EXPLORING THE EXPRESSION OF PSYCHOPATHIC TRAITS ACROSS ETHNICITY AND GENDER

A Dissertation

by

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Submitted to the Office of Graduate and Professional Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

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August 2020

Major Subject: Clinical Psychology

ABSTRACT

With an estimated prevalence in around 1 % of the general population, individuals with psychopathy cause a disproportionate social and economic burden. In tandem with understanding the exact conceptualization of psychopathy, research has expanded to include understanding the syndrome in specific subpopulations. Previous research has shown, for example, that ethnicity and gender subgroups demonstrate important differences in how they manifest the symptoms of this disorder. However, both theoretical and psychometric questions remain regarding whether assessment instruments are capturing the same construct within these subgroups. Given the potential differences in the manifestation of psychopathy across both ethnicity and gender, it is essential to investigate whether existing operationalizations accurately reflect the construct in these subpopulations. The present study investigated the expression of psychopathic traits across gender and three ethnic groups (i.e., Caucasian, African American, and Hispanic) and the potential moderating role of ethnicity and gender in the relationship between psychopathy and relevant external correlates. Such external correlates included childhood trauma, impulsivity, aggression, substance use, and normative and maladaptive personality traits. The samples in the present study comprised both college (N = 1,467 – 8,167) and community (N = 1,050 - 3,639) samples. Using an Item Response Theory (IRT) approach on a contemporary measure, the Triarchic Psychopathy Measure, Differential Item Functioning emerged across both gender and ethnicity. Additionally, IRT results elucidated the need to further psychometrically refine the Triarchic Scales, as captured by the Triarchic Measure of Psychopathy. Furthermore, differential relationships between the Triarchic facets and relevant external correlates across both ethnicity

and gender emerged. Relevant external correlates such as childhood trauma, aggression, and impulsivity consistently demonstrated differential associations with the Triarchic scales across both gender and ethnicity. While the study generally supports the use of Triarchic model in various subgroups, findings may reflect unique differences in the expression of psychopathic traits in these subgroups.

ACKNOWLEDGEMENTS

I would like to first and foremost thank my parents George and Marcia Penson for being my greatest support system since I have embarked on this doctorate journey. It is because of them, I have a passion for education and scholarship. It is because of them, I have evolved into the person I am today. Words cannot begin to express the gratitude I have. I hope that this accomplishment has made you all proud!

I would also like to thank my best friends for being my community during this journey. To those friends who have been with me pre-doctorate days and the beautiful black scholars (BGSA) I have met during my doctorate journey, I would like to say thank you. You all have provided a safe space for me to cry, vent, share my frustrations, but most importantly, encourage me and instill in me the confidence and strength I needed. For that, I am forever grateful.

Lastly, I would like to acknowledge my committee chair Dr. Edens, and my committee members Dr. Salter, Dr.Balsis, and Dr. Foster, for their guidance and support throughout the course of this research.

CONTRIBUTORS AND FUNDING SOURCES

Contributors

This work was supervised by a dissertation committee consisting of Dr. Edens, Dr. Balsis, and Dr. Salter of the Department of Psychology and Dr. Foster of the Department of Sociology.

The data analyzed for Item Response Theory Analyses was provided by Dr. Brent Donnellan of Michigan State University and Jared Ruchensky of the Texas A&M Psychology Department.

All other work conducted for the dissertation was completed by the student independently.

Funding Sources

Graduate study was supported by a fellowship from Texas A&M University.

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1. INTRODUCTION

Psychopathy is a personality disorder typically characterized by a constellation of interpersonal, affective, and behavioral traits including remorselessness, manipulativeness, impulsivity, and impoverished empathy. Although quite rare, with an estimated prevalence of approximately 1 % of the general population, individuals with psychopathy cause a disproportionate social and economic burden (Coid, Yang, Ullrich, Roberts, & Hare, 2009; Kiehl & Hoffman, 2011). Given the serious nature of the disorder, researchers and clinicians alike are motivated to further understand the construct, including its correlates, etiological and developmental origins, and how it might be prevented. However, the construct of psychopathy continues to be widely researched, but the precise conceptualization of psychopathy remains a topic of much debate among theorists and researchers.

In its early conceptualizations, Cleckley (1941), among a number of prominent theorists such as Lykken (1984) and McCord and McCord (1964), conceptualized psychopathy as a constellation of personality traits such as superficial charm and good intelligence, lack of remorse, untruthfulness, and an absence of neurotic symptoms or anxiety. A notable exclusion of criminal or antisocial behavior as essential components of the syndrome highlighted the position that psychopathy was viewed primarily as a personality disorder rather than simply a propensity towards socially deviant behavior. As the nomological net surrounding psychopathy expanded, however, many researchers and nosologists began focusing more on behaviors indicative of a chronically unstable and antisocial life style that they believed to be more central to the disorder (e.g., Cloninger, 1978; Robins, 1978; Spitzer, Endicott, & Robins, 1975) and less on inferential concepts (e.g., callousness, pathological lying) that historically had been more difficult to

reliably assess. This behaviorally based approach operationalized psychopathy primarily in terms of a history of readily agreed-upon antisocial and criminal conduct.

The personality and behavioral based approaches to psychopathy, are best captured in the two-factor model of psychopathy (e.g., Harpur, Hakstian, & Hare, 1988; Harpur, Hare, & Hakstian, 1989). Factor 1, as described by many as the core personality traits originally theorized to be central to the disorder, is reflective of a psychopath's emotional detachment and manipulative and grandiose interpersonal style. Factor 2 describes behaviors indicative of a chronically unstable and antisocial lifestyle; often referred to as an indicator of social deviance. This two-factor model is most easily captured in the most widely used instrument for assessing psychopathy, Hare's (1991) Psychopathy Checklist-Revised (PCL-R). This 20 item rating scale encompasses the two distinct factors described above; one reflecting emotional-interpersonal deficits (i.e., lack of remorse, empathy, emotional depth, blame externalization, and charm), and the other reflecting socially deviant behaviors (i.e., early behavior problems, delinquency, stimulation seeking, impulsiveness). Although the two-factor model is the most prominent in psychopathy research, variations of the model include a three-factor, and a four-factor model. The three- factor model, as proposed by Cooke and Michie (2001), is characterized by a deceitful interpersonal style (Factor 1), deficient affective experience (Factor 2), and impulsive irresponsible lifestyle (Factor 3), with less emphasis placed on criminality. Through various analytical methods, including item response theory, confirmatory factor analysis, and cluster analytical methods, Cooke and colleagues (2001) reported 13 of the 20 PCL-R items as the best indicators of psychopathy, with items that tapped into antisocial behavior largely excluded from the model. The four-factor model, as proposed by Hare (2003), comprises Cooke and Michie's three factors, plus a fourth antisocial facet (factor 4) that references criminal behavior. This

model can be nested within the original two-factor model of the PCL-R: the interpersonal (Facet 1) and affective (Facet 2) contribute to Factor 1, and the lifestyle and antisocial behavior characteristics (Facet 3 and 4 respectively) comprise Factor 2. The two competing models reflect the debate regarding the role of antisocial behavior as a central component of psychopathy. Scholars argue that criminal behavior is at best a secondary feature or correlate of psychopathy (e.g., Skeem & Cooke, 2007). Indeed, scholars assert that the PCL-R's excessive focus on criminality ignores earlier conceptualization of psychopathy as a disorder of interpersonal and affective traits.

2. ASSESSING PSYCHOPATHY

As the PCL-R and the two factor model became the "gold standard" for assessing psychopathy in the research literature, several researchers began questioning what core traits characterized the disorder (Hare & Neumann, 2010; Patrick, Fowles, & Krueger, 2009; Skeem & Cooke, 2010). As a result, the assessment and measurement of psychopathy has witnessed a great expansion from the original two-factor model captured by the PCL-R. Over the past 20 years, multiple models have been proposed as a way of capturing various conceptualizations of psychopathy. Although many of these models display substantial overlap in the components addressed (e.g., Gaughan, Miller, Pryor, & Lynam, 2009), they tend to differ in the inclusion and exclusion of certain traits.

In particular, a fervent debate has emerged regarding the inclusion of ostensibly adaptive traits as relevant to the construct (Lilienfeld, Watts, Francis Smith, Berg, & Latzman, 2015; Lynam & Miller, 2012; Miller & Lynam, 2012; Murphy, Lilienfeld, Skeem, & Edens, 2016). Such adaptive traits include fearlessness, interpersonal dominance, stress immunity, and social potency (Drislane, Patrick, & Arsal, 2014). These traits are largely captured in the Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996). Unlike the development of self-report measures based primarily on the PCL-R operationalization of psychopathy, the development of the PPI was intended to comprise traits originally theorized by clinical descriptions of Cleckley (1941/1976) and other prominent psychopathy theorists (i.e., Karpman, 1941, 1948; McCord & McCord, 1964; Lykken, 1957). The PPI comprises eight unidimensional subscales that coalesce into two higher order Factors: Fearless Dominance and Impulsive Antisociality. Fearless Dominance is characterized by social potency, fearlessness, and stress immunity. Impulsive

Antisociality refers to carefree nonplanfulness, impulsive nonconformity, blame externalization, and Machiavellian egocentricity. Similar to Fearless Dominance, captured by the PPI, Patrick and colleagues (2009) coined the term "Boldness" as capturing very similar characteristics.

The Boldness construct features prominently in the Triarchic Model of Psychopathy (Patrick, Fowles, & Krueger, 2009). Intended to reconcile varying historic and contemporary perspectives of psychopathy, the Triarchic Model of Psychopathy characterizes psychopathy in terms of three distinguishable phenotypic dimensions: Disinhibition, Meanness and the aforementioned Boldness. Disinhibition comprises a general propensity towards externalizing problems including impulsivity and irresponsibility, whereas Meanness reflects more of a callous disregard for others including manipulativenss and a lack of empathic concern (Krueger, Markon, Patrick, Benning, & Kramer, 2007). Boldness, as described by the Triarchic model, is thought to reflect the "mask" Cleckley so carefully described in his classic treatise "The Mask of Sanity" (1941). Indeed, Cleckley described a similar set of adaptive traits, indicative of positive adjustment including low anxiety, good intelligence, and social adeptness in his 16 criteria delineating psychopathy. These rather "adaptive" traits were believed to mask severe underlying pathology.

Although theories such as the Triarchic Model and the PPI include Boldness as important to conceptualizing psychopathy, some scholars assert that Boldness is at best tangentially related to the construct. For example, in a recent meta-analysis Miller and Lynam (2012) reported that Boldness was not strongly related to criterion variables reflecting externalizing psychopathology (i.e., violence, impulsivity), and was instead positively associated with adaptive functioning and positive adjustment. Similarity, Gatner and Douglas (2016) suggested Boldness was a marker of normal and healthy adjustment and that it did not add incremental utility in the prediction of

antisocial outcomes. Moreover, a more recent meta-analytic study indicated that Boldness (as assessed by the PPI/PPI-R) only modestly correlated with overall scores on other psychopathy measures, particularly the PCL-R (Marcus, Fulton, & Edens, 2013).

Although some scholars assert the irrelevance of Boldness, the DSM-5 Alternative Model for Personality Disorders (American Psychiatric Association, 2013) includes core characteristics of Boldness (e.g., lack of anxiety, bold interpersonal style, low levels of withdrawal) as a psychopathy specifier, an extension to a diagnosis for further clarity, for Antisocial Personality Disorder (ASPD). Additionally, previous research provides conceptual relevance of Boldness, suggesting that it helps to distinguish psychopathy from ASPD. For example, Venables, Hall, and Patrick (2014) reported that Boldness, in comparison to ASPD, contributed incrementally (over and above Disinhibition and Meanness) to the prediction of PCL-R scores, particularly in the prediction of the deceitful interpersonal style facet. Other research suggests that Boldness represents personality traits typically thought to be prototypical features of psychopathy among those who work with offender populations (Sörman, Edens, Smith, Svensson, Howner, Kristiansson, & Fischer, 2014).

Furthermore, although research suggests that Boldness may appear to be largely associated with positive outcomes (e.g., reduced negative affect), it also correlates with some pathological criterion measures and interacts with other psychopathic traits to predict important adverse outcomes in certain samples (e.g., Coffey, Cox, & Kopkin, 2018). For example, individuals scoring high in psychopathic Disinhibition are more likely to endorse sexually aggressive attitudes at higher levels of Boldness (Marcus & Norris, 2013). More generally, the 'Boldness is adaptive' argument largely has been based on correlations between self-reported Boldness and self-reported criterion measures, but other research suggests that Boldness can be

perceived by others to be highly maladaptive in some contexts, particularly when it co-occurs with criminal activity (Rulseh, Edens, & Cox, 2017).

2.1. Assessing Psychopathy in the Community Via Self-Report

As the construct of psychopathy continues to evolve, a growing body of literature has given rise to assessing psychopathy in non-forensic, nonclinical (i.e., normal) samples. Measures such as the PPI were initially developed to use for community and non-incarcerated samples (Lilienfeld & Andrews, 1996). Since then, a number of psychopathy measures have been created to capture such traits in individuals not involved with the criminal justice system. Sometimes termed the "successful psychopath" or the "adaptive psychopath," such individuals are thought to possess many of the core traits of psychopathy while still achieving success or at least avoiding serious legal entanglements (Lilienfeld, Watts, & Smith, 2015). Although there have been numerous critiques of the "successful psychopath" term because psychopathy ostensibly represents a pathological construct, the past two decades have witnessed growing interest in assessing psychopathy in both college and community samples. Similar to findings from forensic and incarcerated samples, self-reported psychopathy is related to antisocial behavior, impulsivity, sexually predatory behaviors, laboratory aggression, and deficits in response modulation (Benning, Patrick, Iacono, 2005; Marcus & Norris, 2014; Miller & Lynam, 2003; O'Connell & Marcus, 2016). Assessing psychopathy in non-incarcerated samples allows for more direct comparisons with incarcerated samples concerning the construct of psychopathy. In fact, several large studies using community samples have employed the screening version of the PCL-R (PCL:SV; Hart, Cox, & Hare, 1995) to investigate the construct validity of psychopathy. Results of such studies indicate similar findings to those in incarcerated samples (Coid et al., 2009; Neumann & Hare, 2008).

In addition to the inclusion of non-forensic samples in the study of psychopathy, the field has witnessed an expansion in the use of self- report measures. However the use of self report measures is not without critique, as several scholars assert a lack of insight and deceitfulness, key features of psychopathy, hinders the ability to accurately capture pathology in individuals with psychopathic traits (Sellbom, Lilienfeld, Fowler, & McCrary, 2018). Nevertheless, self-report measures such as the Levenson Self- Report Psychopathy Scale (LRSP; Levenson, Kiehl, & Fitzpatrick, 1995); the SRP (Hare, 1985), the Triarchic Psychopathy Measure (TriPM; Patrick, 2010); and the Elemental Psychopathy Assessment (EPA; Lynam et al., 2011), have seen widespread use in the recent years.

3. PSYCHOPATHY AND ETHNICITY

Despite a general consensus on the importance of psychopathy as both a clinical and forensic construct, research and assessment has largely relied on Caucasian men in the bounds of Western society. For example, the PCL-R, a widely used measure in forensic and correctional settings, was originally developed on and validated with predominantly Caucasian samples (Hare, 1991). In the latest version of the PCL-R, (Hare, 2003), Hare advised caution in the interpretation of scores in groups for which the PCL-R has not been validated.

Given the implications of psychopathy in the understanding of violence and criminality, and the PCL-R's increased use in legal decision making, recent research has seen a great expansion in assessing and understanding potential ethnic differences in the measurement of psychopathy. Much of the previous literature examining such ethnic differences has largely focused on differences between African Americans and Caucasians, as African Americans are grossly overrepresented in the criminal justice system in the United States (Cole, Smith, DeJong, 2018). However, a smaller but growing body of literature has focused on Hispanic and Indigenous populations (e.g., Gatner, Blanchard, Douglas, Lilienfeld, & Edens, 2017; Olver, Neumann, Sewall, Lewis, Hare, & Wong, 2018). To understand how psychopathy can manifest differently across ethnic groups, it is important to define culture and ethnicity. Adams and Markus (2004) refer to culture as patterns of ideas, values, practices, and institutions. Ethnicity builds on the definition of culture by referring to identifiable characteristics of a group with a common cultural history. The following sections examine the ways in which researchers have attempted to cross-culturally capture psychopathy.

3.1. Mean Differences Across Ethnic Groups

Research examining psychopathy across ethnicity has largely focused on the PCL-R and its derivatives as the operationalization of the construct. Several studies have examined whether mean differences exist across ethnic groups, with a particular emphasis on Caucasian and African American samples. Several studies point to higher scores in African American samples in comparison to other ethnic groups and Caucasian samples (Cooke, Michie, Hart, & Clark, 2005b; Kosson et al., 1990; Neumann & Hare, 2008; Thornquist & Zuckerman, 1995; Sitney, Caldwell, & Caldwell, 2016). For example, Neumann and Hare (2008) reported African Americans (M = 3.86, SD = 4.06) were scored significantly higher on the PCL:SV than Caucasians (M = 1.70, SD = 2.80) in a community sample. Conversely, other studies have reported no significant differences between groups (e.g., Cooke, Kosson, & Michie, 2001; Toldson, 2002). Given the mixed findings across individual studies, systematic reviews have been conducted to further clarify potential mean differences. Skeem, Edens, Camp, and Colwell (2004) found across 21 studies that African Americans received PCL-R scores slightly higher than those of Caucasians. However, effect sizes for such differences were very small across Factor 1 (Cohen's d = .09) and Factor 2 (Cohen's d = .06). McCoy and Edens (2006) reported similar results in a meta-analytic study in a combined sample of adolescents (N = 2199). On average, African Americans were scored higher than Caucasians (1.5 points) but, similar to previous studies, the effect size for such a difference was relatively small. In regards to Hispanic populations, previous research has indicated minimal differences in regards to mean scores on psychopathy measures in comparison to Caucasians (i.e., Gatner et al., 2017; Sullivan, Abramowitz, Lopez, & Kosson, 2006).

Given the PCL-R is a rating scale, it is important to note the role clinician bias may play in the resulting scores. Previous research has shown higher mean levels of clinician-assessed psychopathy among African Americans in comparison to Caucasians (Gatner et al., 2018; Kosson, Smith, & Newman, 1990; Walsh & Kosson, 2007). In particular, research suggests that more inferential personality traits such as insincerity, lack of empathy, and superficial charm (i.e., Factor 1), may be difficult for white interviewers to assess in minority groups (Kosson et el., 1990). Self-reported psychopathy measures may be less susceptible to implicit biases, which have implications for clinician ratings or judgment.

3.2. Factor Structure of Psychopathy Measures Across Ethnicity

Research regarding the factor structure of the PCL-R has found a general compatibility across ethnic groups (Cooke, Kosson, & Michie 2001; Vitacco, Neumann, & Jackson, 2005; Windle & Dumenci, 1999). However, such findings are not without exceptions. In one of the initial studies to investigate the functionality of the PCL across ethnicity, Kosson, Smith, and Newman (1990) reported that, although psychopathy could be reliably captured in African Americans, differences in factor structure emerged. In particular, the study reported low congruence coefficients (r_c = .67) between Factor 1 of the Caucasian sample and Factor 1 of the African American sample that also did not meet the strict criterion often reported for congruence coefficients (r_c = .82). Results suggest unique differences in Factor 1 across samples. Furthermore, items reflective of an antisocial lifestyle tended to load onto both Factor 1 and Factor 2 for African Americans. In addition, previous research has also indicated differences in regards to exploratory factor analysis using the PCL-R, suggesting the recognized factors of psychopathy may not manifest similarly in African American and Caucasian samples (Todlson,

2002; McDermott, Alterman, Cacciola, Rutherford, Newman, & Mulholland, 2000). Specifically, Toldson (2002) reported that the two-factor solution of the PCL-R did not appear to be a valid construct in a sample of African American inmates. Additionally, McDermott and colleagues (2000) reported poor differentiation between Factor 2 and Factor 1 of the PCL-R in a sample of African American substance abusers. Authors of the study reported that a one-factor solution best fit the data, although the three and four factor models were not investigated as a potential fit.

Conversely, other studies have reported a general replicability of the factor structure of the PCL-R across ethnic groups. Cooke and colleagues (2001) performed one of the first systematic investigations of psychopathy and ethnicity using the PCL-R. Upon examining its structural, item, and test generalizability in a sample of Caucasian and African American participants, they concluded that the three-factor model of psychopathy replicated in both groups. In addition, results indicated no significant differential test functioning, suggesting the PCL-R total score was not unduly biased in relation to the assessment of African American participants. Inconsistent findings regarding the factor structure of the PCL-R in African American samples suggest that the original two-factor structure, as indicated by Harpur and colleagues (1989), may not be suitable for capturing psychopathy in African Americans. Particularly, core traits thought to be representative of psychopathy (i.e., Factor 1 traits) do not cluster together as evidenced by items loading on to different factors than what was originally found in the two factor model across Caucasian samples.

