

Development and Validation of Triarchic Psychopathy Scales From the Multidimensional Personality Questionnaire

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Psychopathy is conceptualized by the triarchic model as encompassing 3 distinct phenotypic constructs: boldness, meanness, and disinhibition. In the current study, the Multidimensional Personality Questionnaire (MPQ), a normal-range personality measure, was evaluated for representation of these 3 constructs. Consensus ratings were used to identify MPQ items most related to each triarchic (Tri) construct. Scale measures were developed from items indicative of each construct, and scores for these scales were evaluated for convergent and discriminant validity in community ($N = 176$) and incarcerated samples ($N = 240$). Across the 2 samples, MPQ-Tri scale scores demonstrated good internal consistencies and relationships with criterion measures of various types consistent with predictions based on the triarchic model. Findings are discussed in terms of their implications for further investigation of the triarchic model constructs in preexisting datasets that include the MPQ, in particular longitudinal and genetically informative datasets.

Keywords: psychopathy, triarchic model, Multidimensional Personality Questionnaire

Psychopathy is a condition that entails deviations in behavioral, interpersonal, and affective domains. Current conceptions of psychopathy characterize it as a configuration of dimensional tendencies as opposed to a categorical syndrome (Skeem, Polaschek, Patrick, & Lilienfeld, 2011). As a framework for reconciling differing conceptions, Patrick, Fowles, and Krueger (2009) formulated a triarchic (Tri) model that conceives of psychopathy as encompassing three distinct symptomatic (phenotypic) constructs: boldness, entailing social dominance, immunity to stressors, and tolerance for danger or uncertainty; meanness, encompassing callous disregard for others, exploitativeness, and an inability to form

close personal attachments; and disinhibition or externalizing proneness (Krueger et al., 2002), marked by low frustration tolerance, poor impulse control, deficient emotion regulation, and difficulty delaying gratification. Differing blends of these tendencies account for varying expressions of psychopathy as described in historic and contemporary writings.

The Triarchic Psychopathy Measure (TriPM; Drislane, Patrick, & Arsal, 2014; Patrick, 2010) was developed to index the phenotypic constructs of the triarchic model. While evidence exists for its effectiveness (e.g., Drislane, Patrick et al., 2014; Sellbom & Phillips, 2013; Stanley, Wygant, & Sellbom, 2013), the TriPM is merely an operationalization of the model. The triarchic constructs are viewed as open constructs that can be assessed in differing ways and refined/revised by studying interrelations among and external correlates of differing operationalizations (cf. Cronbach & Meehl, 1955). Empirical studies provide support for the idea that the triarchic model constructs are embedded to varying degrees in other established psychopathy inventories (Patrick & Drislane, 2014), and work has been undertaken to develop and validate scale measures of these constructs using items from inventories of this type including the Psychopathic Personality Inventory (PPI; Hall et al., 2014) and the Youth Psychopathic Traits Inventory (YPI; Drislane, Brislin, et al., 2014).

Other research demonstrating that psychopathic tendencies can be indexed effectively using omnibus inventories of general personality (e.g., Miller, Lyman, Widiger, & Leukefeld, 2001; Walton, Roberts, Krueger, Blonigen, & Hicks, 2008) suggests that items from such inventories can also be used to operationalize the triarchic model constructs. One general personality inventory that has been used to investigate psychopathic tendencies in a number of studies is the Multidimensional Personality Questionnaire

