrick et al., 2009) and previous research has found some support for a relationship between psychopathic traits and lower levels of positive parental affect (Yeh, Chen, Raine, Baker, & Jacobson, 2011). The absence of an association between social support from adults and YPI-Meanness suggests problems with the convergent validity of the scale. Interestingly, total YPI scores were related to greater non-family social support, but negatively related to the depth of social support. These relations may reflect a more nuanced relationship that is not captured by a total score but rather the original YPI dimensions.

All three YPI-Triarchic scales were related to an amoral approach to interpersonal relations, as indicated by the Mechanisms of Moral Disengagement scale. These results are similar to other work linking callous-unemotional traits, conceptually

most similar to Meanness, to feelings of guilt (i.e., moral emotions) (Lotze, Ravindran, & Myers, 2010). Boldness, then, reflects a more antagonistic, self-serving approach to interpersonal relations that is perhaps consistent with the social dominance aspect of Boldness (Patrick et al., 2009). However, disinhibition relates more closely to issues of impulse control and resultant negative affect, rather than a manipulative approach to interpersonal relations. Furthermore, YPI-Meanness displayed the smallest correlation with moral disengagement in comparison to other YPI-Triarchic scales. This pattern is problematic because meanness is theoretically more related to moral disengagement, relative to other Triarchic constructs, and this small correlation could potentially be accounted for by a method effect (i.e., both Triarchic constructs and moral disengagement were assessed via self-report). These results suggest perhaps the YPI-Triarchic scales are measuring traits that are not isomorphic with those conceptualized in the Triarchic Model.

Results also suggested that more disinhibited individuals perceive greater hostility and lower warmth from both their mother and their father. In contrast, meanness and boldness appear largely unrelated to parental warmth and hostility after controlling for shared variance, with the exception of greater levels of boldness related to increased maternal hostility. These findings related to Boldness run counter to Patrick and colleague's (2009) suggestion that boldness includes social potency, although perhaps one might expect that the social dominance aspect of boldness would relate to lower levels of parental warmth and hostility. The significant relationship between YPI-Boldness and maternal hostility suggest that boldness may prove maladaptive in this

respect, such that bolder individuals appear to perceive greater levels of maternal hostility toward them. These findings contribute to a heated debate regarding whether boldness is purely adaptive and, on a larger scale, whether a potentially adaptive trait can be an integral part of a personality disorder (Miller & Lynam, 2012).

### **Relations Between YPI-Triarchic Scales and Psychopathology**

Beyond modest, negative relationships with measures of internal emotionality and anxiety, YPI-Boldness was largely unrelated to psychopathology after controlling for shared variance. More problematic, YPI-Boldness was positively related to symptoms of MDD and PTSD and internal psychological distress at the bivariate level, although only the positive, modest relationship to internal psychological distress persisted after controlling for the contribution of other scales. Additionally, this relationship to internal psychological distress was relatively modest and scores on YPI-Boldness accounted for less than 1% of variance in scores on the BSI: Global Severity Index. An enhanced ability to recover from stress is a fundamental part of the conceptualization of boldness (Patrick et al., 2009) and lower levels of psychopathology is a well-documented finding in the literature (Lynam & Miller, 2012). Furthermore, YPI-Boldness was unrelated to substance and alcohol use, which is inconsistent with the sensation seeking and venturesome aspect of boldness (Patrick et al., 2009). These results suggest that YPI-Boldness is not exactly tapping the same construct proposed in the Triarchic Model (Patrick et al., 2009).

In contrast, YPI-Disinhibition was positively related to most measures of psychopathology, even after controlling for other scales. These findings are consonant

with the postulation that the poor decision making that characterizes disinhibited individuals results in negative affect. Additionally, YPI-Disinhibition related to greater levels of alcohol and substance use as expected. These findings generally support the validity of YPI-Disinhibition. Somewhat similarly, YPI-Meanness, after controlling for shared variance, was largely unrelated to psychopathology. However, YPI-Meanness did continue to exhibit modest, negative associations with alcohol and substance use as well as modest, positive associations with anxiety and internal psychological distress. These results are problematic as disinhibition and meanness purportedly emanate from orthogonal underlying genotypes (Patrick et al., 2009).

### **Relations Between YPI-Triarchic Scales and Other Correlates**

Recently, Watts and colleagues (2016) examined the relations between the PPI and various measures of intelligence in a sample of undergraduates. Generally speaking, results suggested PPI Fearless Dominance and Self-centered Impulsivity exhibited divergent relations. For example, Fearless Dominance indicated greater levels of intelligence on most scales, whereas Self-centered Impulsivity indicated lower levels of intelligence on most scales, although these associations were particularly small (Watts et al., 2016). Somewhat similarly, the present findings suggest boldness is modestly related to greater levels of intelligence, whereas Disinhibition and Meanness are unrelated to intelligence. These results may have some implications for research examining the “successful” psychopath, such that boldness could play a role in the ability of psychopathic individuals to perform in public and professional settings (Lilienfeld, Waldman, Landfield, Watts, Rubenzer, & Faschingbauer, 2012; Smith, Watts, &

Lilienfeld, 2014). Furthermore, YPI-Boldness related to a longer time holding one job, suggesting, at least from an employment perspective, some degree of adaptive functioning.