The few studies that have examined psychopathy in Hispanic populations have suggested that it can be reliably assessed using the PCL-R. For example, Windle and Dumenci (1999) replicated the two-factor structure in a sample of Hispanic substance users through confirmatory

factor analysis. Additionally, Latino inmates did not demonstrate significant differences in the reliability of the PCL-R in regards to internal consistency (Sullivan et al., 2006). However, unlike the proposed two-factor model, a couple of studies indicate the three-factor structure of the PCL-R provides a better fit in Hispanic offender samples (Gatner et al., 2017; Tubb, 2002).

Much of the literature in regards to ethnic differences has focused on the PCL-R and its derivatives. Yet the PCL-R provides only one way in which to measure psychopathy (Skeem & Cooke, 2010). Research examining ethnic differences in other psychopathy measures, particularly self-report measures, has been relatively limited. Studies have indicated possible differences in factor structure and criterion-related validity for the Levenson Self- Report Psychopathy Scale (LSRP; Levenson, Kiehl, & Fitzpatrick, 1995). For example, Brinkley Schmitt, Smith, and Newman (2001) reported that the LSRP did not demonstrate factor invariance between African American and Caucasian inmates, suggesting that the LSRP may be measuring related but slightly different constructs across these ethnic groups. Similarly, Gatner et al. (2017) found that ethnicity moderated the relationship between the LSRP and various external criterion measures. In regards to the PPI-R, previous studies have found no significant differences in total scores across African American and Caucasian samples (Benning, Patrick, Salekin, & Leistico, 2005; Donahue, McClure, & Moon, 2014; Gatner et al., 2017). However, Gatner and colleagues (2017) reported the three-factor structure of the PPI-R, as proposed by Benning et al. (2005), did not replicate in Hispanic samples.

3.3. Convergent and Discriminant Validity of Psychopathy across Ethnicity

Previous studies examining the relationship between psychopathy and theoretically relevant external criteria across ethnic groups have generally yielded inconsistent results. On one hand, in studies that have examined ethnicity as a moderator, results have generally suggested

that PCL-R factor scores display patterns of association with external correlates in African American and Hispanic inmates similar to those observed in Caucasian inmates. Such external correlates of psychopathy have included crime, violent behavior, intelligence, substance use, personality and co-occurring psychopathology (Neumann & Hare, 2008; Thornquist & Zuckerman, 1995; Vitacco, Neumann, & Jackson 2005). For example, Vachon, Lynam, Loeber, and Stouthamer-Loeber (2012) found minimal ethnicity-based moderations in regards to the PCL-R and various external correlates, as the number of significant moderation analyses tended to be less than the expected family-wise error rate (only 3 out a possible 125) and relatively small in magnitude. In addition, previous findings have suggested that ethnicity does not moderate the PCL-R in predicting aggressive behavior, as seen in a study conducted by Vitacco et al. (2005) among civil psychiatric patients.

There is some evidence, however, that important correlates of psychopathy differ across ethnicity. In particular, previous research points to difference in regard to self-report measures of personality, criminal behavior indices, and experimental paradigms. In relation to personality traits, Kosson and colleagues (1990) concluded that traits such as extraversion were significantly related to psychopathy in African Americans ($r = .22$, $p < .05$) but not Caucasians ($r = -.01$, $p =$ *ns*). Other studies have consistently reported ethnic differences in regards to psychopathy and impulsivity (i.e., Kosson, Smith, & Newman, 1990). In Caucasian participants, Thornquist and Zuckerman (1995) and Jackson, Neumann, and Vitacco (2007) found relationships between psychopathy and impulsivity that did not replicate among African Americans. Specifically, in comparison with Caucasians, African Americans displayed weaker associations between self-reported impulsivity and both Factor 1 and Factor 2 scores of the PCL-R.

Studies have also reported distinct differences in the relationship between psychoticism, negative affectivity, and psychopathy across ethnic groups. Previous research points to positive correlations between psychopathy and psychoticism in Caucasians that do not replicate in African American samples (Kosson et al., 1990; Vitale, Smith, Brinkley, & Newman, 2002). For example, Vitale and colleagues (2002) reported a positive relationship between psychopathy and Eysenck Personality Questionnaire Psychoticism scale (EPQ; Eysenck, 1991) in Caucasians but was not found in African Americans. In regards to negative affectivity, previous research points to a positive correlation between self-reported trait anxiety and Factor 2 (Impulsive-Antisocial Lifestyle) of the PCL-R in African Americans but not in Caucasian samples (Sullivan et al., 2006).

In addition to some self-report scales, ethnic differences may also extend to the relationships between psychopathy and performance on laboratory tasks. Passive avoidance learning deficits, for example, are well documented among Caucasian psychopaths (Hiatt & Newman, 2006). However, these deficits do not consistently appear among African Americans (Newman & Schmitt, 1998; Thornquist & Zuckerman, 1995). For example, Lorenz and Newman (2002) reported the inability of reaction times on lexical decision making to differ between a control group and a low-anxious psychopathy group in a sample of African American inmates. However, results showed significant differences between such groups in Caucasian inmates. Ethnic group differences have also emerged on experimental paradigms including response modulation (Newman, Schmitt, & Voss, 1997), responses to distraction under divided visual attention (Kosson, 1998), and interpersonal and cognitive appraisals (Doninger & Kosson, 2001).

There is also evidence that relationships between criminality, psychopathy, and other individual-level predictors of criminality may differ across ethnic groups, although results are

mixed. Previous literature regarding the predictive validity of the PCL-R have reported greater predictive validity among Caucasian samples in comparison to non-White samples (Edens et al., 2007; Leistico, Salekin, DeCoster, & Rogers, 2008; Singh et al., 2011; Walsh, 2013). In regards to non PCL-based psychopathy measures, there tend to be mixed findings as well. For instance, in an offender sample, the Levenson Primary and Secondary Scales (LPSP; Levenson, Kheil, & Fitzpatrick, 1995) were found to be less strongly related to indices of antisociality, and nonviolent criminality for African Americans in comparison to Caucasians. Conversely, the PPI-R was strongly predictive of proximate violence for African American inmates (eta =.42, $p <$ .01) but not for Caucasian inmates (eta = .17, *ns*; Camp, Skeem, Barchard, Lilienfeld, & Poythress, 2013).

However, certain moderator variables such as socio-demographic status and urban status may play an integral role in such results (e.g., Stiney, Caldwell, & Caldwell, 2016; Walsh & Kosson, 2007). Specifically, Walsh and Kosson (2007) found that individual socioeconomic status moderates the relationship between psychopathy and violent criminality in Caucasians but not in African Americans such that among Caucasians, psychopathy predicted recidivism at lower SES. However, the predictive validity of psychopathy remained relatively stable across SES levels among African Americans. Furthermore, in a recent study SES moderated the relationship between Meanness and Disinhibition and criminal history and history of adult incarceration. In particular, results indicated a stronger association in African American participants than in Caucasian participants (Anestis, Preston, Harrop, & Sellbom, 2019). SES may constitute an influential socio-demographic factor within associations of psychopathy to external correlates. In particular both psychopathy and criminality are related to SES, such that lower familial SES is generally predictive of arrests and conviction, above psychopathy (e.g.,

Lynam, Miller, Vachon, Loeber, & Stouthamer-Loeber,2009). Additionally, previous research indicates SES may be related to the emergence of both interpersonal and behavioral psychopathic features in adulthood (Lynam, Loeber, & Stouthamer-Loeber,2008). However, very few studies have controlled for SES, when examining psychopathy (both self-report and clinician assessed) across ethnicity.

Research suggesting that psychopathy can be adequately measured across ethnicity does not indicate ethnic equivalence with regard to underlying mechanisms, nor reflects the same constellation of features and patterns of relationships within the larger nomological framework. Consistent results continue to emerge across ethnicity in regards to differences in personality variables and laboratory related tasks. Whether such differences reflect true differences on the latent construct, sociocultural influences on the interpretation of items, or impact of racial biases, have yet to be fully disentangled. The extent to which psychopathy is manifested in similar ways across ethnicities continues to be an area in need of further research.

4. PSYCHOPATHY IN WOMEN

Much like the research regarding psychopathy and ethnicity, initial research on psychopathy primarily focused on (Caucasian) men rather than women. Consequently, earlier conceptualizations of the construct of psychopathy largely ignored the potential importance of biological sex and gender. In one of the earliest detailed descriptions of psychopathy, Cleckley (1941, 1976) noted marked differences in the expression of psychopathic traits across gender, suggesting the construct did not directly parallel what was seen in men. In tandem with the extant psychopathy literature, research concerning psychopathy in women has seen an exponential increase within the past decade.

4.1. Prevalence of Psychopathy in Women

Similar to research in psychopathy across culture and ethnicity, much of the literature concerning psychopathy and women has largely focused on the PCL-R and its derivatives. Previous research has demonstrated a lower prevalence of psychopathy in women in comparison to men as measured by the PCL-R. For example, previous studies have established that the prevalence of psychopathy is lower for women than men when using standard cut scores in correctional settings (Salekin, Rogers, & Sewell, 1997) and forensic hospitals (Weizmann-Henelius, Viemerö, & Eronen, 2004). In regards to the PCL-R, Hare (1991, 2003) established a widely used cut score of ≥ 30 (out of a possible 40) to classify individuals as "psychopaths." However, previous studies have shown that relatively few women are characterized as psychopaths using this cut score: 16.0% of female jail inmates (Salekin et al., 1997) and 17.4% of female prisoners (Warren et al., 2003). In the first large-scale investigation of prevalence rates, Vitale, Smith, Brinkley, and Newman (2002) classified only 9.0% of 528 non-psychotic female offenders as psychopaths. The authors hypothesized that this low prevalence was due to

either a genuinely lower base rate of psychopathy in women or an inability of the PCL-R to adequately assess the construct in women. Prevalence rates of psychopathy in women are much lower in community samples, as Coid and colleagues (2009) reported 0% of women with possible psychopathy (using at cut score of 13 on the PCL: SV) in a large community sample.

In addition, previous research has suggested distinct differences in the distribution of scores on select items. That is, it may not be the case that men score higher on every item. For example, Bolt, Hare, Vitale, and Newman (2004) reported female offenders tended to score higher on conning manipulative behavior and lower on the other items in comparison to male offenders on the PCL-R. Additionally, Strand and Belfrage (2005) found women scored lower than men on items measuring antisocial behavior, grandiosity, and lack of empathy but scored higher on items measuring deceitfulness and lack of control in a sample of offenders using the Swedish translation of the PCL: SV. With evidence of varying distribution of scores across gender, it raises questions concerning the accuracy of existing psychopathy measures to adequately capture psychopathy in women.

4.2. Assessing Psychopathy Across Gender

To understand the generalizability of PCL-based measures, several researchers have not only examined the factor structure of psychopathy measures, but also item functioning among women. Previous research regarding the factor structure of the PCL-R and its derivatives in women typically mirror that of male samples (i.e., Cooke & Michie, 2001; see Seveche, Pukrop, Kosson, and Krisher, 2009 for exception). For example, adequate fit for the two-factor model has been show to replicate in female samples through confirmatory factor analysis. (Kennealy, Hicks, & Patrick, 2007; Warren et al., 2003). However, several studies report a better fit for the three-factor model as proposed by Cooke and Michie (2001) for the PCL-R and its derivatives in

women (Kosson et al., 2013; Skeem, Mulvey, & Grisso, 2003; Strand & Belfrage, 2005; Warren et al., 2003; Weizmann- Henelius et al., 2010). The better fit of the three-factor model of the PCL-R has even replicated in studies comparing the three-factor model with the four-facet model (see Hare, 2003) of the PCL-R in women (Kosson et al., 2013; Warren et al., 2013). Given the three-factor model's reduced emphasis on criminal and antisocial behavior, results raise questions concerning the applicability of antisocial behavior in the conceptualization of psychopathy for women.

Such a reduced relevancy of antisocial behavior is often reflected in differences in item functioning on the PCL-R. In one of the first studies to examine the generalizability of the PCL-R in women, Salekin, Rogers, and Sewell (1997) reported individual items of the PCL-R did not load onto the two-factor structure the same as men. In particular, the items most reflective of factor 2 (Impulsive/ Antisocial factor) cross loaded onto Factor 1, in addition to several items failing to load on either factor. Subsequent studies have also asserted that items reflecting a propensity towards socially deviant behavior (i.e., "criminal versatility," "juvenile delinquency," and "revocation of conditional release," as well as "failure to accept responsibility") are less applicable to psychopathy among women, whereas other items (i.e., "promiscuity") are more strongly related to psychopathy in women (Dolan & Völlm, 2009). Bolt and colleagues (2004) reported the presence of differential item functioning in 12 items across gender. Although differences cancelled out at the scale level, the largest presence of differential item functioning was found to be on items reflecting antisocial behavior. That is, the antisocial items tended to provide less information about the latent variable in women, suggesting that there are possible differences in the ability of the PCL-R to capture antisocial behavior in psychopathic women.

4.3. Convergent and Discriminant Validity of Psychopathy in Women

The role of antisocial features, or lack there of, in understanding the construct of psychopathy is arguably of particular relevance to female populations. Such discrepancies between men and women coincide with previous research suggesting evidence of gender differences as it relates to both offending (Nicholls, Ogloff, Brink, & Spidel, 2005; Putkonen & Weizmann- Henelius, 2009; Strand & Belfrage, 2001) and the manifestation of aggression (Archer, 2000; Crick & Grotpeter, 1995; Nicholls & Dutton, 2001). Thus, given such differences, it could be expected that there would be differences in the correlates of the construct across genders. This could also in part explain differences in factor structure, item functioning and loading, and the prevalence of psychopathy in this population; thus bearing implications for the assessment of this construct with women. In one of the first conceptual pieces to address possible differences in psychopathy across gender, Forouzan and Cooke (2005) asserted that there is often an "assumption that the male template [of psychopathy] can be superimposed upon females" (p. 766). The authors highlighted key distinct differences in four realms: (1) behavior, (2) interpersonal characteristics, (3) underlying psychological mechanisms, and (4) different social norms for men and women. Subsequent research has attempted to further understand particular correlates implicated in psychopathy in women.

Forouzon and Cooke (2005) conjectured that psychopathic women were more likely to engage in flirtatious rather than conning behavior. Moreover, impulsivity in women comprised acts of running away, self-harming behavior, and complicity in criminal acts in comparison to violent behaviors that reflected impulsivity in men. Despite possible differences in clinical observations, previous research suggests similarities across gender as it relates to theoretically relevant personality correlates. The relations between psychopathy and personality models have

been extensively researched, particularly as it relates to the Five Factor Model of Personality (FFM; McCrae & Costa, 1987). Factor 1 psychopathy scores negatively correlate with Agreeableness and Conscientiousness, whereas factor 2 psychopathy scores manifest modest to large negative correlations with Conscientiousness and Agreeableness, and a smaller positive correlation with Neuroticism (Lynam & Derefinko, 2006). Previous literature largely replicates such findings irrespective of gender (Derefinko & Lynam, 2007; Lester et al., 2013, Miller et al., 2011). Although much more limited in research, the Triarchic model manifests similar patterns with the FFM. Poy and colleagues (2014) reported that although Meanness was more strongly negatively related to Agreeableness in men, there no were no significant differences across gender in the relationship between the FFM and the Triarchic scales of Meanness, Disinhibition, and Boldness.

In addition, several studies have reported that psychopathy shows similar relationships with other important personality variables (e.g., socialization, empathy, grandiosity) across female and male samples. For example, Kennealy, Hicks, and Patrick (2002) reported negative correlations between the PCL-R and Gough's (1969) Socialization scale from the California Psychological Inventory and the Constraint factor of Tellegen's (1982) Multidimensional Personality Questionnaire in a sample of incarcerated women. Additionally, studies have shown that psychopathy in female samples is associated with personality measures that represent glib, grandiose, and callous/unempathic characteristics. For example, scores of the PCL-R and the SRP-II have been negatively associated with poor perspective taking, a lack of empathic concern, and positively associated with measures of narcissism, social desirability, and lying in women (Rutherford, Cacciola, Alterman, & McKay; Zagon & Jackson, 1994).

Recent reviews of the literature (e.g., Verona & Vitale, 2018) suggest that despite similarities in personality correlates of psychopathy across gender, there may be somewhat different behavioral correlates. In particular, Verona and Vitale assert that psychopathy may not be as powerful of a predictor of antisocial behavior and recidivism among women. Studies using predominantly male samples have consistently reported significant relationships between psychopathy and behavioral criterion variables such as criminal behavior, poor institutional adjustment, alcoholism and recidivism (Dolan & Doyle, 2000; Hare, 1999; Ogloff, Wong, & Greenwood, 1990; Walters, 2003). However, investigation of such behavioral variables have yielded less than consistent results in female samples. In particular, findings regarding the association between psychopathy and antisocial behavior in women have been somewhat mixed. Previous research suggests high levels of psychopathy in female populations have been associated with prior violent criminal behavior (Louth, Hare, & Linden, 1998) and more convictions for both nonviolent and violent offenses (Strachan, 1995; Vitale, Smith, Brinkley, & Newman, 2002). In regards to the PCL-R, some studies have reported significant correlations with antisocial behavior ranging from institutional infractions to non-violent crimes in predominantly female samples (Kennealy et al., 2007; Miller et al., 2011; Vitale et al., 2002; Weiler & Widom, 1996; Weizmann-Henelius, 2006).

Not all research, however, has reported positive correlations between the PCL-R and antisocial behavior in female samples. Warren et al. (2005) found that PCL-R scores correlated with crimes usually associated with women (i.e., property crimes, forgery, and prostitution) whereas more violent offenses did not. Similarly, Rogers and colleagues (2002) reported divergent associations with the PCL:SV and aggression in a sample of 103 female offenders, such that Factor 1 significantly correlated with verbal aggression only and Factor 2 scores

correlated significantly with physical aggression only. Such differences could be in part explained by the lower base rates of women to engage in criminally or antisocial behavior (Nicholls, Ogloff, Brink, & Spidel, 2005; Strand & Belfrage, 2001).

In tandem with inconsistent results regarding the PCL-R and its relationship with antisocial behavior, research has found similar results regarding the PCL-R's ability to predict future antisocial behavior in female samples. In one of the earliest studies examining psychopathy and recidivism in an adult female sample, Salekin and colleagues (1998) reported modest to poor accuracy in the ability to predict future recidivism in women who met criteria for psychopathy based on a cutoff score of 30 on the PCL-R. The authors concluded that psychopathy's ability to robustly predict recidivism in male offenders generalizes only moderately to female offenders, as 89.0% of female recidivists in their study were non-psychopathic when using the standard cut score on the PCL-R. Additionally, only Factor 1 scores were a significant predictor of recidivism. Consistent with such results, Salekin et al. (1997) previously reported that PCL-R scores were not particularly useful in predicting correctional officers' ratings of female inmates' violent behavior, verbal aggression, and institutional noncompliance. Follow up meta-analytic studies have reported similar results in regards to the PCL-R's inability to robustly predict recidivism. For example, Edens and colleagues (2007) reported non-significant mean effect sizes for violent recidivism in juvenile female samples. Similarly, the meta-analysis reported the effect sizes for general recidivism from studies involving female samples were small and non-significant. The inconsistences regarding the association between theoretically relevant behavioral correlates and psychopathy across gender may reflect broader developmental trajectories of certain behaviors across gender, particularly

aggression and antisocial behavior. Such differences may also pinpoint variations in etiological origins of the construct across gender.

4.4. Etiology Pathways

An expanding line of research has examined the genetic and environmental influences on the development of psychopathy. Considerably less research, however, has focused on such influences as they relate to distinct pathways for men and women. Previous studies have reported that women with psychopathic traits exhibit greater levels of environmental deprivation, victimization, and mental health problems relative to their male counterparts (Maden, Swinton, & Gunn, 1994; McClellan, Farabee, & Crouch, 1997; Mulder, Wells, Joyce, & Bushnell, 1994; Teplin, Abram, McClelland, Dulcan & Mericle, 2002). Thus, several scholars assert that women may require a greater accumulation or "loading" of risk factors to exhibit psychopathic traits (Teplin et al., 2002). Similarly, Rhee and Waldman (2002) reported that women may require more liability (either genetic or environmental) to express antisocial behavior. However, limited research exists regarding whether biological or environmental mechanisms are similarly related to female and male psychopathy. Previous studies have reported possible differences in hormones and neurotransmitters, stress responses, and heritability as it relates to the manifestation of psychopathic traits (O'Leary, Loney, & Eckel, 2006; van Honk, Schutter, Hermans, Putman, Tuiten, & Koppeschaar, 2004; Beaver, Rowland, Schwartz, & Nedelec, 2011). For example, van Honk and colleagues reported increased levels of testosterone in women led to psychopathic-like deficits on decision-making tasks (i.e., insensitivity to punishment cues). Additionally, adoption studies, such as the study conducted by Beaver et al. (2011), have reported increased vulnerability in men whose biological father had a criminal history. Such results have not been replicated in women.