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(MPQ: Benning, Patrick, Blonigen, Hicks, & Iacono, 2005; Patrick, Curtin, & Tellegen, 2002; Tellegen, 1982). For example, in an incarcerated male sample, Verona, Patrick, and Joiner (2001) reported that overall scores on the Psychopathy Checklist-Revised (PCL-R; Hare, 2003) were associated positively with MPQ social potency and aggression and negatively with harm avoidance (indicative of tolerance for danger and risk). Contrasting patterns of MPQ trait elevations were evident for the PCL-R's two broad factors: Higher scores on the affective-interpersonal factor were associated with forceful-agentic tendencies (high MPQ social potency and achievement) and low anxious vulnerability (low MPQ stress reaction), whereas elevations on the PCL-R's impulsive-antisocial factor were associated with low MPQ control, high aggression, alienation, and stress reaction, and low well-being and achievement. Similar patterns have been reported in other work with community participants using the PPI (Benning, Patrick, Hicks, Blonigen, & Krueger, 2003). The fearless dominance factor of the PPI shows relations with MPQ subscales paralleling those for the PCL-R interpersonal factor, and the PPI's impulsive antisociality factor shows relations in parallel with the PCL-R's counterpart factor. Building on these studies, scores on the two PPI factors estimated using the trait scales of the MPQ were found to predict external criterion measures in ways similar to the PPI factors themselves (Benning et al., 2005).

Considering these relationships between MPQ trait scales and commonly used measures of psychopathy, we anticipated that the MPQ would provide an effective pool of items for operationalizing the triarchic model constructs. In turn, the availability of MPQ-based scales for assessing the triarchic constructs would provide a basis for studying these phenotypes in large existing samples containing the MPQ, including longitudinal and genetically informative datasets (e.g., Iacono, Carlson, Taylor, Elkins, & McGue, 1999).

Present Study

The primary aim of the current study was to evaluate the effectiveness of the MPQ for indexing the constructs of the triarchic model by developing scale measures of boldness, meanness, and disinhibition using items from the MPQ and evaluating the criterion-related validity of scores on these scales. Following procedures used to develop triarchic scales from other item sets (Drislane, Brislin et al., 2014; Hall et al., 2014), candidate items for indexing each construct were identified using a consensus ratings procedure and then refined into scales using an iterative exploratory approach. This approach, used for developing the MPQ itself and other instruments such as the PPI and the Externalizing Spectrum Inventory (ESI; Krueger, Markon, Patrick, Benning, & Kramer, 2007), allows for both the conception of the construct and the empirical properties of candidate items to inform scale construction. Further, in line with the notion of boldness, meanness, and disinhibition as open constructs, this approach allows for alternative representations of these constructs to emerge from differing item sets—thereby extending what is known about their scope and boundaries.

Scores on MPQ-Tri scales developed in this manner were then evaluated for validity in relation to established measures of psychopathy and psychopathy-relevant criterion variables in two distinct participant samples: adult men and women from the commu-

nity, and incarcerated male offenders. In addition to self-report criterion variables for both samples, interview plus collateral file-based measures of psychopathy and antisocial-aggressive behavior, along with intelligence test scores, were available for the incarcerated sample. The following hypotheses were advanced based on descriptions of the triarchic constructs provided by Patrick et al. (2009) and empirical correlates of these constructs as indexed by the TriPM (Drislane, Patrick et al., 2014; Patrick, 2010; Sellbom & Phillips, 2013):

- (1) Items for the MPQ-based boldness scale were expected to derive primarily from the MPQ's social potency, stress reaction, and harm avoidance scales, perhaps with some representation of items from achievement and well-being scales. In terms of relations with criterion measures, we predicted that scores on the MPQ boldness scale would show strong convergence with TriPM boldness scores and measures of conceptual relevance such as dispositional fear, anxiousness, narcissism, and sensation seeking.
- (2) Items for the MPQ-based meanness scale were predicted to derive mainly from the MPQ's aggression and social closeness scales, which index antagonistic-vengeful and affiliative tendencies, respectively. We expected that scores on the MPQ meanness scale would show strong convergence with scores for its counterpart TriPM scale, and would account for appreciable variance in interview-based measures of psychopathy and exhibit robust associations with child and adult antisocial symptoms, violent/aggressive behavior, and scale measures indexing callous or exploitive tendencies.
- (3) Items for the MPQ disinhibition scale were expected to derive primarily from the control, alienation, and stress reaction scales of the MPQ, with some representation of aggression scale items—specifically those indexing reactive aggression. We predicted that scores on the MPQ disinhibition scale would show strong convergence with TriPM disinhibition scores and predict to measures of impulsivity, anger, boredom proneness, substance abuse, and (low) socialization.