In contrast to this specific finding, however, the YPI-Triarchic scales were largely unrelated to employment indicators. The absence of significant findings include both positive indicators of employment adjustment, such as number of hours worked per week, and negative indicators of employment, such as the number of times individuals were fired. Notably, the sample size for individuals who were fired was relatively small ( $n < 100$ ), making detection of a significant finding questionable (Schonbrodt & Perugini, 2013). Future research could benefit from a more targeted approach to understanding the relationship between the Triarchic constructs and employment, such as supervisor feedback and organizational behavior.

Findings also indicate that exposure to violence is largely unrelated to the Triarchic constructs. Specifically, informant-reported exposure to violence, both as a victim and a witness, was wholly unrelated to scores on the YPI-Triarchic scales. Additionally, after controlling for shared variance, only YPI-Boldness remained related to self-reported exposure to violence both as a victim and as a witness. Results indicate that bolder individuals experience greater levels of violence in their lives. Boldness is construed as including an ability to recover in stressful situations and lower levels of psychopathology. Future research should more explicitly explore the potential link between boldness and trauma considering previous links between psychopathic traits,



childhood trauma, and stress reaction (Cima, Smeets, & Jelicic, 2008; Krischer & Sevecke, 2008; Sellbom, 2015).

Finally, analyses included self and informant reports of participant's emotion regulation. YPI-Disinhibition was negatively related to self and informant emotion regulation, which is consistent with the understanding of Disinhibition as an inability to engage in effective self-control. YPI-Boldness was, in contrast, positively related to self, but not informant, reported emotion regulation. Perhaps, then, bold individuals do not give the appearance of greater ability to regulate emotion. Finally, YPI-Meanness was unrelated to emotion regulation after controlling for shared variance. This absence of a relationship is consistent with the conceptualization of Meanness, which focuses more on interpersonal relations than it does the presence or absence of emotions and corresponding emotion regulation skills (Patrick et al., 2009).

### **Limitations and Future Directions**

Overall, these results suggest some concern for the practical utility and psychometric strength of the YPI-Triarchic scales. These findings suggest some degree of convergent validity, but significant issues with respect to discriminant validity. Some of these conclusions regarding discriminant validity are consonant with recent research suggesting that YPI-Boldness does not precisely tap Boldness and, rather, shares too strong of an association with YPI-Disinhibition (Drislane & Patrick, 2016). However, these results raise particular concerns regarding whether the YPI-Triarchic scales are useful in applied settings to specifically index Triarchic constructs as well as provide any

information regarding recidivism. These findings suggest the YPI-Triarchic scales hold little utility in the prediction of future rearrests for violent and general offenses.

These conclusions, however, are limited by a number of factors. Specifically, the results identified here suggest potential psychometric problems for use in forensic settings. In contrast, Drislane and colleagues (2015) reported more promising findings using a sample of undergraduates, suggesting perhaps the YPI-Triarchic scales perform better using nonforensic samples. Additionally, the average age of the current sample is approximately 16-17 years of age, which somewhat limits the generalizability of these findings to individuals from different age groups (e.g., undergraduates). Future research should also investigate the validity of the YPI-Triarchic scales across other samples (e.g., community) as well as replicate these findings.

Furthermore, the field is limited by a lack of knowledge regarding the development and stability of the Triarchic psychopathic traits. Boldness remains particularly understudied with respect to its' manifestations in younger children (e.g., school-aged) and developmental trajectory. Boldness may play a particularly complex role in interpersonal relations and subsequent development. For example, future research should investigate how particularly bold children navigate peer, parent, and teacher relations and the perception of these individuals by others. The current findings are limited by self-reported perceptions of the parental warmth and hostility.

Future research should further our understanding of Triarchic constructs via the perception of informants. Boldness, for example, may play an adaptive role in the short-term but a maladaptive role in the long-term. Identifying the role boldness plays in the

quality of relationships provides a more complete understanding of the construct and contribute to the debate within the literature regarding whether boldness is adaptive or maladaptive (Miller & Lynam, 2012). Similarly, a fuller explication of the nomological network of Triarchic constructs necessarily involves the exploration of informant reports on a range of pertinent variables. There is currently limited work investigating informant perceptions of Triarchic constructs and relevant variables (Miller et al., 2011).

Additionally, Sherman, Lynam, and Heyde (2014) argued that variance in YPI scores is largely accounted for by the Five-Factor Model, specifically agreeableness. In comparison to the current findings, their analyses identified similar, albeit smaller, intercorrelations between the YPI dimensions. They also found that agreeableness accounted for much of the shared variance between scales. Because the YPI-Triarchic scales are largely similar to the original YPI dimensions and exhibited strong intercorrelations, future research should examine the degree to which normative personality traits can account for psychopathy as measured by the YPI-Triarchic scales. Additionally, the amount of shared variance explained by normative personality traits may be contingent on sample type, which is consistent with previous work identifying varying factor structures across sample types (e.g., Benning et al., 2003; Neumann et al., 2009). Overall, these results raise some concerns regarding the psychometric strength and practical utility of the YPI-Triarchic scales.

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