Childhood abuse has also been implicated in the possible development of psychopathy. However, direct comparisons between men and women examining trauma as a precursor to psychopathy have rarely been conducted. That said, research suggests that trauma and adversity may exert a stronger influence on externalizing problems in women than in men (e.g., Capaldi & Clark, 1998). In the few studies using childhood abuse or trauma as a correlate of psychopathy, results tend to generalize across gender. For example, Verona and colleges (2005) reported in a sample of female inmates that higher Factor 2 scores were associated with a history of childhood physical and sexual abuse, but were unrelated to Factor 1 scores. Such findings replicate results found in male samples (e.g., Poythress, Dembo, Wareham, & Greenbaum, 2006). However, it is important to note that many of these studies have not been prospective research designs. Thus, further research is warranted to understand the direct link between childhood trauma and psychopathy, particularly across gender.

4.5. Manifestations of Female Psychopathy

Although a considerable amount of research is still needed to determine exact developmental pathways for psychopathic traits, a growing body of research has turned to understanding the key behaviors and comorbid psychopathology that may create differences in the manifestation of psychopathic traits across gender. Gender differences found in psychopathy may reflect larger differences in the conceptualization of personality disorders across gender. Gender differences are reported in many of the behavioral and personality disorders that bear similarities to or encompass elements of psychopathy, such as antisocial, histrionic, and borderline personality disorder (Verona & Carbonell 2000). Additionally, research shows that incarcerated women show lower rates of Antisocial Personality Disorder than male prisoners (Fazel, & Danesh, 2002; Jordan, Schlenger, Fairbank, & Caddell, 1996), and more likely than

men in prison to be diagnosed with Borderline Personality Disorder. Thus, to the extent that gender bias is reported and related to personality disorders, it may be expected in psychopathy as well.

When specific features of psychopathy are considered, such as grandiosity and affective deficits, gender bias may be implicated (e.g., Brebner, 2003) For example, a recent protoypicality study using the Comprehensive Assessment of Psychopathic Personality (CAPP; Cooke & Logan, 2004), reported distinct gender differences in the expression of psychopathy (Kreis & Cooke, 2011). In the study, mental health professionals and correctional personnel perceived psychopathic women as more emotionally labile, having an unstable self-concept, and manipulative than the prototypical male psychopath. Such distinct symptoms suggest an overlap with Borderline Personality Disorder, a disorder conceptualized by a pervasive pattern of instability in affect regulation, impulse control, interpersonal relationships and self-image (Linehan, 1993). Results suggest the phenotypic expression of psychopathy may resemble that of BPD. Thus, several scholars have asserted that BPD, may be a female expression of secondary psychopathy (Cale & Lilienfeld, 2002; Gunderson, 1994). Secondary psychopathy, as originally theorized by Karpman (1941, 1948), is thought to be a subtype of psychopathy phenotypically similar to "primary" psychopathy but also characterized by excessive neurotic and anxious tendencies in response to environmental causes (e.g., deprivation, abuse).

Such claims of BPD symptoms being more prominent in female psychopaths have been investigated by empirical research. For example, Sprague and colleagues (2012) reported a stronger relationship between psychopathy and BPD in women than in men, with women high on Factor 1 showing the strongest association between Factor 2 and BPD symptoms. Additionally, behaviors most commonly manifested in BPD (i.e., suicidality and self-directed violence) have

shown to be significant behavioral correlates for women elevated in psychopathic traits (Sadeh, Javdani, Finy, & Verona, 2011; Verona, Sprague, & Javdani, 2012). For example, Verona and colleagues reported the interaction of the interpersonal–affective (Factor 1) and impulsive–antisocial traits (Factor 2) of psychopathywas associated with ideation, self-harm, and suicide attempt histories specifically in women. However, in men, Factor 2 traits were associated with these risk indices for self-directed violence, regardless of Factor 1. Such results suggest that the same underlying traits may result in at least some different maladaptive behavioral manifestations across gender.

In sum, although existing research asserts that psychopathy exists in women, it appears that underlying dimensions and the nature of the disorder may differ across gender. Possible differences have implications for both the conceptualization of and our ability to accurately assess psychopathy in women. Due to contradictory results of studies on the most widely used psychopathy measure, the PCL-R, in women, one could argue that there are possible misinterpretations of the construct when applied to women. In fact, Hare reported "there may be sex differences in the behavioral manifestations of psychopathy," and strongly urged that some items of the PCL-R may require modification when used with women (Hare, 1991, p. 64). Thus, further nuanced research is warranted to fully understand the nature of psychopathy in women, particularly as it relates to measures of psychopathy that extend past the PCL-R model.

5. PRESENT STUDY

If psychopathy is manifested differently across various subgroups (i.e., ethnicity and gender), then symptoms considered as the best indicators of psychopathy in the predominant sample (i.e., Caucasian men) may not be appropriate or sensitive enough to identify psychopathy in these subgroups. Such differences have direct implications for diagnostic criteria and consequently the assessment of psychopathy. Is it the case that other characteristics than those established for psychopathy in Caucasian men should be used in these subgroups? Additionally, most research concerning ethnicity and gender focuses on the PCL-R and its derivatives, but considerably less is known about alternative models in such subpopulations. These alternative models, such as the Triarchic model, do not directly map onto the PCL-R and highlight a somewhat different set of core traits of this disorder (Patrick, Fowles, & Krueger, 2009; Venables, Hall, & Patrick, 2014). Given the emergence of the Triarchic Model, whether it adequately captures the construct across gender and ethnicity remains largely understudied. In particular, it is important to ascertain whether the items intended to capture psychopathy in each scale of the Triarchic model have the same meaning for individuals in such subgroups. Therefore, the objective of this proposal is to investigate the phenotypic expression of psychopathic traits across gender and Caucasian, African American, and Hispanic ethnic groups within a the Triarchic model. In particular, the present study will conduct an item level analysis of the Triarchic Psychopathy Measure (TriPM, Patrick, 2010) using Item Response Theory (IRT). A major advantage of using IRT is its ability to match different groups (e.g., men versus women) on the underlying latent trait (i.e., control for mean differences). If cross group equivalence is not achieved on the underlying trait, then comparisons of prevalence and the use

of a singular cut score across groups may be meaningless. By focusing on the latent variables, it's easier to distinguish between measurement bias and true group differences.

Relatively few studies have examined the item properties of the TriPM as it relates to different subgroups. Shou, Sellbom, and Xu (2017), examined measurement bias of the TriPM through the use of differential item functioning (DIF) across Chinese and U.S samples. A number of items of the TriPM were not equivalent across the Chinese and the U.S. samples. However, to date no studies have examined measurement invariance of the TriPM across gender or in Hispanic and African American ethnic groups. Thus, the present study has two goals; examine the measure invariance of the TriPM by assessing differential item functioning (DIF) within an IRT framework, and investigate the possible moderating role of ethnicity and gender in the relationship between the Triarchic model and relevant external correlates.

6. METHODOLOGY

6.1. Participants

6.1.1. Sample 1

To have sufficient power to detect an effect using Item Response Theory, archival data including 8,167 undergraduate students from two separate universities were used. Data from the first university, located in the southwestern United States, comprised students in Introductory Psychology courses who completed the TriPM as part of a larger battery of questionnaires used to prescreen participants for a number of studies at the university (N = 4,693). Data from the second university, located in the northern United States, comprised Introductory Psychology students who completed a series of questionnaires online through a secure website (N = 3,474). All students were provided with course credit or extra credit for their participation. The sample was comprised mostly of Caucasian participants (77%), followed by Hispanic Non-Caucasian, Asian Hawaiian Native or Specific Islander, and African American between the ages of 18 and 21. More than two-thirds of the participants identified as women (70%).

6.1.2. Sample 2

Participants were recruited from the psychology department undergraduate subject pool to complete self-report measures on the survey website Qualtrics (N = 1,467). Each participant completed a series of self-report questionnaires measuring constructs including normal-range and pathological personality traits (e.g., psychopathy, aggressive behavior, impulsivity, childhood trauma, and substance use). More than half of the sample comprised White participants (60%), followed by Hispanic Non-Caucasian, Asian, and Black or African American. Average age of participants was 19.04 years (SD = 1.30). Data from approximately equal numbers of women

(53%) and men (47%) were collected by designating separate but identical questionnaires through the online subject pool software that restricted participation by sex.

6.1.3. Sample 3

Participants were recruited from Amazon's Mechanical Turk (M-Turk), to complete a series of questionnaires including the Triarchic Psychopathy Measure in return for $1.00 worth of Amazon credit (*N* = 3,639). Similar to sample 2, a subset of the sample completed the same series of self-report questionnaires measuring constructs including normal-range and pathological personality traits (e.g., psychopathy, aggressive behavior, impulsivity, childhood trauma, and substance use) (*N* = 1,050). The majority of the participants were Caucasian (70%), followed by African American (15%), Hispanic Non-Caucasian (9.1%), and Asian (3.8%). The average age of participants was 37 years (*SD* = 12.38). More than half of the sample identified as women (59%).

6.2. Measures

6.2.1. Psychopathy

The Triarchic Psychopathy Measure (TriPM; Patrick 2010) is a 58-item self-report inventory that indexes the phenotypic constructs of Boldness, Meanness, and Disinhibition of the Triarchic model through separate targeted subscales. Boldness is characterized by social assertiveness, emotional resiliency, and venturesomeness. Meanness entails a lack of empathy, contempt towards others, cruelty, and predatory exploitativeness. Lastly, Disinhibition captures impulsivity, weak restraint, mistrust, and emotion dysregulation. Participants respond to each item on a 4-point Likert scale (1 = true, 2 = mostly true, 3 = mostly false, 4 = false). The TriPM yields a total score, along with scores on the subscales representing Boldness, Meanness, and Disinhibition. Evidence for the validity of the TriPM has been reported in terms of strong

associations with other established measures of psychopathy including the PPI, the Self-Report Psychopathy Scale-III, (SRP-III; Paulhus, Hemphill, & Hare, 2009) and the Levenson Self-Report Psychopathy Scale (LSRP; Drislane et al., 2014; Hall et al., 2014; Sellbom & Phillips, 2013; Stanley, Wygant, & Sellbom, 2013).

6.2.2. Aggression

The Reactive and Proactive Questionnaire (RPQ; Raine et al., 2006) is a 23-item self-report questionnaire designed to yield both reactive (11 items) and proactive (12 items) aggression scores. Proactive aggression is characterized as instrumental or predatory and requires neither provocation nor anger. Conversely, reactive aggression involves angry outbursts in response to perceived provocation. Although they are distinct, the two forms of aggression may co-occur in the same subject (Dodge, 1991). Each item on the RPQ is rated on a 3-point scale (0 = never; 1= sometimes; 2 = often). The generation and selection of the RPQ items are detailed elsewhere (Raine et al., 2006). For the purposes of the present study, raw and residualized (i.e., "pure") scores will be computed for both Reactive Aggression and Proactive Aggression scales. Data on convergent validity, discriminant validity, criterion validity, construct validity, and the significant fit of a two factor, proactive-reactive aggression solution were provided by Raine et al. (2006).

6.2.3. Impulsivity

The UPPS impulsivity scale (Whiteside & Lynam, 2001) is a 46-item inventory created to measure four distinct personality pathways to impulsive behavior. The inventory includes four scales: Urgency, Premeditation (lack of), Perseverance (lack of), and Sensation seeking. Urgency represents impulsivity accompanied by negative affect and may reflect impulsive behavior in order to alleviate emotional distress. Premeditation (lack of) reflects the most common definition

of impulsivity, namely acting on the spur of the moment and disregarding consequences. Perseverance reflects the ability to sustain attention on difficult or boring tasks despite of disinterest or fatigue. Sensation seeking reflects a preference for exciting and risky behaviors. Each item is rated on a 0 (not at all) to 4 (very much) point scale. The subscales demonstrated good internal consistencies in the original study (α ranged from .82 to .91).

6.2.4. Maladaptive Personality Traits

The Personality Inventory for the DSM-5 Brief Form (PID-5 BF; Krueger, Derringer, Markon, Watson, & Skodol, 2012) assesses the maladaptive traits proposed in Section III of DSM-5. The PID-5-BF is a 25-item self-rated measure for maladaptive personality trait assessment, which can be administered to both adults and adolescents. The PID-5-BF items come from the 220-item self-report PID-5. Each PID-5-BF item is rated on a 4-point scale ranging from 0 (very false or often false) to 3 (very true or often true). Higher scale scores are indicative of greater personality pathology. The PID-5-BF assesses the five Alternative Model of Personality Disorders maladaptive trait dimensions of Negative Affectivity (NA), Detachment (De), Antagonism (A), Disinhibition (Di), and Psychoticism (Ps), with each domain scale consisting of five items; in addition, the PID-5-BF yields a score for the overall measure. Krueger et al. (2012) reported adequate to good internal consistencies based on a US representative sample: α = .86; range = .72 to .96 across scales.

6.2.5. Normal-range Personality Traits

The HEXACO–60 (Ashton & Lee, 2009) is a 60-item personality inventory that assesses the six dimensions of the HEXACO model. The HEXACO dimensions are Honesty and Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness to Experience. Ten items from each of the six scales were selected from the longer HEXACO

Personality Inventory–Revised (Ashton & Lee, 2008). In self-report data from samples of college students and community adults, the scales showed reasonably high levels of internal consistency and rather low inter-scale correlations. Correlations of the HEXACO–60 scales with measures of the Big Five factors were consistent with theoretical expectations, and convergent correlations between self-reports and observer reports on the HEXACO–60 scales were high, averaging above .50.

6.2.6. Borderline Personality Traits

The McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD; Zanarini et al., 2003) is a 10 item dichotomous self-report measure of the DSM-IV BPD criteria. Participants answer "yes" or "no" on the 10 items reflective of the criteria. In the original validation sample, sensitivity and specificity were both above .90 when compared with a validated structured interview (Zanarini et al., 2003). The measure has shown to demonstrate adequate internal consistency (a =. 86) and significant correlations with self-report measures and interview ratings of BPD (Gardner & Qualter, 2009).

6.2.7. Substance Use

The Drug Abuse Screening Test (DAST-20, Skinner, 1982) is a 20-item true or false questionnaire yielding a quantitative index of problems associated with drug use. It has been demonstrated to be internally consistent and validly discriminates drug from alcohol abusers in a sample of persons seeking substance abuse treatment (Skinner, 1982; Staley & el-Guebaly, 1990).

6.2.8. Trauma

Childhood Trauma Questionnaire Short Form (CTQ SF, Bernstein et al., 2003) is a 28-item retrospective self-report questionnaire designed to assess five dimensions of childhood

maltreatment: (a) physical abuse (PA); (b) emotional abuse (EA); (c) sexual abuse (SA); (d) physical neglect (PN); and (e) emotional neglect (EN). There are five items on each scale, plus an additional three-item minimization/denial scale. Item response categories are scored from 1 to 5 and are structured to reflect the frequency of maltreatment experiences (never true, rarely true, sometimes true, often true, very often true). Bernstein et al. (2003) reported good internal consistency of the CTQ-SF for each of the abuse scales across four heterogeneous samples, including a sample of inpatient drug-abusing inpatients and the sample of community-based drug abusers used in this study (physical abuse = .83 to .86; emotional abuse = .84 to .89; sexual abuse = .92 to .95; physical neglect = .61 to .78; emotional neglect = .85 to .91).

6.2.9. Political Orientation

A single item political orientation variable was used from the General Social Survey (see Smith, Marsden, Hout, & Kim, 2012). Participants indicated their degree of conservatism to liberalism using a 7-point scale (1 = Extremely Conservative to 7 = Extremely Liberal).

6.2.10. Ethnic Identity

The Multicomponent In-Group Identification measure (Leach et al., 2008) is a 20 item self-report questionnaire with two higher order factors: Self Investment and Self Definition. Within the higher order factors, the measure contains five subscales of in-group identification including Solidarity, Satisfaction, Centrality, Individual Self-Stereotyping, and In Group Homogeneity.

7. DATA ANALYSIS

To explore the expression of psychopathic traits across both ethnicity and gender, the present study employed Item Response Theory based likelihood ratio Differential Item Functioning (DIF; Thissen, Steinberg, & Gerrard, 1986) using a self-report measure of psychopathy. DIF examines the probability of individuals endorsing a test item with the same trait level (θ), but different group membership. For example, a man and woman could be more or less likely to endorse the same item on the TriPM, despite having similar levels of psychopathy.

A key assumption of IRT is that the underlying latent construct is unidimensional (i.e., only one latent trait is underlying the measure, Tay, Meade, & Cao, 2014). To evaluate whether this assumption is met, exploratory factor analysis (EFA) based on the Direct Oblimin rotation and a confirmatory factor analysis (CFA) with weighted least squares estimation were conducted on the three TriPM scales (e.g., Boldness, Meanness, Disinhibition). The fit of the resulting CFAs were evaluated using the comparative fit index (CFI), the Tucker-Lewis index (TLI), and the root mean squared error of approximation (RMSEA). CFI/TLI values > .95, and RMSEA values < .06, suggest sufficient fit (Hu & Bentler, 1999).

Once unidimensionality was established, items were analyzed using the IRT-LR-DIF software program (IRTLRDIF; Thissen, 2001). IRT-LR-DIF is a statistical software application used to establish parameters for the items that define the latent continuum of interest and then test the extent to which individual candidate items index that latent continuum. The relation between an item and the relevant latent variable (e.g., psychopathy) was modeled using Birnbaum's (1968) two-parameter logistic (2PL) model. The 2PL model includes two parameters, discrimination (*a*) and threshold (*b*) estimates for each item. The α parameter suggests the relatedness of the item to the latent variable as indicated by the slope of the Item

Characteristic Curve (ICC). A high *a* parameter on a TriPM item would indicate that the item is strongly related to the latent construct assessed by the TriPM facet. The *b* parameter indicates the location on the latent trait where the probability of endorsing an item is 50%. An endorsement of a high b parameter item signifies greater severity than does endorsement of lower b parameter items. For the purposes of the present study, TriPM items were dichotomized, such that False and Somewhat False were recoded as "0," and True and Somewhat True were recoded as "1," respectively. DIF was used to explore differences in item parameters for items on the TriPM.

To complete the DIF analyses, one establishes a set of "anchors," among the items to set a common scale for the latent variable between groups; these items are considered free of DIF. To identify the set of anchor items, a purification procedure was used (see Kim & Cohen, 1995). The procedure begins with an omnibus test of DIF (testing DIF in *a* and *b* simultaneously) for each item. One item is tested at a time, with all other items treated as anchors. If no items show significant DIF, there is no need to proceed. Otherwise, the item with the largest statistically significant G2 test statistic is eliminated, and the analysis is repeated with the remaining items. DIF testing is repeated, and the item with the largest statistically significant test statistic is eliminated. Items are eliminated one by one through repetition of this process until no further DIF is found. The final set of items showing no DIF are the anchors for the main analysis. Then, for one item at a time, the 2PL model will be fitted with *a* and *b* parameters constrained equal for both groups, and with *a* and *b* parameters permitted to vary by group. If the constraints significantly decrease model fit, there is evidence of omnibus DIF (DIF with respect to *a*, *b*, or both) for that item.

Follow-up tests are then undertaken to more fully understand the nature of the DIF. Specifically, a model with a parameters constrained equal between groups but *b* parameters free to vary will be compared with the model permitting both item parameters to vary between groups. A significant difference between these models suggest significant DIF with respect to the *a* parameter. Then a test of *b* DIF will be conducted in which a model with *a* and *b* constrained equal between groups is compared with the model with *a* constrained equal and *b* allowed to vary between groups. For example, significantly high levels of *b* DIF when comparing across gender will indicate that the criteria are endorsed at different rates by men and women when controlling for degree of psychopathy. However, it is important to consider the clinical significance, or clinical meaningfulness, of results, as statistical significance is largely dependent on sample size. While results may show statistical significance, they may not have direct implications to existing treatment or assessment effects in everyday life. Although there are no established clinical significance cutoffs, previous research has used a cutoff of .30 standard deviations for items demonstrating *b* DIF (Balsis, Gleason, Woods, & Oltmanns, 2007).

To explore the potential moderations of ethnicity and gender in the relationship between psychopathy and relevant external criteria (i.e., aggression, impulsivity, childhood trauma, substance use, and personality traits), Pearson product-moment correlations were conducted. In addition, a series of hierarchical regressions were used to test for multivariate and interaction effects. Dummy coded ethnicity and gender variables were created to examine differences between ethnic groups and gender. After mean centering each TriPM scale, the TriPM scale and dummy coded variables were entered into the first step of the regression models. Next, TriPM scale x gender and TriPM scale x ethnicity interaction terms were entered in the second step.

Both total and subscales scores for each theoretically relevant criterion variable were used in the moderation analyses.

8. RESULTS

For the purposes of using Item Response Theory, any cases with missing data were deleted. To ensure that respondents were not overly inattentive to the item content of the scales being computed, the Triarchic Assessment Procedure for Inconsistent Responding was employed (TAPIR, Mowle et al., 2016). A cut score of 14 on this scale appears to identify cases where there would be concerns about careless responding adversely impacting the data provided. Using this cut score, 1.7% (n = 112) of the participants were deemed as potentially inconsistent responders in the college sample (i.e., sample 1) and 23.8 % (n = 629) for the community sample (i.e., sample 3). Exclusion of all invalid cases resulted in a sample size of 6,979 participants for the college sample and 2,010 participants for the community sample.