Method

Participants

For the scale development and initial validation work, participants were 176 adults (50.3% female; M age = 20.7, SD = 4.19) consisting of 59 individuals from the community recruited through Craigslist advertisements and 117 undergraduate students. The sample was 78% Caucasian, 11.3% African American, 6.3% Asian, 19.2% Hispanic, and 1.7% Biracial or Other. Participants recruited from Craigslist were significantly older (M = 23.5) than undergraduate participants (M = 19.2), and more racially diverse (i.e., 29% minority vs. 17%). Data were excluded for one participant who requested that collected data not be used, and for another who did not complete the questionnaires. No participants were excluded due to response inconsistency.

Following development of the MPQ-Tri scales, scores on these scales were evaluated for convergent and discriminant validity using data from a sample of incarcerated men ($N = 242$; M age = 32.7; $SD = 7.75$) from the Federal Correctional Institution in Tallahassee, Florida, a low-medium security prison. The racial composition of the prison sample was 47.1% Caucasian, 39.6% African American, 12.9% Hispanic, and 0.4% Asian American. In terms of recorded offense histories, 69.9% had one or more violent charges, and 95.9% had one or more nonviolent charges. A small number of participants who displayed patterns of inconsistent responding on the MPQ variable response inconsistency scale (VRIN; $n = 2$) were excluded from analyses, resulting in a final sample of 240.

Procedure

Prior to completing the study, participants were informed of the general purposes of the research and advised that participation was voluntary and confidential. All participants provided written informed consent. Questionnaire measures were administered in-person as part of a larger study protocol, which included a psychophysiological testing session and a semistructured interview (along with review of institutional file records in the case of the prison sample). In the prison sample, volunteers were recruited randomly from a master prison roster, and invited to participate if they met the following criteria: conversational competency in English and ability to read aloud, no current major mental disorder on file, and no imminent release date.

Both studies were approved by the Institutional Review Board of Florida State University. Data collection for the offender sample was also approved by the Research Review Committee of the Federal Bureau of Prisons. As remuneration, community and undergraduate participants received either course credit, payment at \$10/hour, or a combination of the two. Per institutional requirements, inmate participants received snack items in lieu of financial compensation.

Data collection for the prison sample was completed in two phases. Questionnaires differed somewhat across phases, resulting in varying sample sizes for certain measures (see Tables 3 and 4). The MPQ, which served as the source of candidate items for the creation of triarchic scales, was administered to all participants in both samples. Prison participants completed the original 300-item version of the MPQ (MPQ-300; Tellegen, 1982), whereas community/undergraduate participants completed the 155-item brief form (MPQ-BF; Patrick et al., 2002). Scale development focused on the 155 items in common between the MPQ-300 and MPQ-BF.

External Validation Measures Available in Both Samples¹

Alcohol Dependence Scale (Skinner & Allen, 1982). The Alcohol Dependence Scale (ADS) is a 29-item self-report measure ($\alpha = .84$ in current community sample; $\alpha = .91$ in current prisoner sample) that assesses symptoms and experiences associated with alcohol dependence. ADS scores have been found to predict acknowledged problematic use of alcohol (Ross, Gavin, & Skinner, 1990).

Short Drug Abuse Screening Test (Skinner, 1982). The 20-item Short Drug Abuse Screening Test (SDAST; α 's = .80 and .99, respectively, in current community and prisoner samples) assesses for problems with illicit drug use and symptoms of drug abuse and dependence. Higher total scores are associated with more extreme drug use problems (Gavin, Ross, & Skinner, 1989).

Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988). The 20-item trait version of the Positive and Negative Affect Schedule (PANAS) assesses susceptibility to various mood states. It yields scores on two mood-related dimensions: Positive affect (i.e., capacity for pleasurable activation; α 's = .87 and .84 in community and prisoner samples), and negative affect (i.e., propensity to experience negative mood states; $\alpha = .83$ in both community sample and prisoner sample).