An independent-samples t-test was conducted to compare the TriPM scales across the community and college samples. Results revealed significant mean differences on the TriPM scales. On average, the college sample had higher scores on Boldness $t(9172) = -16.58$, $p < .05$, than did the community sample. Conversely, the community sample had higher mean scores on both Meanness $t(9172) = 75.82$ $p < .001$), and Disinhibition $t(9172) = 84.78$, $p < .001$) in comparison to the community sample. Even after controlling for age, using a one-way ANCOVA, results remained consistent, such that the college sample scored higher on Boldness (College: M = 1.65, Community: M = 1.55, $p < .01$), and lower on Meanness (College: M = .71, Community: M = .86, $p < .01$) and Disinhibition (College: M = .79, Community: M = 1.00, $p <$ .01). Given significant mean differences on the TriPM scales, analyses were run separately across the two different sample types.

8.1. IRT

Within an IRT framework, each facet of the TriPM (i.e., Boldness, Meanness, and Disinhibition) was examined to determine which items showed DIF across gender and ethnicity. For these analyses, the relation between an item and the latent variable (e.g., Meanness) was modeled using Birnbaum's 1968 two-parameter (2PL) model. As previously discussed, the 2PL model includes two parameters: (*a*) discrimination parameter and (*b*) threshold parameter for each item. The *a* parameter indicates how related the item is to the latent variable, and the *b* parameter reflects the likelihood of endorsing the item given the level of the latent variable. Each item was examined separately for the presence of DIF with respect to the *a* parameter and the *b* parameter.

8.1.1. TriPM Disinhibition

To test for unidimensionality on the Disinhibition scale, an exploratory factor analysis (EFA) was employed using the entire college sample (i.e., sample 1). Two items were iteratively excluded with the lowest factor loadings (i.e., Item 3: "I often act on immediate needs"; factor loading: .04, and "I have a hard time waiting patiently for things I want"; factor loading: .16). The resulting EFA revealed that the first two eigenvalues were 5.55 and 1.78 with a ratio of 3.11. Further analyses using a confirmatory factor analysis CFA indicated a poor fit for the one-factor model of the Disinhibition scale with the existing items, $x^2 = 9319.461$, df =35, $p < .001$, comparative fit index (CFI) = .743, Tucker-Lewis index (TLI) = .711, root mean square error of approximation (RMESA) = .093. Given the poor fit of the one-factor solution, items were iteratively excluded from the model based on the lowest factor loading. Overall, 13 items were excluded from the model resulting in adequate fit of a one-factor solution $x^2 = 604.10$, $df = 9$, $p <$

.001, CFI = .955, TLI = .955, RMSEA = .097. The six remaining items reflect the underlying dimension of the construct of Disinhibition within this sample.

Similar to the college sample, an EFA of the Disinhibition scale was employed using the community sample (i.e., sample 3). The resulting EFA revealed that the first two eigenvalues were 9.90 and 2.08 with a ratio of 4.74. However, similar to the college sample, the CFA indicated a poor fit for the one-factor model of the Disinhibition scale with the existing items, x^2= 5464.14, *df* = 17, *p* < .001, CFI = .843, TLI = .824, RMSEA = .12. Given the poor fit of the one-factor solution, items were iteratively excluded from the model based on the lowest factor loading. Overall, 11 items were excluded from the model resulting in adequate fit of a one-factor solution x^2= 758.45, *df* = 20, *p* < .001, CFI = .962, TLI = .947, RMSEA = .13. The eight remaining items reflect the underlying unidimensional construct of Disinhibition in this sample.

Notably, items retained from the CFA in both the community and college sample, greatly overlapped with the exception of two items "I have lost a friend because of irresponsible things I've done," and "Others have told me they are concerned about my lack of self control." These two items were retained in the community sample in addition to the six overlapping items also retained in the college sample. Thus, creating a subset of eight items reflecting the Disinhibition scale in the community sample, and six items in the college sample.[1]

8.1.1.1. IRT Analyses

For both the college sample and the community sample, the remaining six and eight items of the Disinhibition scale respectively were fitted to a 2PL model. DIF testing for this model involves statistically comparing IRT models with chi-square difference tests. For the present study, DIF was tested across gender (male vs. female) and across ethnicity. Participants identifying as male and Caucasian-non Hispanic served as reference groups respectively. Thus,

comparisons were not made between African American or Black participants and Hispanic Non-Caucasian participants, as neither ethnic group served as the reference group. For all items, a model with item parameters constrained equal for men and women was compared with a model that permitted item parameters to vary between groups. Similarly, a model with item parameters constrained equal for Caucasian participants and African American or Hispanic/Non-Caucasian was compared with a model that permitted item parameters to vary between groups.

Overall, there was a small amount of statistically significant DIF located on the subset of items representing the Disinhibition scale in both the college and community samples across gender and ethnicity. In the college sample, two items demonstrated DIF across gender (see Table 1). Such items represent candidate items. The remaining four items served as anchor items, ostensibly representing items that contain no DIF. A Bonferonni Correction was applied separately across the two items (p = .05/2) for both sets of parameters (*a* and *b*) to reduce the chances of making a Type I error. Both candidate items contained omnibus DIF in the *b* parameter, suggesting that men and women with the same amount of Disinhibition endorse these items at different rates. Women were more likely to endorse the item "I have taken money from someone's purse or wallet without asking" than men at the same level of the latent trait (Men = 1.57; Women = 1.43, G^2 (1) = 19.1, $p < .05$). Similarly, women were more likely to endorse the item "I have taken items from a store without paying for them," than men at the same level of the latent trait (Men = 1.50; Women = 1.40, G^2 (1) = 15.1, $p < .05$.) Although omnibus DIF was found for two items, it is important to note that DIF in the *b* parameter only differed on average by .12 standard deviations across groups. The test characteristic curve, as seen in the Figure 1, shows a summation of the Item characteristic curves of the six Disinhibition items in the college sample across gender. The figure indicates that despite two items having DIF, these differences

cancel out at the scale level, suggesting that the Disinhibition scale as a whole contains relatively small and insignificant DIF across Gender. Unlike in the college sample, no DIF was found on the eight items reflecting the Disinhibition scale in the community sample (see Figure 2).

When examining the presence of DIF in the Disinhibition scale across ethnicity, three items contained DIF. In the college sample, results revealed DIF between Caucasian and Hispanic ethnic groups in one item (refer to Table 2), thus the remaining five items served as anchor items. Results indicated that the candidate item contained statistically significant DIF. Omnibus DIF was located in the *b* parameter, suggesting that Caucasian and Hispanic ethnic groups with the same level of Disinhibition endorse the item at different rates. Caucasian participants in the college sample were more likely to endorse the item "I have taken money from someone's purse or wallet without asking" than Hispanic participants at the same level of the latent trait (Hispanic = 3.39; Caucasian = 2.44, G^2 (1) = 16.1, $p < .05$). Figure 3 captures the test characteristic curve of the summation of candidate and anchor items of the 6-item Disinhibiton scale. Although statistically significant, it is important to note that the DIF in the *b* parameters for the candidate item only differed by less than one standard deviation, as seen by the relative similarity of the curves in the figure. Notably, there was no DIF present in the community sample when examining Caucasian and Hispanic participants using the eight item Disinhibiition scale.(see Figure 4).

Conversely, two items contained DIF on the eight item Disinhibition scale in the community sample when examining Caucasian and African American participants (see Table 3). A Bonferonni Correction was used to reduce the chance of a Type I error (.05/2). Omnibus DIF was found in two candidate items, resulting in the remaining six items to be classified as anchor items. For the first candidate item, omnibus DIF was located on both the *a* and *b* parameters,

suggesting differences in the relatedness of the item to the construct and differences of level of endorsement of the item across ethnic groups. For the candidate item "I have robbed someone", results suggest that the item is more related to the latent construct of Disinhibition for Caucasian participants than African American participants (Caucasian = 7.38; African American = 4.45, G^2 (1) = 6.30, $p < .05$). Moreover, Caucasian participants are more likely to endorse the item at the same level of the latent trait as African American participants (Caucasian = -0.71; African American = -0.56, G^2 (1) = 10.9, $p < .05$). For the second candidate item, omnibus DIF was located on the *b* parameter, suggesting differences in the level of endorsement of the item at the same level of Disinhibition, with Caucasian participants more likely to endorse the item "I have stolen something out of a vehicle" at the same level of the latent trait (Caucasian = -0.67; African American = -0.55, G2 (1) = 8.9, p < .05). The *b* parameters for the two candidate items differed on average by .13 standard deviations across the Caucasian and African American participants. Figure 5 shows similarities in the *b* parameters across the scale through a Test Characteristic Curve. There was no DIF found in the college sample between Caucasian and African American participants (see Figure 6).

8.1.2. TriPM Meanness

To meet the assumption of unidimensionality, an EFA was employed using the entire college sample (i.e., sample 1). The first two eigenvalues were 6.33 and 1.88 with a ratio of 3.36, However, upon examining the one factor CFA with the existing Meanness scale items, results indicated a poor fit of the model x^2 =13468.00, df = 152, $p < .000$, CFI = .734, TLI = .701, RMSEA = .11. Given the poor fit of the solution, items were iteratively dropped from the model based on the lowest factor loading. After excluding 14 items from the model, the fit of the one-factor CFA greatly improved, resulting in adequate fit: x^2 = 382.77, df = 5, CFI = .973, TLI =

.946, RMSEA = .10 The remaining subset of five items best represent the Meanness scales as a unidimensional construct in this sample.

Similar to the college sample, an EFA of the Meanness scale was employed using the community sample (i.e., sample 3). The resulting EFA revealed that the first two eigenvalues were 9.74 and 2.89 with a ratio of 3.37. However, similar to the college sample, the CFA indicated a poor fit for the one-factor model of the Meanness scale with the existing items x^2= 7167.10.14, df = 152, p < .001, CFI = .821, TLI = .799, RMESA = .14. Given the poor fit of the one-factor solution, items were iteratively excluded from the model based on the lowest factor loading. Overall, 10 items were excluded from the model resulting in adequate fit of a one-factor solution x^2= 1465.82, df = 27, p < .001, CFI = .947, TLI = .929, RMSEA = .16. The nine items remaining reflect the underlying unidimensional construct of Meanness.

Unlike the Disinhibition scale, fewer retained items overlapped in the community and college sample for Meanness. The two items "I don't have much sympathy for people" and "It doesn't bother me when people around me are hurting" were consistently retained in the subset of items representing Meanness across samples. For the college sample, three additional reversed coded items were retained that were not retained in the community sample: "I sympathize with other's problems," "I am sensitive to the feelings of others," and "It's easy for me to relate to other people's emotions." Conversely, seven additional items, along with the two overlapping items, were retained in the community sample. Thus, there was a subset nine items reflecting the underlying latent construct of Meanness in the community sample, and a subset of five items reflecting the underlying latent construct of Meanness in the college sample.[2]

8.1.2.1. IRT Analyses

Similar to the Disinhibition scale, the remaining five and nine items found to represent the unidimensional construct of Meanness in the college and community sample were fit to the 2PL model. For all items, a model with item parameters constrained equal for men and women was compared with a model that permitted item parameters to vary between groups. Similarly, a model with item parameters constrained equal for Caucasian participants and African American or Hispanic/ Non-Caucasian was compared with a model that permitted item parameters to vary between groups. Such analyses were performed in both the college and community sample.

Results demonstrated few instances of statistically significant DIF on the Meanness scale for both the college and community samples across gender and ethnicity. When examining DIF across gender in the 5-item scale in the college sample, statistically significant DIF was found in one item, causing the other four items to serve as anchor items (see Table 4). Omnibus DIF in the candidate item was located on the *b* parameter, suggesting differences in levels of endorsement with the same amount of the latent trait, with male participants more likely to endorse the item "It doesn't bother me when people around me are hurting" than female participants at the same level of the latent trait of Meanness (Men = 2.12; Women = 2.25, G^2 (1) = 9.6, $p < .05$). It is important to note that the *b* parameters for the candidate item only modestly differed by .13 standard deviations, as seen in the summation of item characteristic curves of all candidate and anchor items representing the 5-item Meanness scale (see Figure 7). No DIF was present across male and female participants on the 9-item scale in the community sample, as demonstrated in Figure 8.

When examining DIF in the Meanness scale across ethnicity, results demonstrated three instances of DIF. In the college sample, one item suggested DIF between Caucasian and African

American participants (Table 5), thus serving as the sole candidate item. Omnibus DIF in the candidate item was located in both the *a* and *b* parameter, suggesting both differences in the relatedness of the item to latent construct and the level of endorsement given the same amount of the latent trait. Results show that the item "It doesn't bother me when people around me are hurting," is more related to the construct of Meanness in African American participants than Caucasian participants (African American = 4.03; Caucasian = 1.78, G^2 (1) = 14.1, $p < .05$). Omnibus DIF was also located in the *b* parameter of the same item, suggesting that African American participants are more likely to endorse the item at the same level of Meanness (African American =1.84; Caucasian = 2.7; G^2 (1) = 12.9, $p < .05$). Figure 9 captures the Test Characteristic Curve for the Meanness scale.

Similar trends emerged in the comparison of Hispanic and Caucasian participants such that DIF was found for one item (Table 6). A Bonferonni Correction was used to adjust for Type I error (.05/2). Omnibus DIF was present in the *b* parameter, suggesting differences in endorsement across groups with the same latent trait. Results show that Hispanic participants were more likely to endorse the item "I am sensitive to the feelings of others" than were Caucasian participants. Given that the item is reversed coded, Hispanic participants are more likely to endorse the response options "False or Mostly False" in relation to the candidate item (Figure 10).

In the community sample, three items contained DIF across ethnicity. Results show two items containing DIF across Caucasian and African American participants (Table 7). Thus, seven items served as candidate items. Similar to previous steps, a Bonferonni Correction was used to control for Type I error (.05/2). For the first candidate item, omnibus DIF was located on both the *a* and *b* parameter. Results indicate the item "I don't have much sympathy for people" is

more related to the construct of Meanness for African American participants than Caucasian participants (African American = 5.92; Caucasian = 3.86 G^2 (1) = 5.7, $p < .05$). Additionally, the DIF located on the *b* parameter of this item suggests African Americans are more likely to endorse this item at the same level of Meanness as Caucasian participants (African American = -0.66; Caucasian = -0.47, G^2 (1) = 11.9, $p < .05$). Similar to the first candidate item, DIF was also located on the *b* parameter. However, results indicate that Caucasian participants were more likely to endorse the item "I've injured people to see them in pain" at the same level of Meanness as African American participants. The average difference in the *b* parameters across to the two candidate items was .17 standard deviations. Figure 11 refers to the Test characteristic curve of all nine anchor and candidate items, demonstrating similarities across both the *a* and *b* parameters for each item.

Similar trends emerged when exploring the presence of DIF across Caucasian and Hispanic ethnic groups in the community sample (see Table 8). Omnibus DIF was located on the *b* parameter, suggesting differences in endorsement at the same level of the latent trait. Caucasian participants were more likely to endorse the item "I've injured people to see them in pain" and the same level of Meanness as Hispanic participants (Caucasian = -0.71; Hispanic = -0.56, G^2 (1) = 14.1, $p < .05$). It is important to note that *b* parameters for the candidate item only differed by only .15 standard deviations, suggesting very modest differences. Figure 12 demonstrates similarities in the *a* and *b* parameters for the nine items encompassing the Meanness scale for the community sample.

8.1.3. TriPM Boldness

To meet the assumption for unidimensionality, EFAs were employed on the items encompassing the Boldness scale. Unlike with the Meanness and Disinhibition scales, Boldness

in both the college and community sample did not meet criteria for a unidimensional construct. For the college sample three items (item 4r, item 47r, and item 32) with the lowest factor loadings were excluded from the EFA to improve the possibility of unidimensionality. After the exclusion of such items, the first two Eigenvalues were 4.65 and 1.67 with a ratio of 2.78. Results indicate the existing Boldness items do not represent a unidimensional construct. If the ratio of the first to second eigenvalue is greater than three, the construct is generally considered reasonably unidimensional. This ratio of first to second eigenvalues-greater than three rule has been cited as commonly applied in reviews of the literature on testing of unidimensionality (Slocum-Gori & Zumbo, 2011). Moreover, the subsequent CFA indicated poor fit, $x^2 = 8685.07$, $df = 104$ $p < .005$ CFI = .690, TLI = .642. IRT analyses could not proceed, given the Boldness scale did not represent a unidimensional construct.

For the community sample, a similar pattern emerged. After conducting an EFA with the Boldness items, the first two eigenvalues were 4.42 and 2.28. Given the ratio between the two itemeigen values did not meet threshold for unidimensionality (greater than three), IRT analyses could not proceed with the Boldness scale.

Shou and colleagues (2018) identified a bi-factor model for the Boldness scale delineating two subscales: Emotional Stability and Social Dominance. However replication of the bi-factor model by fixing the numbers of factors to extract to two, showed multiple cross loadings onto both factors (factor loadings greater than .30).

8.2. External Correlates

To ensure that respondents were not overly inattentive to the item content of the scales being computed, the TAPIR was applied as with the IRT analyses. Using a cut score of 14, 7.8% ($n = 114$) of the participants were deemed as potentially inconsistent responders in the college

sample (i.e., sample 2) and 21.9 % (n = 268) for the community sample (i.e., sample 3). Exclusion of all invalid cases resulted in a sample size of 1,343 participants for the college sample and 955 participants for the community sample.

8.2.1. Mean Differences

Men had significantly higher mean scores on all TriPM scales including Boldness, Meanness, and Disinhibition. Such results were consistent across the college and community sample, with Meanness having the largest effect size (Table 9). Cohen (1988) report a d = 0.2 as small effect size, d = .05 as medium effect size, and d = .08 as a large effect size.

Significant mean differences also emerged across ethnic groups, primarily in the community sample (Table 10). Consistent with previous literature in regard to existing psychopathy measures, African American participants had significantly higher mean scores on all TriPM scales in comparison to Caucasian participants, although effect sizes were relatively small (d = .25-.34). Similarly, Hispanic participants had higher mean scores on the Meanness and Disinhibition scales in comparison to Caucasian participants. Boldness, however, was not significantly different between Caucasian and Hispanic participants. Lastly, no significant mean differences emerged between Hispanic and African American participants, although, mean differences on the Boldness scale had trending significance. Unlike the community sample, very few mean differences emerged between ethnic groups in the college sample. Hispanic participants had significantly higher mean scores on Disinhibition than Caucasian participants, with a very modest effect size. Caucasian and African American participants did not significantly differ on mean scores on any of the TriPM scales.

8.3. Criterion Validity Across Gender and Ethnicity

For both men and women, the relationship between the TriPM scales and external criteria was generally consistent with the existing literature (see Tables 11 and 12). Such results were consistent in both the college and community sample, although associations between the TriPM scales and external criteria were stronger in the community sample. Across gender, Boldness demonstrated negative or negligible associations with Childhood trauma including emotional and physical abuse, emotional and physical neglect, and sexual abuse. Notably, Boldness tended to be generally unrelated to Childhood Trauma in women. Conversely, Meanness and Disinhibition demonstrated moderate positive associations with Childhood Trauma, including the aforementioned subscales.

Concerning impulsivity, the relationship between Boldness and the subscales of the UPPS varied. Although Boldness was negatively related to the subscales measuring Urgency and Lack of Perseverance, it was positively related to the subscale intended to measure Sensation Seeking. In comparison, Meanness and Disinhibition demonstrated mostly positive relationships with the Impulsivity subscales including the total score of the UPPS. Such a trend was consistent across gender.

In relation to normative personality traits, as measured by the Hexaco-60, Boldness showed moderate negative associations to Emotionality and moderate positive associations with Extraversion in both men and women. Meanness demonstrated mostly negative relationships with the personality domains. Notably, Meanness was moderately associated with Honest/Humility and Emotionality, as consistent with previous research. However, in the community sample, there was a weak positive association with Meanness and Emotionality among male participants. Similarly, Disinhibition was largely negatively related with the

Hexaco-60 personality domains as seen with the Meanness scale. In regards to maladaptive personality traits as defined by the PID-5, Boldness showed moderate negative associations with Negative Affect and Detachment. Conversely, Meanness demonstrated moderate positive associations with Antagonism, Detachment, and Disinhibition. Likewise, Disinhibition showed modest to moderate positive relationships with all of the PID-5 domains, the largest association with PID-5 Disinhibition. Such results tended to be consistent across men and women in both samples. Lastly, Boldness demonstrated negative associations with Substance Use and Borderline Personality traits. Conversely, both Meanness and Disinhibition showed moderate correlations both Substance Use and Borderline Personality traits across gender.

Similar to the results across gender, the relationship between the TriPM scales and external criteria was generally consistent with the existing literature across all ethnic groups (Tables 13 and 14). It is important to note that the African American ethnic group in the college sample was severely undersized in comparison to the rest of the ethnic groups (n = 34). Boldness demonstrated modest negative correlations with Childhood Trauma, including all subscales. Conversely, both Meanness and Disinhibition demonstrated modest positive associations with all Childhood Trauma subscales. Notably, Boldness demonstrated stronger relationships with such subscales in the African American ethnic group within the community.

In regards to impulsivity, Boldness was positively associated with Sensation Seeking and negatively related to the other impulsivity subscales in the community sample. For the college sample, Boldness was positively related to a Lack of Premeditation in the Caucasian and Hispanic ethnic groups, but negatively related in the African American group. Conversely, Meanness and Disinhibition demonstrated moderate positive relationships with the impulsivity subscales across both sample type and ethnic group. Notably, Urgency and Lack of Perseverance

were generally unrelated to Meanness in African Americans in comparison to Hispanic and Caucasian groups within the college sample.

The relationships between both normative and maladaptive personality traits and the TriPM scales were also consistent with previous research. Boldness was negatively associated with Emotionality and positively associated with Extraversion, as measured by the Hexaco-60, across ethnic groups. Conversely, Meanness and Disinhibition were largely negatively associated with the Hexaco-60 domains across ethnicity. Notably, Openness to Experience was more strongly related to African American participants across Boldness, Meanness, and Disinhibition in both the college and community samples. In relation to maladaptive personality, Boldness was negatively related to all PID-5 domains in community sample across all ethnic groups. However, Boldness demonstrated modest positive relations with Antagonism in the college sample across ethnic groups. Similarly, Meanness and Disinhibition were positively related to all the PID-5 domains. This was consistent across sample type and ethnic group.

In relation to aggression, Boldness showed negative relations to both Reactive and Proactive aggression in the community sample across ethnic group. However, in the college sample, Boldness was positively related (albeit modest) to Proactive Aggression across ethnic groups. Conversely, Meanness and Disinhibition showed strong positive associations with both Proactive and Reactive Aggression across both sample type and ethnic group. Lastly, Boldness demonstrated negative relationships with Substance use and BPD traits in the community sample across ethnicity, but positive relationships in the college sample for Substance Use. Meanness and Disinhibition demonstrated positive associations with such external criteria (i.e., Substance Use and BPD traits) across both sample type and ethnic groups.

8.3.1. Moderation Analyses Across Ethnicity

Given small insignificant DIF found across gender and ethnicity in both the community and college sample, the entire Meanness, Boldness, and Disinhibition scales were used for moderation analyses. Additionally, given more than half of the items on both the Meanness and Disinhibition scales were excluded, using the entirety of the scales will provide consistency to the relevant literature.

To investigate potential ethnic differences in the relationship between the TriPM and relevant external criteria, 225 moderating effects were tested across three ethnic groups, three psychopathy scales, and 25 external criteria. The expected number of Type I errors (225 x .05) was 11.25. For the college sample, a total of 15 significant psychopathy x ethnicity interactions occurred – 1.36 times or 4 more interactions than expected by chance. For the community sample, a total of 11 significant psychopathy x ethnicity interactions occurred, suggesting that the occurrence of significant interactions possibly were by chance. The most common significant interactions terms occurred with the Disinhibition scale and relevant theoretical criterion variables, followed by Meanness, and Boldness. Similar to the IRT analyses, interaction terms were examined with Caucasian participants as the reference group (see Tables 15-18).

Across the community and college samples, Disinhibition and Meanness were more predictive of Childhood Trauma related variables, such as physical neglect and abuse, in both African American and Hispanic ethnic groups. In particular, Disinhibition was more predictive of physical neglect in African Americans and physical abuse in African Americans and Hispanic ethnic groups. Similarly, there was a significant interaction between Meanness and Hispanic participants in the college sample, suggesting Meanness was more predictive of physical abuse in the Hispanic ethnic group. Lastly, results revealed a significant interaction with Boldness and

African American participants in the community sample. The nature of the interaction suggests that high Boldness is predictive of less physical neglect in African Americans.

Similar to the criterion variable Childhood Trauma, both Meanness and Disinhibition were the most common scales found in the significant TriPM by ethnicity interaction terms. However, unlike Childhood Trauma, the nature of the significant interaction terms revealed Disinhibition to be least predictive of impulsive behavior including Lack of Premeditation, Urgency, and Lack of Perseverance, in both African American and Hispanic ethnic groups. Conversely, Meanness was more predictive of impulsive behavior, such as Lack of Premeditation and Urgency in African American and Hispanic ethnic groups. This was generally consistent across the community and college samples. Notably, a significant interaction term emerged with Boldness and African Americans, such that Boldness was least predictive of impulsive behavior (i.e., Lack of Premeditation). This interaction was not consistent in the community sample.

Results also revealed a significant interaction between Disinhibition and African American participants in the prediction of Proactive Aggression. The nature of the interaction suggests that Disinhibition was more predictive of Proactive Aggression in African American participants than in Caucasian participants. However, the interaction was only found within the college sample and did not replicate in the community sample.

In regards to both normal-range and maladaptive personality domains as defined by the Hexaco-60 and PID-5, majority of interactions occurred in the Hispanic ethnic group across college and community samples. For the personality domain Extraversion, there were significant interactions with Meanness and Disinhibition in both African and Hispanic ethnic groups. For Disinhibition, the nature of the interactions revealed that high Disinhibition is predictive of

reduced Extraversion in both African American and Hispanic ethnic groups. Conversely, Meanness was found to be more predictive of Extraversion in Hispanic participants. Notably, Boldness was found to be the least predictive of Extraversion in the Hispanic ethic group (only in the community sample). For the Hexaco-60 domain Conscientiousness, there were only significant interaction terms in the Hispanic ethnic group across all the TriPM scales. For Boldness, the nature of the interaction suggested that high Boldness is related to higher levels of Conscientiousness in Hispanic ethnic groups. Conversely, high levels of Meanness and Disinhibition are related to reduced Conscientiousness in Hispanic ethnic groups. Lastly, results revealed a significant interaction term with Meanness and African American participants in the prediction of Emotionality. The nature of the interaction suggests that high Meanness is predictive of reduced Emotionality in African American participants. However, this interaction term was only found in the community sample. In regard to maladaptive personality traits, Meanness was found to be least predictive of Detachment in the Hispanic ethnic group (found only in the college sample). Conversely, Meanness was the most predictive of Disinhibition in the Hispanic ethnic group, although only found in the community sample.

Follow up analyses were conducted controlling for ethnic identity. Results reveal consistent patterns in the significant moderations. Across the community and college sample, Meanness and Disinhibition were more predictive of variables of Childhood Trauma including Physical Neglect and Physical Abuse in Hispanic and African American participants. Conversely, Meanness and Disinhibition were less predictive of impulsive behaviors including a Lack of Premeditation, Urgency, and Perseverance in both African American and Hispanic participants across the community and college samples. In regards to normative personality traits, Disinhibition and Meanness were least predictive of reduced emotionality in African

American participants (only in the community sample). Meanness and Boldness was found to be more predictive of Conscientiousness in Hispanic participants. Similarly, Meanness was found to be more predictive of Extraversion in both African American and Hispanic participant across the community and college sample. Concerning maladaptive personality, Meanness was more predictive of Disinhibition in Hispanic participants than in Caucasian participants . Findings did not replicate in the college sample.

8.3.1.1. Moderation Analyses Across Gender

To investigate potential gender differences in the relationship between the TriPM and relevant external criteria, 150 moderating effects were tested across male and female participants, three psychopathy scales, and 25 external criteria. The expected number of Type I errors (150 x .05) was 7.5. For the college sample, a total of 11 significant psychopathy x ethnicity interactions occurred , 1.33 times or 3 more interactions than expected by chance. For the community sample, a total of 8 significant psychopathy x ethnicity interactions occurred, suggesting that the occurrence of significant interactions possibly were by chance. The most common significant interactions terms occurred with the Disinhibition scale and relevant theoretical criterion variables, followed by Meanness, and Boldness.

When examining Childhood Trauma as a criterion variable, significant interactions terms emerged between Boldness and gender. Consistently several subscales of the Childhood Trauma measure (i.e., emotional abuse, sexual abuse, and total score), high levels of Boldness were related to reduced reporting of Childhood Trauma in male participants. Unlike with male participants, Boldness was largely unrelated to Childhood Trauma in female participants. It is important to note that such a trend did not replicate in the community sample.

In regards to impulsivity, general patterns emerged with the relationship between Disinhibition and impulsive behavior across gender. In particular, Disinhibition tended to be more predictive of impulsive behavior, such as Urgency, and Lack of Perseverance in female participants than in male participants. This trend was consistent across both the community and college sample. Conversely, there was a significant interaction between Proactive Aggression and Disinhibition. Across both the college and community samples, the nature of the interaction suggested that Disinhibition was more predictive of Proactive Aggression in men than in women.

In the examination of the relationship between the TriPM scales and normative and maladaptive personality traits, significant interaction terms emerged with Meanness and Disinhibition across gender. Concerning normative personality traits, as defined by the Hexaco-60, Disinhibition was more predictive of reduced Honesty/Humility in women than in men in the college sample. Similarly, in the community sample, Disinhibition was also found to be more predictive of reduced Conscientiousness in women than in men. With regard to maladaptive personality traits, as defined by the PID-5, Disinhibition was found to be more predictive of psychoticism in women than in men in the college sample. In the community sample, there was significant interaction between Meanness and Negative Affect. The nature of the relationship suggested that Meanness was more predictive of reduced Negative Affect among male participants in comparison to female participants. Lastly, significant interaction terms with Disinhibition and both BPD traits and Substance Use emerged across gender. In the college sample, Disinhibition was more predictive of BPD traits in women than in men. Conversely, in the community sample, Disinhibition was more predictive of substance use in men than in women.

9. DISCUSSION

9.1. Restatement of Problem and Purpose

Research in the field of psychopathy has witnessed a great expansion over the past few decades. Within this expansion, several scholars have moved beyond the investigation of psychopathy using original validation groups (i.e., Caucasian men) and have attempted to investigate the disorder as it presents in other important subpopulations within society. Given the validation of the most widely used psychopathy measure, the PCL-R, in Caucasian men, a greater focus has been on the role that gender and race/ethnicity play in the conceptualization of psychopathy in the recent years. Many researchers have suggested that psychopathic traits are largely invariant across race/ethnicity and gender, with few exceptions (Gatner et al., 2018; Miller, Watts, & Jones, 2011). Much of the existing literature, however, primarily examines the PCL-R and its derivatives when investigating potential gender and ethnic differences.

More recently, and driven by a growing interest in examining psychopathy outside of criminal justice contexts, alternative models and self-reported assessment instruments have appeared in the literature. One model of particular interest is the Triarchic Model of Psychopathy, conceptualizing psychopathy across three phenotypic facets: Boldness, Meanness, and Disinhibition. Although there is a general consensus regarding Meanness and Disinhibition as overlapping with traits generally thought to be descriptive of psychopathy, Boldness has fostered several contentious debates regarding its relevance to the conceptualization of this disorder (e.g., Lynam & Miller, 2012). Additionally, more contemporary theories such as the Triarchic Model do not directly map onto to traditional conceptualizations of psychopathy as defined by the PCL-R (Patrick, Fowles, & Krueger, 2009; Venables, Hall, & Patrick, 2014).

At present, limited research exists concerning the role of gender and ethnicity play in the

Triarchic Model (i.e., Poy et al., 2014, Anestis, Preston, Harrop, & Sellbom, 2019). In particular, questions remain regarding whether the items that represent the Triarchic scales adequately represent these constructs across these sociodemographic features. Using an Item Response Theory approach, items of the Triarchic scales were examined for relatedness to the latent construct (i.e., Boldness, Meanness, and Disinhibition) and the likelihood of endorsing the item based on the level of the latent construct across both gender and ethnicity. Additionally, criterion validity for the Triarchic model was assessed through moderation analyses with relevant external criterion variables (i.e., childhood trauma, aggression, impulsivity). The implications of these results for the Triarchic Model are discussed below.

9.2. Summary of Findings

9.2.1. Mean Differences

Consistent with previous literature, men on average scored higher across all three Triarchic scales in comparison to women. Such results were consistent across both the community and college samples, with Meanness manifesting the largest effect size. Previous research largely indicates that men tend to score higher than women on measures assessing psychopathy (Verona & Vitale, 2018). These mean level differences have been reported on both PCL-R based measures and more contemporary measures of psychopathy such as the TriPM (Poy et al., 2014; Anestis et a., 2019). Notably, Meanness demonstrated the largest difference across gender. Although Meanness represents affective and interpersonal deficits, including a lack of empathy, research in the general population has consistently demonstrated that women tend to display higher levels of general empathy than men (e.g., Joliffe & Farrington, 2006b; Efferson & Glenn, 2018). Such higher levels of empathy in women may be reflected in the lower

scores on the Meanness scale in comparison to men in the present sample. .

In the community sample, small mean differences emerged across ethnic groups, In particular, findings show slightly higher mean psychopathy scores for both African American and Hispanic participants as compared to Caucasian participants. Notably, African American and Hispanic participants did not significantly differ on mean scores in both the community and college sample. Findings are broadly consistent with literature suggesting African Americans exhibit slightly higher scores (Gatner et al., 2018; Skeem et al., 2004; Walsh & Kosson, 2007). Notably, results were not consistent across sample type, as only one significant mean level difference emerged between Caucasian and Hispanic participants. These results, however, add to the very limited body of literature examining psychopathy in Hispanic ethnic groups (Gatner et al., 2018; Roth, 2006; Tubb, 2002; Walsh 2013). Although findings of significantly different mean scores across ethnicity (in the community sample), may be indicative of greater self-reported psychopathic traits in one group as compared to another, the relatively small effect sizes in the present study do not provide strong support for that conclusion.

Notably, divergent mean scores emerged between sample types. In the college sample, participants on average scored higher on Boldness and lower on Disinhibition and Meanness. On average, the community participants were older than the college participants. However, results for Disinhibition appear in contrast to research that suggests that impulsivity and antisocial behaviors decrease with age (e.g., Alphen, Nijhuis, & Oei, 2007). Additionally, after controlling for age, results still remained consistent, suggesting possible differences in sample type. Given college samples represent a relative homogeneous sample, results may be reflective of the restricted range on the Triarchic scales. Indeed, results show restricted range on Meanness and Disinhibition scales, as standard deviations were smaller in the college sample in comparison to

the community sample. Although both the community and the college samples demonstrated similar patterns between the Triarchic scales and relevant external criteria, notable differences emerged in both the IRT and moderation analyses.

9.2.2. IRT Analyses

The IRT analyses explored the possibility of measurement bias in the Triarchic scales across both gender and ethnicity. To meet assumptions of unidimensionality for IRT analysis, more than half of the items for both the Meanness and Disinhibition scale were excluded. Thus, the resulting "purified scales" have diminished content validity and may not capture all aspects that the (much longer) Triarchic scales are measuring. Additionally, Boldness was excluded from IRT analyses due to a lack of unidimensinality. Although research purports that Boldness is largely high Extraversion and low Neuroticism from a five Factor model perspective (e.g., Miller, Lamkin, Maples-Keller, & Lynam, 2016), specifying two factors in the EFA yielded several items cross-loading rather than two distinct factors. Items comprising the Boldness, Meanness, and Disinhibition scales appear to reflect multidimensional constructs. At present, it is unclear whether the "extra" constructs embedded within these scales essentially represent psychometric "noise" or are instead theoretically important to the three components of the Triarchic model specifically and the broader concept of psychopathy more generally. Indeed, recent research by Miller and colleagues (in press) reported poor fit for a three-factor solution of the TriPM. In fact, results yielded a six factor optimal factor solution, suggesting the TriPM comprises more than three unidimensional constructs. The six optimal factors are as follows: Antisociality, Stress Immunity, Callousness, Leadership, Sensation Seeking, and Impulsivity. Additionally, authors reported that Meanness and Disinhibition displayed high convergence,

suggesting the inability to distinguish two unique constructs due to substantially overlapping content. Boldness, however, represented a distinct factor separate from Meanness and Disinhibition.

In addition to IRT analyses, future studies may benefit from taking a broader multifactorial invariance approach, given that the Triarchic constructs may not be suited for IRT analyses. Further research evaluating measurement equivalency of the TriPM using a Structural Equational Modeling (SEM) multi-group invariance models, may further elucidate the underlying structure of the Triarchic constructs.

An additional concern is that the items retained to define the "unidimensional construct" for Meanness and Disinhibition were not consistent across the community and college sample. The purified Disinhibition scale for both the college and community sample contained six overlapping items derived from the full Disinhibition scale. Two additional items were retained for the eight-item Disinhibition scale in the community sample. Conversely, the purified Meanness scales for both the community and college samples only comprised two overlapping items. Thus, it could possibly be argued that IRT analyses for the Meanness scale were measuring two somewhat distinct (yet highly correlated) facets of Meanness. That being said, it is difficult to argue that two short scales with similar item content that correlate above .75 are tapping particularly distinctive psychological concepts.

Overall, there were few instances of DIF for the Meanness and Disinhibition scale items. Based on the EFA and CFA results, IRT analyses could not be conducted on Boldness, as the items did not meet the assumption of unidimensionality required for IRT analyses. In regards to IRT analyses across gender, *b* DIF was evident in subset of items comprising both the Meanness and Disinhibition scales. The presence of *b* DIF indicates that items are differentially endorsed

by men and women with equivalent levels of the latent construct (i.e., Meanness, Disinhibition). These results, however, were only present in the college sample using the 5-item Meanness scale, and 6-item Disinhibition scale. For the Disinhibition scale, results showed that women were more likely to endorse items representative of stealing/robbing than men at the same level of the latent trait: "I have taken money from someone's purse or wallet without asking," and "I have taken items from a store without paying for them." Conversely, men were more likely to endorse the Meanness item "It doesn't bother me when people around me are hurting." As such, women appear to be more likely to report engaging in such antisocial behavior when they are equally as Disinhibited as men. Such results may be a reflection of the "gender paradox" or the idea that when a disorder has a low base rate within a particular gender (i.e., women), its expression is more severe within that gender (Moffit, Caspi, Rutter, & Silva, 2001). Conversely, men are more likely to express indicators of the construct of Meanness in comparison to women who demonstrated equal levels of the latent trait Meanness. Such results may allude to gender differences in the role of emotion processing and emotional expression, as discussed in previous research (e.g., Rogstad & Rogers, 2008). In their review, Rogstad and colleagues assert gender differences in empathy, emotional expression, and remorse may exhibit a largely discrepant clinical presentation compared to men.

In regards to IRT analyses across ethnicity, few instances of both *a* and *b* DIF were found in the subset of items comprising the Meanness and Disinhibition scales across samples. For Disinhibition, Caucasian participants were more likely to endorse behavioral based items in comparison to both Hispanic and African American participants. On the 6-item Disinhibition scale for the college sample, Caucasian participants were more likely to endorse the item "I have taken money from someone's purse," in comparison to Hispanic participants. Similarly, on the

8-item Disinhibition scale for the community sample, Caucasian participants were more likely to endorse the behavioral items "I have robbed someone," and "I have stolen something out of a vehicle," in comparison to African American participants. Notably, both *a* and *b* DIF emerged only in the comparisons between Caucasian and African American participants, suggesting items are differentially related to the latent construct in addition to differential endorsement of items. For the item "I have robbed someone," results show that the item is more related to the latent construct in Caucasian participants than in African American participants.

For the Meanness scale, few instances of statistically significant DIF emerged across ethnic groups. In the 6-item Meanness scale in the college sample, the presence of *a* and *b* DIF was found for the item "It doesn't bother me when people around me around me are hurting." The results showed that the item was more related to the construct of Meanness in African American participants, and that African American participants were more likely to endorse the item in comparison to Caucasian participants. Similarly, Hispanic participants were more likely to negatively endorse the reverse coded item "I am sensitive to the feelings of others" than Caucasian participants. In the 9-item Meanness scale in the community sample, the item "I don't have much sympathy for people," contained both *a* and *b* DIF in the comparison between Caucasian and African American participants. Specifically, African American participants were more likely to endorse the item, in addition to the item being more related to the construct in African American participants. Lastly, Caucasian participants were more likely to endorse the behaviorally based item "I've injured people to see them in pain," at the same level of Meanness in comparison to both African American and Hispanic participants.

Overall, very few instances of DIF emerged from the IRT analyses. For further perspective, there were 78 instances in which DIF could have occurred across four different

Meanness and Disinhibition scales, two samples, and three comparisons. However, the present study reported 11 instances in which DIF occurred. The majority of DIF was located on the *b* parameter. The average difference between *b* parameters was .21 standard deviations, showing minimal differences. Such small differences suggest that at the scale level, there is small and insignificant DIF and a lack of measurement bias, as portrayed in the Test Characteristic Curves. Although these analyses indicated statistically significant DIF, it is important to note that majority of the results were not clinically significant. For the purposes of this study, I was more interested in items that not only demonstrated statistically significant *b* DIF but also clinically significant *b* DIF (see Jacobson & Truax, 1991, for a discussion of statistical and clinical significance). Although conventional cutoff scores in IRT analyses are not well established, previous research has used a cutoff of .30 for what might be considered clinically significant *b* DIF (Balsis, Gleason, Woods, & Oltmanns, 2007). That is, for a particular item, the reference group (i.e., Men, or Caucasian participants) would need to have .30 standard deviations more or less than the comparison group for such a difference to be of practical significance Only one item containing significant *b* DIF reached clinical significance: "It doesn't bother me when people around me are hurting." African American participants in the college sample were more likely to endorse this item in comparison to Caucasian participants. Results, however, were not consistent in the community sample.

Results of the IRT analyses should be interpreted with considerable caution, given the exclusion of more than half of the items for each the Disinhibition and Meanness scales and reduced content validity of the scales. Additionally, a different subset of items for Meanness and Disinhibition were used across samples, thus results could not be replicated across samples.

9.2.3. Moderation Analyses

The results obtained in the present study were very consistent with conceptual and empirical descriptions of constructs of Boldness, Meanness, and Disinhibition (Patrick et al., 2009; Sellbom & Phillips 2013; Stanley et al., 2013). In addition, results were very consistent across sample types. Boldness consistently demonstrated negative relationships with Childhood Trauma, Impulsivity, Emotionality, Negative Affect, and Borderline Personality Traits. Conversely, Boldness demonstrated positive relationships with Extraversion and Sensation Seeking, Results are consistent with characteristics of Boldness including emotional and stress resiliency, and the tendency to engage in thrill seeking behavior (Patrick et al., 2009). Consistent with previous research, Meanness and Disinhibition consistently demonstrated positive relationships with Childhood Trauma, Impulsivity, Aggression, maladaptive personality traits, Substance Use, and Borderline Personality Traits (Fernandez et al., 2019). Conversely, Meanness and Disinhibition consistently demonstrated negative relationships with Normative Personality traits including Honest/Humility, Conscientiousness and Openness to Experience. Previous research pinpoints Meanness and Disinhibition as both characterized by low levels of Agreeableness and Conscientiousness (e.g., Poy et al., 2014).

Examinations of the influence of ethnicity and gender on the univariate associations between the Triarchic scales and external correlates yielded generally similar patterns of relationships across both the community and college samples. Results suggests minimal differences in the nomological network of psychopathy, as defined by the Triarchic model, across both gender and ethnicity. Similarly, recent research examining the Triarchic model and sociodemographic variables also reported minimal differences between the Triarchic constructs and relevant external criteria across both race and gender (Anestis et al., 2019). Anestis and

colleagues (2019) found only a small proportion of statistically significant interaction effects when examining the interactive impacts of race and SES using the Triarchic constructs. The authors of the study concluded that associations between criminogenic and relevant external criteria were largely invariant across race and ethnicity.

Although many moderations were reported and notable differences emerged in the associations between psychopathy and external criteria across both gender and ethnicity, the effect sizes of the interactions were typically small. Previous research suggests that small incremental effects are common in regression models (Hunsley & Meyer, 2003). In the present study, when a significant moderation effect appeared, the relationship between psychopathy and the external criterion usually presented itself in the same direction across gender and ethnicity. That is, there tended to be differences in the magnitude of the effect across two subgroups rather than differences in the direction of that effect (i.e., positive association for one and negative association for the other). Although such differences in magnitude may be of interest in some instances, they do not reflect opposing patterns of relationships that would arguably be of greater practical and/or theoretical significance for these subgroups. Given the large number of significant moderations, the following section will discuss moderations that appeared consistent and theoretically relevant to existing literature.

In regards to gender, significant and consistent interaction terms emerged with Childhood Trauma, Impulsivity, and Proactive Aggression. Concerning the variable Childhood Trauma, bolder men were less likely to report experiencing instances of Childhood Trauma. However, regardless of the level of Boldness, women are equally likely to report such traumatic experiences including emotional and sexual abuse. Although some scholarship points to childhood trauma being related to psychopathy (e.g., Miller, Watts, & Jones, 2011), previous

research also suggest that such a relationship may be stronger among women (e.g., Collins, Fanti, Salekin, & Andershed, 2017; Weizmann- Henellus et al., 2010). For example, trauma and adversity may exert a stronger influence on externalizing problems and may be more linked to criminality in women than in men (Boduszek et al., 2019; Verona et al., 2005).

Significant moderation existed for Impulsivity and Disinhibition as well. The nature of the interaction revealed that Disinhibition more strongly predicted impulsive behavior, such as Urgency, and Lack of Perseverance, in female participants than in male participants. Similarly, Miller and colleagues (2011) reported that the subscales of the UPPS (i.e., Urgency, Sensation Seeking, and Lack of Premeditation) were more strongly related to Factor 2 of a PCL-R based measure in women than in men. Several scholars note the strong overlap between borderline personality traits and psychopathy in women, as both constructs share similar characteristics such as impulsivity, anger, and behavioral dyscontrol (Verona, Sprague, & Javdani, 2012). Moreover, theoretical conceptualizations of both Factor 2 of the PCL-R and Disinhibition pinpoint impulsivity as a core characteristic in the conceptualization of these constructs (Hare 2003, Patrick et al., 2009). The present results, and consistent with previous literature, suggests that impulsivity may serve as an important characteristic to consider in the nomological network of psychopathy in women.

Lastly, results indicated that Disinhibition more strongly predicted Proactive Aggression in men than in women. Significant gender differences have been identified in the use of aggression (e.g., Bolt et al., 2004). In regards to psychopathy, past research points to psychopathic women as being less likely to engage in aggressive or violent behavior more generally (e.g, Kreis & Cooke, 2011; Logan, & Weizmann-Henelius, 2012). Similarly, in the current study, women scored significantly lower on the Proactive Aggression subscale. Current

results could reflect the lower mean scores and smaller standard deviation on the Proactive Aggression subscale in women, such that despite scoring high on Disinhibition women are still less likely to engage in proactive aggression. However, such results may only be applicable to a particular type of aggression, as scholars postulate that aggression may manifest in the form of relational aggression in women and verbal, physical and proactive aggression in men (Cummings, Hoffman, & Lesheid, 2004).

Concerning moderation analyses with external correlates and the Triarchic scales across ethnicity, consistent themes emerged with Childhood Trauma and Impulsivity across both the community and college samples. Both Meanness and Disinhibition were more associated with Childhood Trauma in African American and Hispanic ethnic groups. Results also show that both African American and Hispanic participants were more like to report childhood trauma across both community and college samples. Consistent with previous research, ethnic minorities are at a higher risk of childhood maltreatment and witnessing domestic violence (Roberts, Gilman, Breslau, & Koenen, 2011). Subsequently, trauma has been implicated as a major risk factor for the development of psychopathology in ethnic minorities (Iacovino, Jackson, & Oltmanns, 2015; Roberts et al., 2011). Research regarding the differences in the interactive role of trauma and psychopathy across ethnicity remains relatively limited. Gatner and collogues (2018) reported a stronger relationship with psychopathy and childhood trauma in Hispanic ethnic groups but weaker (and non-significant) associations emerged regarding trauma and psychopathy in African American participants. The present results represent consistent patterns across college and community samples, suggesting childhood trauma may be a distal factor in the development of certain psychopathic traits in ethnic minorities.

Consistent differences emerged regarding the relationship of impulsivity with Boldness

and Disinhibition across ethnicity. In particular, both Boldness and Disinhibition were less predictive of impulsive behaviors in African American participants. Disinhibition was also less predictive of impulsive behaviors in Hispanic participants. Prior research consistently points to ethnic differences in regards to the relationship between psychopathy and impulsivity (Kosson et al., 1990; Thornquist & Zuckerman, 1995; Jackson et al., 2007). In particular, research suggest that impulsivity consistently shows weak or neglible associations with psychopathy in African American ethnic groups. Although impulsivity is deemed as a central characteristic in the conceptualization of psychopathy, the present results suggest reduced relevancy of impulsivity as central to psychopathy in both African American and Hispanic ethnic groups.

Notably, Meanness was more predictive of impulsive behaviors in African American and Hispanic participants. Such results may imply that impulsivity is associated with features representative of antagonism for minority ethnic groups. In fact, in the present study, both African American and Hispanic participants displayed stronger correlations between Meanness and Disinhibition than in Caucasian participants. However, results did not replicate in the college sample. Such results suggest that Meanness and Disinhibition may not be as conceptually distinct in minority populations. Previous research has also reported such significant overlap in Factor 1 and Factor 2 of the PCL-R in minority subgroups. In particular, McDermott and colleagues (2000) reported that items indicative of antisociality and impulsivity cross-loaded onto Factor 1 in African American participants, suggesting poor differentiation between the factors than what was originally found in the two factor model in Caucasian samples.

9.3. Limitations and Future Directions

The present study is not without limitations. The exclusive reliance on self-report

measures to capture both Triarchic model concepts and relevant external criteria is a primary limitation of the present study. Shared method variance can inflate observed correlations and effects (Campbell & Fisk, 1959). While the Triarchic constructs are currently operationalized through a self-report inventory, the inclusion of physiologically-based measures and the investigation of neurobiological functioning in research on the Triarchic model will be important to include in future research. Notably, Patrick and colleagues (2015) conceptualize the Triarchic Model as having bio-behavioral underpinnings that demonstrates reliable associations with neurophysicological indicators, However, the use of physiological and neurobiological function across both gender and ethnicity in relation to psychopathy remains relatively limited.

The present study also used a cross-sectional design, and thus could not assess the temporal ordering necessary to reveal causal relationships, particularly with variables including a history of childhood abuse and borderline personality traits. Furthermore, the use of a community and college student sample could be seen as both a strength and limitation in the present study. The college sample comprised a relatively homogenous sample. Additionally, the large sample sizes in both the community and college samples were not evenly distributed among the three ethnic groups. In particular, the sample size for African American college participants was severely underrepresented (n = 34), thus results may have been spurious. The present study bears replication using adequate and relatively equal sizes per ethnic group. Additionally, replication is warranted in samples where more elevated levels of psychopathy may exist, such as in forensic populations (i.e., correctional and psychiatric). Nevertheless, the present study shows that across two non-criminal justice samples, the Triarchic scales manifest a similar network of external correlates as found in forensic samples (e.g., Sleep, Weiss, Lynam, & Miller, 2019).

Lastly, it is important to note that although concepts of race and ethnicity have evolved over time, there is less of a consensus on the definitions of race and ethnicity compared to other more tangible sociodemographic factors (e.g., age). Though conceptually different, race and ethnicity are rarely distinguished from one another in practice. The use of distinct categories to define ethnicity or race greatly limits what are known to be more nuanced concepts. For example, Hispanic ethnic groups encompasses a wide variety of identities such as Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin. In the current study, majority participants self identified as Caucasian or White, Black or African American, and Hispanic. It is important to understand the salience of one's own ethnic identity when examining such influence of factors such as psychopathology. Notably, even after controlling for ethnic identity, results were fairly consistent to analyses without controlling for the variable. Nevertheless, this study overcomes limitations of prior research to expand the literature base on the relations of the Triarchic constructs to relevant external criteria across these important demographic variables.

9.4. Conclusion

As the field of psychopathy continually expands, the need for understanding the conceptualizations of psychopathy across subpopulations, other than in predominantly Caucasian samples, continues to rise. The present study addresses this growing need by investigating the expression of psychopathic traits across both gender and ethnicity using a contemporary conceptualization of psychopathy, the Triarchic Model. As of this date, this is the first study to examine the Triarchic constructs in multiple subgroups across two distinct sample types. Additionally, the present study moves past traditional scale-level analyses by examining items of

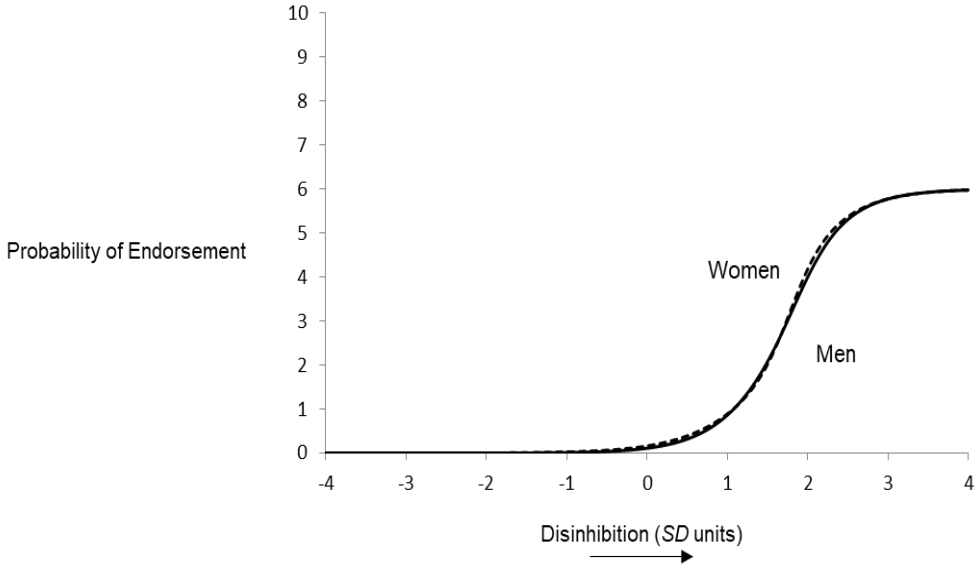
the Triarchic Psychopathy Measure through Item Response Theory. Furthermore, the present study adds to the limited body of research examining psychopathy within Hispanic samples, with a particular focus on the Triarchic constructs. Results indicate general similarities of the Triarchic constructs across gender and ethnicity, with a few notable exceptions. Differences in associations with relevant external criteria across both gender and ethnicity typically emerged with Meanness and Disinhibition, suggesting slight differences in historically and conceptually agreed upon traits characteristic of psychopathy. However given the present results, further psychometric refinement of the TriPM is warranted to elucidate the exact constructs being measured. As such, the present findings highlight the existence of the Triarchic constructs in important subgroups.

Table 1. Differential Item Functioning for TriPM Disinhibition Scale across Gender College Sample

Item	$G^2(df)$	Male		Female	
		a	*b*	*a*	*b*
I have taken money from someone's purse or wallet without asking. Candidate	**21.70(2)**	**2.40**	**1.57**	**1.98**	**1.43**
I have conned people to get money from them**.** Anchor	9.00(2)	2.32	1.67	2.47	1.80
I have taken items from a store without paying for them. Candidate	**17.80(2)**	**2.07**	**1.50**	**1.71**	**1.40**
I have robbed someone. Anchor	6.00 (2)	3.64	1.85	5.83	1.71
I have had problems at work because I was irresponsible. Anchor	9.70(2)	2.00	1.84	2.29	1.92
I have stolen something out of a vehicle. Anchor	2.90 (2)	4.31	1.89	5.64	1.88

Note. Bolded items and values represent items that contain statistically significant differential item functioning. Anchor = anchor item Candidate = candidate item (R) = Reversed Coded. TriPM = Triarchic Psychopathy Measure. Sample represents College sample (N = 6,938)

Figure 1. Test Characteristic Curve of TriPM Disinhibition across Gender College Sample



Note: TriPM = Triarchic Psychopathy Measure. Sample represents college sample (*N*=6,938).

Figure 2 Test Characteristic Curve of TriPM Disinhibition across Gender Community Sample

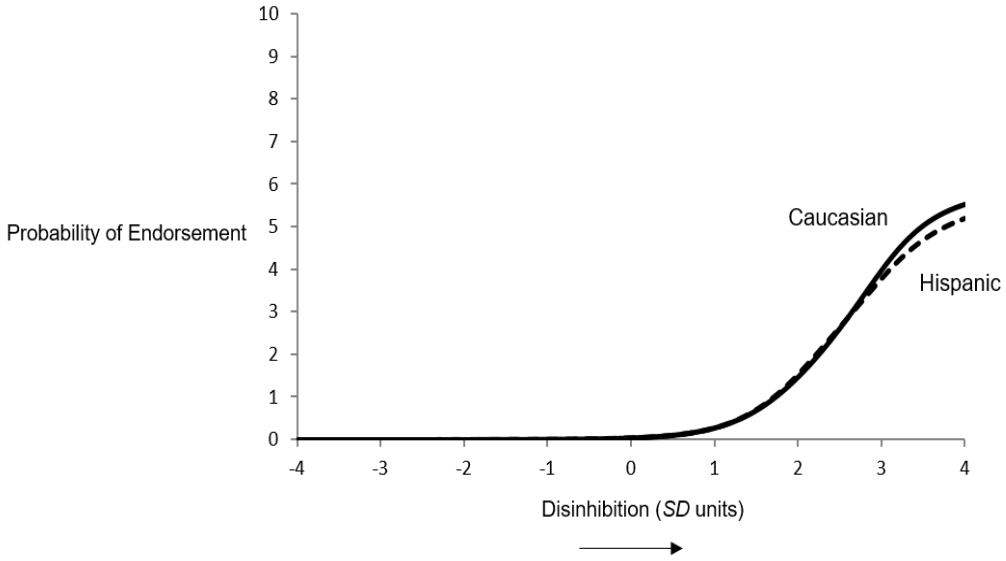
Note: TriPM = Triarchic Psychopathy Measure. Sample represents community sample (*N*=2,195).

Table 2. Differential Item Functioning for TriPM Disinhibition Scale across Caucasian and Hispanic Ethnic Groups College Sample

Item	$G^2(df)$	Caucasian		Hispanic	
		a	*b*	*a*	*b*
I have taken money from someone's purse or wallet without asking. Candidate	**18.00(2)**	**2.44**	**1.97**	**3.39**	**2.16**
I have conned people to get money from them**.** Anchor	1.90(2)	2.05	2.60	1.71	2.68
I have taken items from a store without paying for them. Anchor	5.60(2)	2.04	2.03	2.51	1.70
I have robbed someone. Anchor	3.50 (2)	3.10	2.78	2.03	3.05
I have had problems at work because I was irresponsible. Anchor	1.00(2)	1.30	3.46	0.98	4.21
I have stolen something out of a vehicle. Anchor	0.20 (2)	3.37	3.05	3.41	2.97

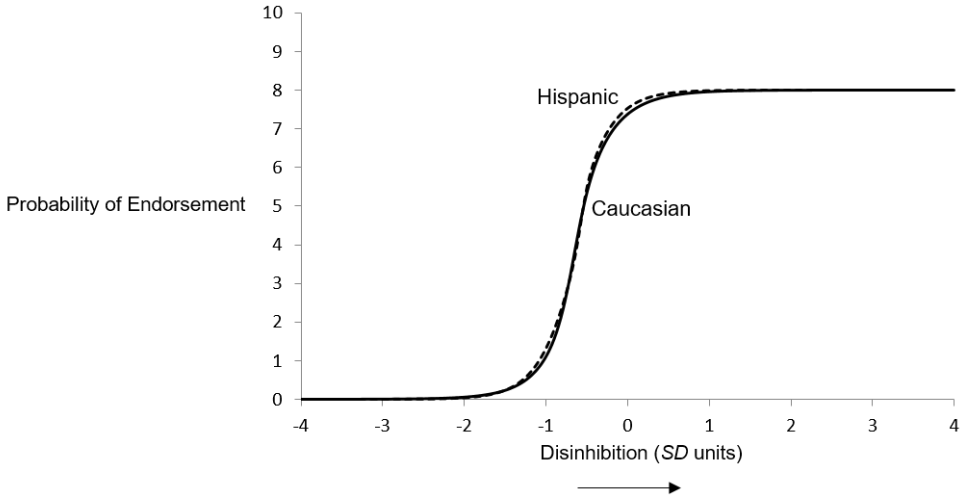
Note. Bolded items and values represent items that contain statistically significant differential item functioning. Anchor = anchor item Candidate = candidate item (R) = Reversed Coded. TriPM = Triarchic Psychopathy Measure. Sample represents College sample (N = 3,820)

Figure 3 Test Characteristic Curve of TriPM Disinhibition across Caucasian and Hispanic Participants College Sample



Note: TriPM = Triarchic Psychopathy Measure. Sample represents college sample (*N*=3,820).

Figure 4. Test Characteristic Curve of TriPM Disinhibition across Caucasian and Hispanic Participants Community Sample



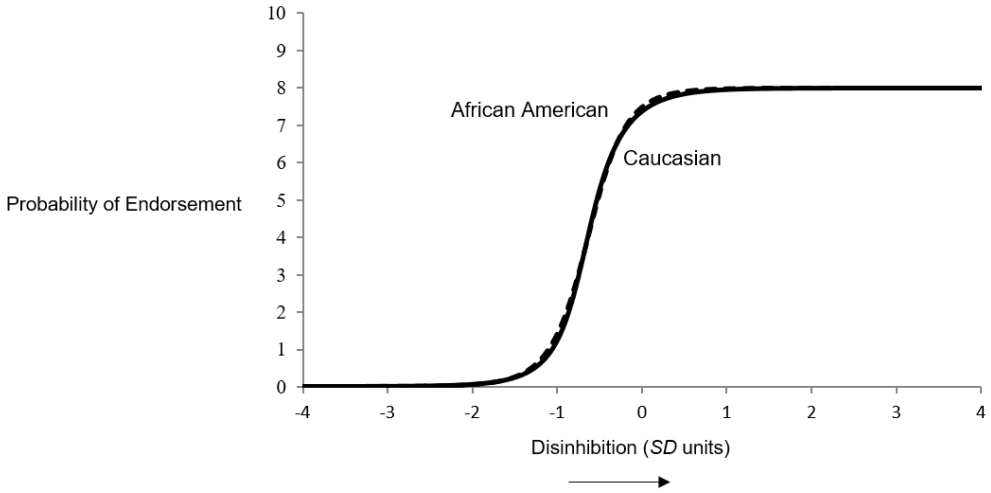
Note: TriPM = Triarchic Psychopathy Measure. Sample represents community sample (*N*=1,763).

Table 3. Differential Item Functioning for TriPM Disinhibition Scale across Caucasian and African American Ethnic Groups Community Sample

Item	$G^2(df)$	Caucasian		African American	
		a	*b*	*a*	*b*
I have taken money from someone's purse or wallet without asking. Anchor	0.60(2)	4.34	-0.65	4.95	-0.65
I have conned people to get money from them**.** Anchor	0.50(2)	6.26	-0.65	5.57	-0.67
I have taken items from a store without paying for them. Anchor	13.30(2)	2.77	-0.53	3.44	-0.75
I have lost a friend because of irresponsible things I've done. Anchor	2.90(2)	2.45	-0.54	2.74	-0.65
Others have told me they are concerned about my lack of self-control. Anchor	3.10(2)	5.05	-0.59	5.24	-0.67
I have robbed someone. Candidate	**17.20(2)**	**7.38**	**-0.71**	**4.45**	**-0.56**
I have had problems at work because I was irresponsible. Anchor	0.00(2)	3.53	-0.64	3.61	-0.64
I have stolen something out of a vehicle. Candidate	**10.80(2)**	**8.35**	**-0.67**	**6.03**	**-0.55**

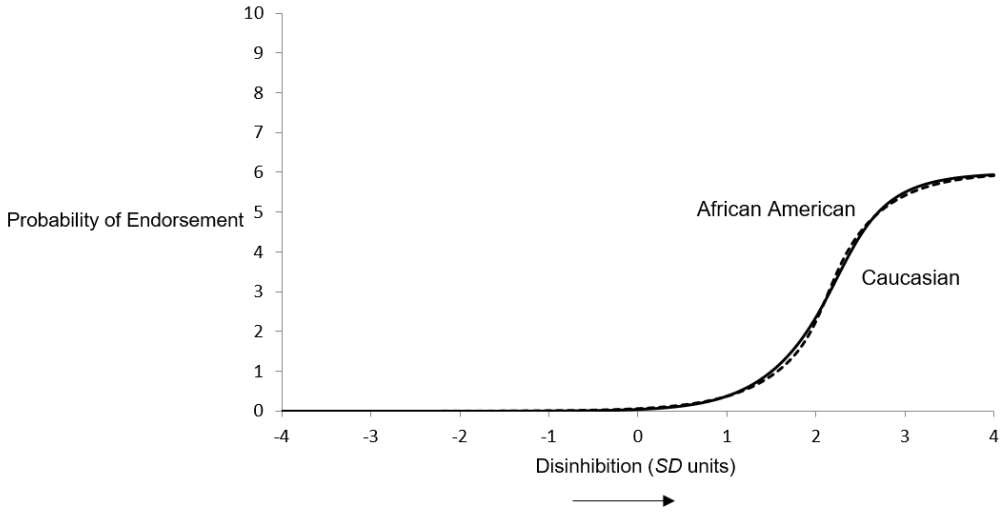
Note. Bolded items and values represent items that contain statistically significant differential item functioning. Anchor = anchor item Candidate = candidate item (R) = Reversed Coded. TriPM = Triarchic Psychopathy Measure. Sample represents community sample (*N* = 1,877)

Figure 5. Test Characteristic Curve of TriPM Disinhibition across Caucasian and African American Participants Community Sample



Note: TriPM = Triarchic Psychopathy Measure. Sample represents community sample (*N*=1,877).

Figure 6. Test Characteristic Curve of TriPM Disinhibition across Caucasian and African American Participants College Sample



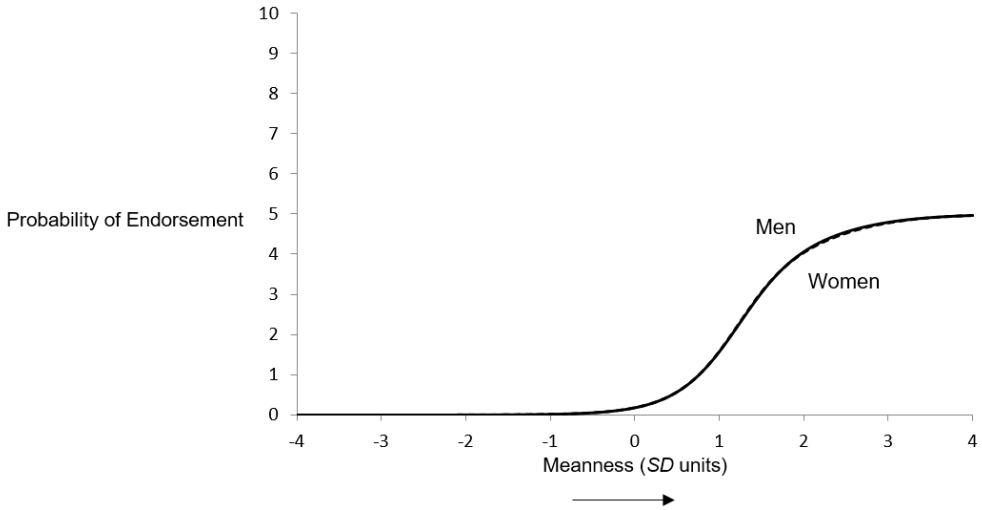
Note: TriPM = Triarchic Psychopathy Measure. Sample represents college sample (*N*=4,904).

Table 4. Differential Item Functioning for TriPM Meanness Scale across Gender College Sample

Item	$G^2(df)$	Male		Female	
		a	*b*	*a*	*b*
I don't have much sympathy for people [Anchor]	3.30(2)	3.05	1.25	3.02	1.18
It doesn't bother me when people around me are hurting [Candidate]	**9.60(2)**	**1.72**	**2.12**	**1.88**	**2.25**
I sympathize with other's problems (R) [Anchor]	2.00(2)	3.36	1.25	3.65	1.28
I am sensitive to the feelings of others (R) [Anchor]	2.80(2)	2.42	1.17	2.79	1.15
It's easy for me to relate to other people's emotions (R) [Anchor]	6.20(2)	2.40	1.12	2.15	1.06

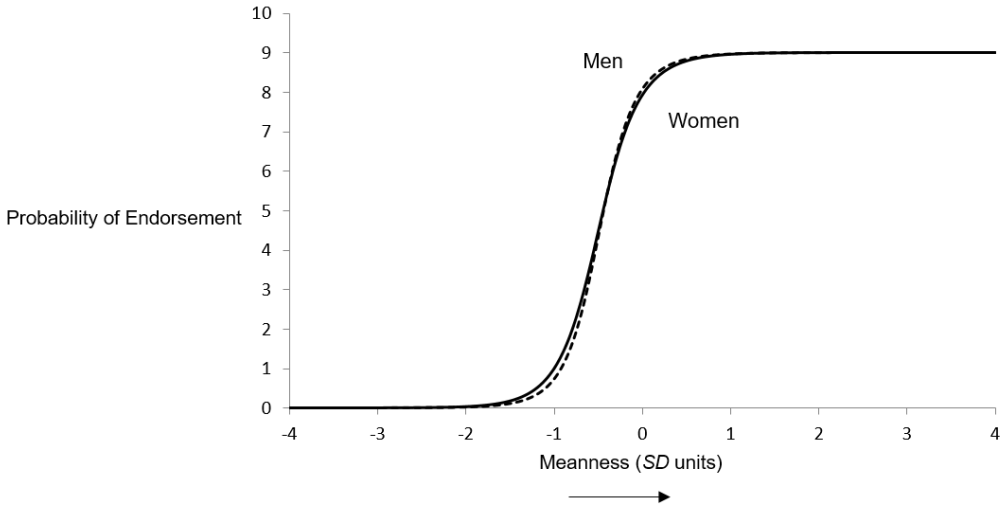
Note. Bolded items and values represent items that contain statistically significant differential item functioning. [Anchor] = anchor item [Candidate] = candidate item (R) = Reversed Coded. TriPM = Triarchic Psychopathy Measure. Sample represents college sample (N = 6,938)

Figure 7. Test Characteristic Curve of TriPM Meanness across Gender College Sample



Note: TriPM = Triarchic Psychopathy Measure. Sample represents college sample (*N*=6,938).

Figure 8. Test Characteristic Curve of TriPM Meanness across Gender Community Sample.



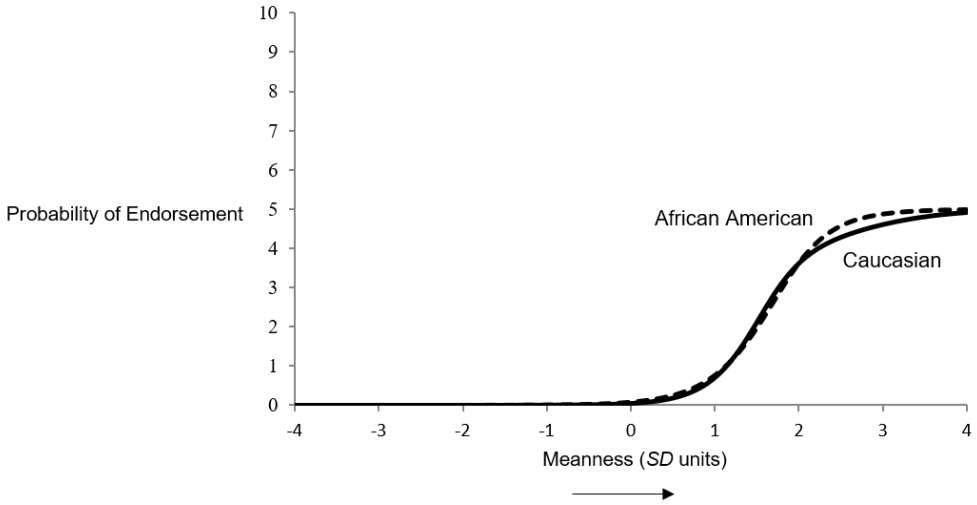
Note: TriPM = Triarchic Psychopathy Measure. Sample represents community sample (*N*=2,195).

Table 5. Differential Item Functioning for TriPM Meanness Scale across Caucasian and African American Ethnic Groups College Sample

Item	$G^2(df)$	Caucasian		African American	
		a	*b*	*a*	*b*
I don't have much sympathy for people [Anchor]	1.2(2)	3.48	1.52	2.87	1.52
It doesn't bother me when people around me are hurting [Candidate]	**27(2)**	**1.78**	**2.7**	**4.02**	**1.84**
I sympathize with other's problems (R) [Anchor]	3.4(2)	4.3	1.54	3.17	1.69
I am sensitive to the feelings of others (R) [Anchor]	3.4(2)	3.24	1.5	2.35	1.51
It's easy for me to relate to other people's emotions (R) [Anchor]	7.5(2)	2.67	1.37	2.04	1.64

Note. Bolded items and values represent items that contain statistically significant differential item functioning. [Anchor] = anchor item [Candidate] = candidate item (R) = Reversed Coded. TriPM = Triarchic Psychopathy Measure. Sample represents college sample (N = 4,904)

Figure 9. Test Characteristic Curve of TriPM Meanness across Caucasian and African American Participants College Sample



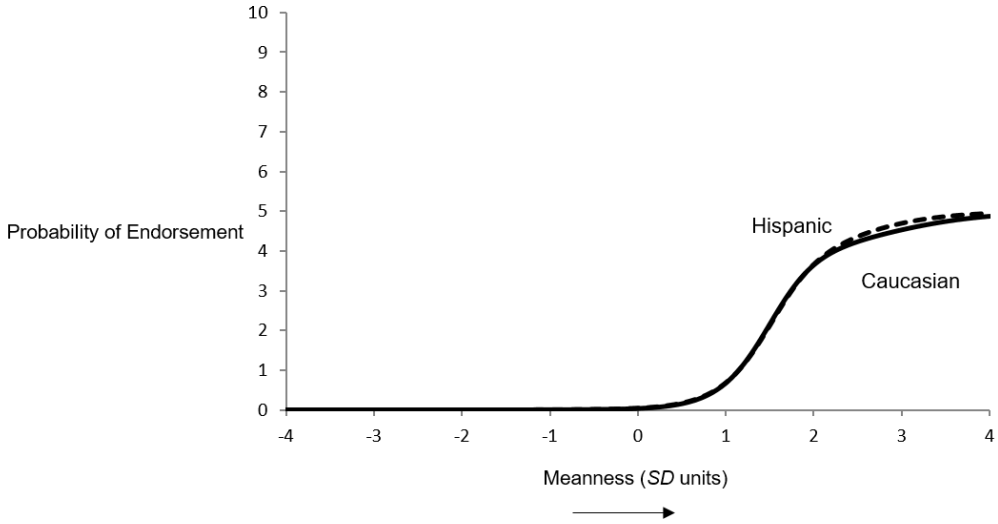
Note: TriPM = Triarchic Psychopathy Measure. Sample represents college sample (*N*=4,904).

Table 6. Differential Item Functioning for TriPM Meanness Scale across Caucasian and Hispanic Ethnic Groups College Sample

Item	$G^2(df)$	Caucasian		Hispanic	
		a	*b*	*a*	*b*
I don't have much sympathy for people [Anchor]	0.7(2)	3.85	1.45	3.97	1.49
It doesn't bother me when people around me are hurting [Anchor]	3.6(2)	1.77	2.87	1.97	2.49
I sympathize with other's problems (R) [Anchor]	0(2)	4.4	1.55	4.33	1.55
I am sensitive to the feelings of others (R) [Candidate]	**13.2(2)**	**3.29**	**1.51**	**2.91**	**1.36**
It's easy for me to relate to other people's emotions (R) [Anchor]	11.4(2)	3.01	1.36	2.82	1.57

Note. Bolded items and values represent items that contain statistically significant differential item functioning. [Anchor] = anchor item [Candidate] = candidate item (R) = Reversed Coded. TriPM = Triarchic Psychopathy Measure. Sample represents college sample (N = 3820)

Figure 10. Test Characteristic Curve of TriPM Meanness across Caucasian and Hispanic Participants College Sample



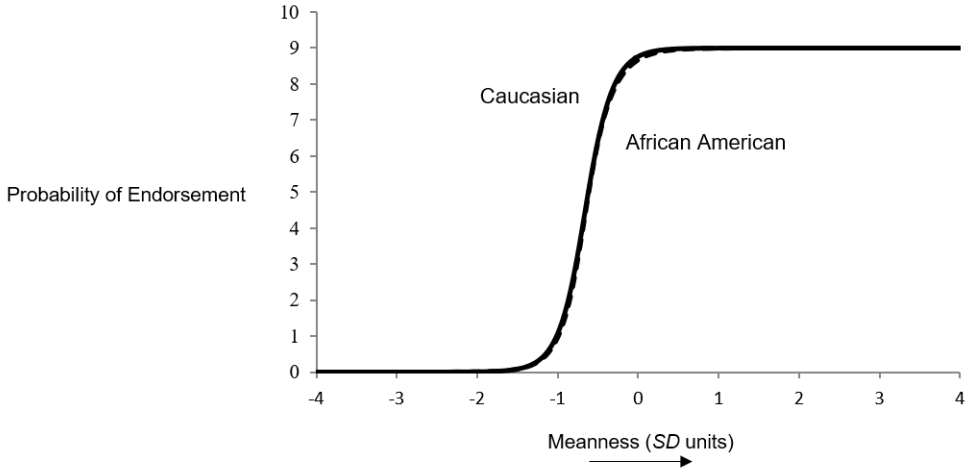
Note: TriPM = Triarchic Psychopathy Measure. Sample represents college sample (*N*=1,763).

Table 7. Differential Item Functioning for TriPM Meanness Scale across Caucasian and African American Ethnic Groups Community Sample

Item	$G^2(df)$	Caucasian		African American	
		a	*b*	*a*	*b*
It doesn't bother me to see someone else in pain. Anchor	6.80(2)	6.99	-0.61	4.47	-0.58
I enjoy pushing people around sometimes**.** Anchor	8.80(2)	4.22	-0.59	4.69	-0.75
I taunt people just to stir things up. Anchor	1.00(2)	5.03	-0.66	5.50	-0.62
I don't see any point in worrying if what I do hurts someone else. Anchor	0.20(2)	6.11	-0.68	5.82	-0.69
I don't have much sympathy for people. Candidate	**17.70(2)**	**3.86**	**-0.47**	**5.92**	**-0.66**
I've injured people to see them in pain. Candidate	**8.21(2)**	**8.21**	**-0.73**	**6.00**	**-0.58**
I sometimes insult people on purpose to get a reaction from them. Anchor	0.70(2)	4.77	-0.67	5.42	-0.65
I don't care much if what I do hurts others. Anchor	2.30 (2)	10.07	-0.67	8.53	-0.72
It doesn't bother me when people around me are hurting. Anchor	0.10(2)	8.12	-0.66	8.43	-0.65

Note. Bolded items and values represent items that contain statistically significant differential item functioning. Anchor = anchor item Candidate = candidate item (R) = Reversed Coded. TriPM = Triarchic Psychopathy Measure. Sample represents community sample (*N* = 1,877)

Figure 11. Test Characteristic Curve of TriPM Meanness across Caucasian and African American Participants Community Sample



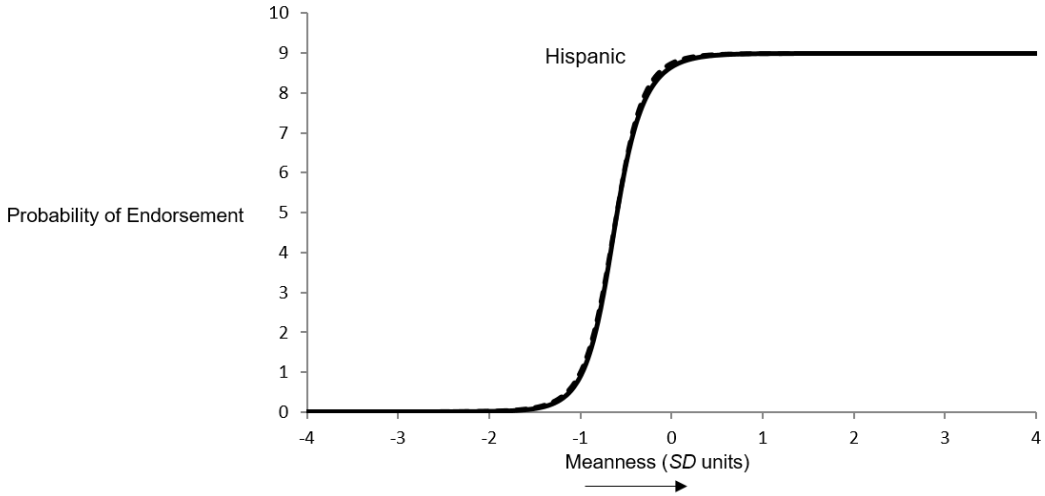
Note: TriPM = Triarchic Psychopathy Measure. Sample represents community sample (*N*=3,820).

Table 8. Differential Item Functioning for TriPM Meanness Scale across Caucasian and Hispanic Ethnic Groups Community Sample

Item	$G^2(df)$	Caucasian		Hispanic	
		a	*b*	*a*	*b*
It doesn't bother me to see someone else in pain. Anchor	2.3(2)	7.02	-0.6	6.24	-0.53
I enjoy pushing people around sometimes**.** Anchor	7.1(2)	4.28	-0.58	3.91	-0.73
I taunt people just to stir things up. Anchor	1(2)	5.1	-0.64	6.13	-0.65
I don’t see any point in worrying if what I do hurts someone else. Anchor	9.7(2)	6.22	-0.66	8.56	-0.78
I don't have much sympathy for people. Anchor	6.7(2)	3.75	-0.48	3.81	-0.64
I've injured people to see them in pain. Candidate	**15.6(2)**	**7.75**	**-0.71**	**10.32**	**-0.56**
I sometimes insult people on purpose to get a reaction from them. Anchor	0.7(2)	4.84	-0.65	5.43	-0.63
I don’t care much if what I do hurts others. Anchor	1.5 (2)	10.27	-0.65	8.1	-0.68
It doesn’t bother me when people around me are hurting. Anchor	2.7(2)	8.34	-0.64	7.06	-0.58

Note. Bolded items and values represent items that contain statistically significant differential item functioning. Anchor = anchor item Candidate = candidate item (R) = Reversed Coded. TriPM = Triarchic Psychopathy Measure. Sample represents community sample (*N* = 1,877)

Figure 12. Test Characteristic Curve of TriPM Meanness across Caucasian and Hispanic Participants Community Sample



Note: TriPM = Triarchic Psychopathy Measure. Sample represents community sample (*N*=1,877).

Table 9. Descriptive Statistics of the TriPM Scales across Gender.

	Men		Women		
	M	SD	M	SD	*d*
College					
Boldness	1.79	.43	1.54	.42	.59**
Meanness	.91	.45	.54	.41	.86**
Disinhibition	.86	.44	.74	.38	.29**
Community					
Boldness	1.62	.39	1.50	.46	.28**
Meanness	1.07	.60	.66	.57	.70**
Disinhibition	1.14	.64	.86	.57	.46**

Note: TriPM = Triarchic Psychopathy Measure. ** = $p < .01$. College Sample (Men $n = 647$, Women $n = 696$). Community Sample (Men $n = 398$, Women $n = 556$).

Table 10. Descriptive Statistics of the TriPM Scales across Ethnic Groups**.**

	Caucasian		Hispanic		African American				
College	M	SD	M	SD	M	SD	*d*1	*d*2	*d*3
Boldness	1.68	.44	1.65	.43	1.65	.44	.07	.05	0.00
Meanness	.71	.48	.70	.44	.80	.43	.02	.20	.23
Disinhibition	.76	.40	.83	.40	.80	.33	.18*	.12	.08
Community									
Boldness	1.50	.46	1.54	.39	1.61	.40	.09	.25**	.18†
Meanness	.72	.57	.98	.58	.93	.66	.45**	.34**	.08
Disinhibition	.87	.57	1.11	.61	1.07	.66	.41**	.32**	.06

Note. *d*1 = Cohen's *d* between Hispanic and Caucasian groups; *d*2 = Cohen's *d* between Caucasian and African American groups; *d*3 = Cohen's d between Hispanic and African American groups; TriPM = Triarchic Psychopathy Measure; Sample Size for College (Caucasian *n* = 846, African American *n* = 34, Hispanic *n* = 262); Sample size for Community (Caucasian *n* = 471, African American *n* = 297, Hispanic *n* = 186).

Table 11. Relations Between the TriPM Facets and External Criteria Scores across Gender College Sample

	Men			Women		
Criteria	Boldness	Meanness	Disinhibition	Boldness	Meanness	Disinhibition
Childhood Trauma						
Emotional Abuse	**-.09**	.21	.34	.02	.28	.36
Physical Abuse	.01	.21	.31	.05	.21	.27
Emotional Neglect	**-.20**	.24	.37	-.08	.34	.37
Physical Neglect	**-.08**	.12	.25	.04	.08	.14
Sexual Abuse	**-.14**	.12	.31	.07	.10	.18
CTQ total	**-.14**	.28	.44	.02	.29	.37
Impulsivity						
Premeditation	.12	.34	.39	.18	.42	.45
Urgency	-.27	.30	.63	-.20	.30	**.64**
Sensation Seeking	.52	.19	.04	.49	.25	.10
Perseverance	-.36	.25	.50	-.29	.24	.51
UPPS Total	.04	.43	.60	.10	.44	.62
Normative Personality						
Honest Humility	.06	-.47	-.37	.01	-.42	**-.40**
Emotionality	-.49	-.33	.13	-.46	-.47	-.10
Extraversion	.66	-.04	-.17	.67	-.11	-.23
Conscientiousness	.23	-.28	-.48	.17	-.32	-.53
Openness to Experience	.20	-.13	-.06	.20	-.05	-.03
Aggression						
Proactive	.02	.52	**.52**	.04	.48	.47
Reactive	-.03	.38	.40	-.07	.31	.39
RPQ-Total	-.01	.51	.52	-.04	.42	.48
PID-5						
Negative Affect	-.42	-.01	.30	-.43	-.05	.25
Detachment	-.32	.28	.29	-.22	.39	.39
Antagonism	.13	.53	.39	.13	.52	.40
Disinhibition	-.16	.33	.55	-.06	.40	.60
Psychoticism	-.17	.19	.35	-.11	.28	**.43**
Other Criteria						
DAST total	-.04	.27	.43	.02	.25	.41
BPD total	-.22	.14	.38	-.15	.20	**.46**

Note. TriPM= Triarchic Psychopathy Measure; CTQ total = Childhood Trauma Questionnaire; UPPS total = UPPS Impulsive Behavior Scale; Normative Personality was measured using the HEXACO-60; PID-5 = The Personality Inventory for the DSM-5 Brief Form; RPQ: The Reactive and Proactive Aggression Questionnaire; DAST = The Drug Abuse Screening Test; BPD = McLean Screening Instrument for Borderline Personality Disorder. Sample refers to college sample. Bolded items represent significant interaction terms across gender.

Table 12. Relations Between the TriPM Facets and External Criteria Scores across Gender Community Sample

	Men			Women		
Criteria	Boldness	Meanness	Disinhibition	Boldness	Meanness	Disinhibition
Childhood Trauma						
Emotional Abuse	.-21	.55	.55	-.05	.37	.42
Physical Abuse	-.20	.63	.63	.05	.54	.55
Emotional Neglect	-.23	.43	.43	-.09	.33	.34
Physical Neglect	-.12	.54	.54	-.00	.49	.52
Sexual Abuse	-.12	.62	.62	.03	.47	.47
CTQ total	-.23	.67	.67	-.01	.54	.54
Impulsivity						
Premeditation	-.12	.36	.37	.05	.50	.46
Urgency	-.37	.62	.77	-.24	.54	**.77**
Sensation Seeking	.21	.44	.41	.40	.54	.45
Perseverance	-.42	.46	.51	-.39	.41	**.58**
UPPS Total	-.24	.70	.78	-.03	.70	**.80**
Normative Personality						
Honest Humility	.06	-.52	-.47	-.08	-.50	-.50
Emotionality	-.47	.03	.24	-.48	-.34	-.07
Extraversion	.71	-.19	-.26	.67	-.06	-.21
Conscientiousness	.37	-.69	-.71	.17	**-.60**	-.70
Openness to Experience	.31	-.53	-.40	.23	-.35	-.31
Aggression						
Proactive	-.23	.72	**.73**	.06	.77	.70
Reactive	-.26	.53	.53	-.09	.47	.56
RPQ-Total	-.26	.69	.69	-.01	.70	.71
PID-5						
Negative Affect	-.46	**.54**	.64	-.46	.28	.53
Detachment	-.39	**.58**	.61	-.58	.55	.57
Antagonism	-.16	.70	.68	.09	.78	.70
Disinhibition	-.26	.66	.74	-.08	.72	.83
Psychoticism	-.25	.65	.69	-.16	.60	.71
Other Criteria						
DAST total	-.21	.62	**.68**	.03	.65	.64
BPD total	-.37	.50	.65	-.22	.37	.54

Note. TriPM= Triarchic Psychopathy Measure; CTQ total = Childhood Trauma Questionnaire; UPPS total = UPPS Impulsive Behavior Scale; Normative Personality was measured using the HEXACO-60; PID-5 = The Personality Inventory for the DSM-5 Brief Form; RPQ: The Reactive and Proactive Aggression Questionnaire; DAST = The Drug Abuse Screening Test; BPD = McLean Screening Instrument for Borderline Personality Disorder. Sample refers to community sample. Bolded items represent significant interaction terms across gender.

Table 13. Relations Between the TriPM Facets and External Criteria Scores across Ethnic Groups College Sample

	Boldness			Meanness			Disinhibition		
Criteria	CA	H	AA	CA	H	AA	CA	H	AA
Childhood Trauma		.							
Emotional Abuse	-.01	-.06	.07	.22	.22	.34	.34	.29	.41
Physical Abuse	.09	.10	.16	.21	**.37**	.40	.26	.39	**.55**
Emotional Neglect	-.07	.05	-.29	.32	.21	.10	.36	.28	.17
Physical Neglect	.00	.67	-.08	.12	.02	.26	.19	.12	**.56**
Sexual Abuse	-.01	.91	-.46	.15	.08	-.19	.28	.23	.16
CTQ total	-.01	.67	-.22	.29	.26	.20	.40	.36	.48
Impulsivity									
Premeditation	.20	.17	**-.10**	.36	**.44**	**.46**	.46	.41	**.21**
Urgency	-.18	-.25	-.54	.30	.26	.02	.63	.63	.66
Sensation Seeking	.56	.55	.46	.31	.34	.25	.12	.07	.03
Perseverance	-.26	-.32	-.44	.25	.26	.08	.49	.59	.35
UPPS Total	.17	.11	-.19	.45	.51	.32	.61	.64	.51
Normative Personality									
Honest Humility	-.08	.01	-.27	-.47	-.46	-.41	-.38	-.43	-.42
Emotionality	-.56	-.50	-.47	-.53	-.53	-.27	-.07	-.07	.18
Extraversion	.63	.73	.60	-.07	**.09**	-.07	-.17	**-.24**	**-.03**
Conscientiousness	.07	**.23**	.17	-.35	**-.38**	-.28	-.51	-.55	-.22
Openness to Experience	.20	.17	.45	-.04	-.11	-.23	-.03	-.11	-.15
Aggression									
Proactive	.11	.06	.16	.55	.56	.63	.53	.55	**.54**
Reactive	-.00	-.04	-.03	.39	.33	.61	.42	.45	.59
RPQ-Total	.05	-.01	.06	.52	.48	.68	.53	.57	.63
PID-5									
Negative Affect	-.47	-.44	-.61	-.12	-.14	-.03	.22	.30	.37
Detachment	-.20	-.30	-.47	.37	**.19**	.32	.34	**.36**	.42
Antagonism	.19	.21	.08	.56	.53	.77	.42	.39	.69
Disinhibition	.00	-.04	-.36	.41	.44	.28	.60	.60	.64
Psychoticism	-.10	-.13	-.18	.27	.24	.34	.42	.40	.43
Other Criteria									
DAST total	.01	.05	.17	.29	.25	.20	.44	.37	.49
BPD total	-.18	-.28	-.28	.12	.01	.05	.35	.43	.23

Note. TriPM= Triarchic Psychopathy Measure; CTQ total = Childhood Trauma Questionnaire; UPPS total = UPPS Impulsive Behavior Scale; Normative Personality was measured using the HEXACO-60; PID-5 = The Personality Inventory for the DSM-5 Brief Form; RPQ: The Reactive and Proactive Aggression Questionnaire; DAST = The Drug Abuse Screening Test; BPD = McLean Screening Instrument for Borderline Personality Disorder. Sample refers to college sample. CA = Caucasian. H = Hispanic. AA = African American. Bolded items represent significant interaction terms.

Table 14. Relations Between the TriPM Facets and External Criteria Scores across Ethnic Groups Community Sample

	Boldness			Meanness			Disinhibition		
Criteria	CA	H	AA	CA	H	AA	CA	H	AA
Childhood Trauma		.							
Emotional Abuse	-.10	-.08	-.17	.35	.38	.55	.43	.41	.57
Physical Abuse	.03	-.08	-.14	.55	.51	.66	.57	.56	.67
Emotional Neglect	-.12	-.04	-.24	.35	.31	.39	.37	.24	.37
Physical Neglect	.05	-.01	**-.17**	.45	.47	.62	.46	**.60**	.62
Sexual Abuse	-.01	-.05	-.12	.52	.50	.57	.54	.51	.57
CTQ total	-.05	-.07	-.20	.53	.55	.69	.58	.57	.70
Impulsivity									
Premeditation	.05	.02	-.06	.53	.37	.47	.53	.33	.44
Urgency	-.26	-.34	-.27	.48	.55	**.70**	.76	.74	.81
Sensation Seeking	.44	.30	.24	.49	.54	.59	.39	.41	.56
Perseverance	-.43	-.27	-.39	.42	.39	.48	.60	**.49**	**.53**
UPPS Total	-.04	-.08	-.13	.68	.70	.78	.80	**.74**	.82
Normative Personality									
Honest Humility	-.05	-.08	.00	-.52	-.52	-.51	-.50	-.46	-.52
Emotionality	-.52	-.55	-.40	-.29	-.32	**-.23**	.02	.02	-.06
Extraversion	.74	**.64**	.62	-.12	**.02**	-.08	-.25	-.17	-.18
Conscientiousness	.19	.16	.28	-.63	-.65	-.69	-.70	**-.64**	-.77
Openness to Experience	.22	.16	.33	-.36	-.44	-.51	-.28	-.34	-.45
Aggression									
Proactive	.02	-.07	-.09	.75	.73	.79	.72	.72	.75
Reactive	-.14	-.24	-.11	.50	.36	.56	.60	.45	.61
RPQ-Total	-.05	-.17	-.10	.70	.64	.74	.73	.67	.74
PID-5									
Negative Affect	-.47	-.51	-.41	.27	.26	.54	.52	.47	.67
Detachment	-.28	-.28	-.38	.53	.50	.63	.52	.54	.67
Antagonism	.08	-.01	-.08	.75	.71	.79	.68	.65	.77
Disinhibition	-.09	-.13	-.19	.65	**.69**	.76	.79	.73	.83
Psychoticism	-.12	-.21	-.26	.60	.58	.67	.69	.66	.74
Other Criteria									
DAST total	.02	-.07	-.13	.61	.61	.71	.62	.64	.72
BPD total	-.27	-.36	-.30	.36	.27	.49	.58	.50	.59

Note. TriPM= Triarchic Psychopathy Measure; CTQ total = Childhood Trauma Questionnaire; UPPS total = UPPS Impulsive Behavior Scale; Normative Personality was measured using the HEXACO-60; PID-5 = The Personality Inventory for the DSM-5 Brief Form; RPQ: The Reactive and Proactive Aggression Questionnaire; DAST = The Drug Abuse Screening Test; BPD = McLean Screening Instrument for Borderline Personality Disorder. Sample refers to community sample. CA = Caucasian. H = Hispanic. AA = African American. Bolded items represent significant interaction terms.

Table 15. Moderation Analyses across Ethnicity College Sample

	Caucasian			Hispanic			African American			
Criteria	*B*	*SE B*	*M(SD)*	*B*	*SE B*	*M(SD)*	*B*	*SE B*	*M(SD)*	R^2
Trauma										
Physical Neglect	1.79	.05	1.92(.31)	.03	.02	1.96(.34)	-.01	.06	2.00(.48)	.06
Physical Abuse	.96	.07	1.35(.46)	.03	.04	1.42(.51)	.25	.09	1.71(.58)	
Impulsivity										
Premeditation	1.01	.06	1.77(.47)	-.04	.03	1.73(.45)	-.01	.08	1.78(.45)	.24
Aggression										
Proactive Aggression	.88	.02	1.13(.20)	-.02	.01	1.12(.18)	-.00	.03	1.19(.30)	.36
Normative Personality										
Extraversion	1.67	.07	3.33(.69)	.01	.04	3.30(.75)	-.05	.10	3.26(.85)	.49
Conscientiousness	4.1	.08	3.70(.63)	.02	.04	3.66(.59)	-.04	.10	3.63(.59)	.29
Maladaptive Personality										
Detachment	1.95	.07	1.67(.58)	.03	.04	1.74(.58)	.08	.10	1.85(.66)	.24

Note. B = Unstandardized Beta; TriPM= Triarchic Psychopathy Measure; UPPS total = UPPS Impulsive Behavior Scale; Normative Personality was measured using the HEXACO-60; Maladaptive Personality was measured using the the Personality Inventory for the DSM-5 Brief Form; Sample refers to College Sample.

Table 16. Moderation Analyses across Ethnicity Community Sample

	Caucasian			Hispanic			African American			
Criteria	*B*	*SE B*	*M(SD)*	*B*	*SE B*	*M(SD)*	*B*	*SE B*	*M(SD)*	R^2
Trauma										
Physical Neglect	1.63	.09	2.22(.55)	.01	05	2.40(.59)	.04	.04	2.44(.68)	.35
Impulsivity										
UPPS Total	.44	.05	2.06(.43)	.03	.03	2.20(.41)	-.05	.02	2.13(.47)	.67
Urgency	1.75	.08	2.22(.65)	.06	.05	2.50(.69)	-.04	.04	3.31(.71)	.79
Perseverance	2.03	.08	1.87(.59)	.08	.05	1.94(.48)	.04	.04	1.89(.56)	.41
Normative Personality										
Extraversion	1.53	1.0	3.12(.74)	-.13	.05	3.08(.59)	-.11	.05	3.20(.66)	.70
Conscientiousness	4.13	1.0	3.70(.67)	-.07	.05	3.46(.70)	.00	.04	3.54(.75)	.56
Emotionality	4.31	1.0	3.29(.67)	.08	.05	3.28(.61)	.08	.05	3.22(.53)	.37
Maladaptive Personality										
Disinhibition	.76	.09	1.64(.71)	.01	.05	1.88(.80)	.03	.04	1.89(.85)	.65

Note. B = Unstandardized Beta; TriPM= Triarchic Psychopathy Measure; UPPS Normative Personality was measured using the HEXACO-60; PID-5 = The Personality Inventory for the DSM-5 Brief Form; Sample refers to Community Sample

Table 17. Moderation Analyses across Gender College Sample 1

	Men			Women			
Criteria	*B*	*SE B*	*M(SD)*	*B*	*SE B*	*M(SD)*	R^2
Trauma							
Emotional Abuse	1.65	.27	1.58(.64)	.12	.04	1.60(.73)	
Sexual Abuse	1.39	.20	1.11(.42)	.07	.03	1.12(.52)	
CTQ Total	1.19	.05	1.54(.39)	.03	.02	1.51(.42)	.
Bold x Gender							.18
Impulsivity							
Urgency	2.16	.19	2.30(.33)	-.02	.03	2.25(.61)	
Perseverance	2.04	.17	1.81(.45)	-.06	.06	1.77(.48)	
UPPS total	1.78	.12	2.27(.33)	-.03	.02	2.13(.37)	
Dis x Gender							.43
Aggression							
Proactive Aggression	.69	.07	1.18(.24)	.00	.01	1.09(.16)	
Dis x Gender							.36
Mean x Gender							.36
Normative Personality							
Emotionality	-.52	.10	3.10(.59)	.32	.03	3.71(.61)	.
Dis x Gender							.50
Maladaptive Personality							
Psychoticism	-.22	.14	2.00(.67)	-.07	.04	2.00(.71)	
Dis x Gender							.18
Other Criteria							
BPD	4.30	1.12	3.07(2.80)	.59	.16	3.71(3.00)	
Dis x Gender							.20

Note. B = Unstandardized Beta; TriPM= Triarchic Psychopathy Measure; CTQ total = Childhood Trauma Questionnaire; UPPS total = UPPS Impulsive Behavior Scale; Normative Personality was measured using the HEXACO-60; PID-5 = The Personality Inventory for the DSM-5 Brief Form; BPD = McLean Screening Instrument for Borderline Personality Disorder. Sample refers to College Sample

Table 18. Moderation Analyses across Gender College Sample 2

	Men			Women			
Criteria	*B*	*SE B*	*M(SD)*	*B*	*SE B*	*M(SD)*	R^2
Impulsivity							
Urgency	1.85	.25	2.4(.71)	.01	.04	2.22(.66)	
Perseverance	2.14	.25	1.95(.53)	-.07	.04	1.85(.58)	
UPPS total	1.60	.15	2.24(.42)	-.05	.02	2.02(.43)	
Dis x Gender							.66
Aggression							
Proactive Aggression	.70	.18	1.53(.53)	.02	.03	1.28(.44)	
Dis x Gender							.63
Normative Personality							
Conscientiousness	3.64	.29	3.39(.70)	.13	.04	3.74(.71)	
Dis x Gender							.60
Maladaptive Personality							
Negative Affect	2.13	.34	2.22(.77)	.04	.05	2.19(.77)	
Mean x Gender							.68
Other Criteria							
DAST Total	-.16	.11	.27(.28)	-.01	.02	.13(.22)	
Dis x Gender							.50

Note. B = Unstandardized Beta; TriPM= Triarchic Psychopathy Measure; CTQ total = Childhood Trauma Questionnaire; UPPS total = UPPS Impulsive Behavior Scale; Normative Personality was measured using the HEXACO-60; PID-5 = The Personality Inventory for the DSM-5 Brief Form; BPD = McLean Screening Instrument for Borderline Personality Disorder. Sample refers to College Sample

NOTES

1. The 6-item Disinhibition scale derived from the results of the CFA in the college sample highly correlated with both the 8-item Disinhibition scale derived from the community sample CFA (r = .98) and with the total Disinhibition scale (r = .85). Additionally, the 8-item Disinhibition scale in the community sample was also highly correlated with the total Disinhibition scale (r = .89).

2. Despite few overlapping items between the community and college sample "purified" Meanness scales, the 5-item Meanness scale derived from the college sample CFA demonstrated strong positive associations with the 9-item Meanness scale derived from the community sample CFA (r = .77). It was also strongly related to the total Meanness scale (r = .79). Similarly, the 9-item Meanness scale in the community sample also demonstrated strong associations with the total Meanness scale (r = .94).

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