Beck Depression Inventory (Beck, Steer, & Brown, 1996; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The Beck Depression Inventory (BDI) assesses current (last 2 weeks) affective, cognitive, motivational, and physiological symptoms of depression. The original BDI (Beck et al., 1961; $\alpha = .86$) was used in the correctional sample; the revised second version (BDI-II; Beck et al., 1996; $\alpha = .92$) was used in the community sample.

External Validation Measures: Community Sample

TriPM (Patrick, 2010). The TriPM is a 58-item self-report measure designed to index the three components of psychopathy described in the triarchic model (Patrick et al., 2009; α for total TriPM score in current community sample = .91). It yields a total score and scores on three subscales: Boldness ($\alpha = .87$), Meanness ($\alpha = .85$), and Disinhibition ($\alpha = .87$). The TriPM shows strong convergence with other widely used psychopathy instruments, both in community and in prisoner samples (Drislane, Patrick, et al., 2014; Sellbom & Phillips, 2013). Consistent with prior work, TriPM boldness and disinhibition were uncorrelated in the current community sample ($r = .00$), boldness and meanness were modestly correlated ($r = .20$), and TriPM meanness and disinhibition were moderately correlated ($r = .42$).

Personality Inventory for Diagnostic and Statistical Manual of Mental Disorders, 5th edition (Krueger, Derringer, Markon, Watson, & Skodol, 2012). The Personality Inventory for DSM-5 (PID-5) is a 220-item self-report measure developed to assess personality traits specified within the alternative dimensional system for personality disorders in Section III of DSM-5 (American Psychiatric Association, 2013; $\alpha = .97$ in current community sample). It indexes 25 maladaptive personality traits organized within five higher-order domains: negative affect ($\alpha = .94$), detachment ($\alpha = .94$), antagonism ($\alpha = .93$), disinhibition ($\alpha = .94$), and psychoticism ($\alpha = .95$). The triarchic model constructs as operationalized by the TriPM are well-captured by subscales of the PID-5 (Strickland, Drislane, Lucy, Krueger, & Patrick, 2013).

¹ Given the large number of criterion measures administered in this study, detailed information pertaining to psychometric properties and descriptive statistics is not presented due to constraints on space. This information can be obtained from either corresponding author upon request.

Trait Fear Inventory (Kramer, 2010). Dispositional fear was assessed using the Trait Fear Inventory (TFI), a 45-item scale designed to index the general factor of a structural model of established scale measures of fear and fearlessness (Kramer, Patrick, Krueger, & Gasperi, 2012). Scores on this measure correlate .87 with regression-estimated scores on the general factor from this model (Kramer, 2010; $\alpha = .96$ in current community sample).

State-Trait Anxiety Inventory (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). The State-Trait Anxiety Inventory (STAI) consists of 20 items that measure acute (state) and dispositional (trait) anxiety. Scores on the STAI demonstrate good reliability ($\alpha = .93$ in current community sample), as well as good convergent and discriminant validity (Spielberger et al., 1983).

External Validation Measures: Prisoner Sample

Psychopathy Checklist-Revised (Hare, 2003). The Psychopathy Checklist-Revised (PCL-R) is the most widely used psychopathy measure in correctional and forensic settings. Its 20 items are scored based on a semistructured interview and review of institutional records. Factor analyses of the PCL-R items have revealed two broad factors, each with two distinct facets: Factor 1, encompassing interpersonal and affective facets, and Factor 2, encompassing impulsive/irresponsible and antisocial facets (Hare et al., 1990; Hare & Neumann, 2006). In the current offender sample, PCL-R interviews were videotaped for purposes of reliability assessment. Interviewers and secondary raters received specialized training in administering and scoring the PCL-R. Scores for the two raters were averaged to optimize stability. Intraclass correlation coefficients for the mean of two raters' scores were .91 for PCL-R total, .82 and .88 for Factors 1 and 2, and .73 to .78 for PCL-R facet scores.

Interview-based assessment of antisocial personality disorder. Separate questions were included in the offender interview protocol to assess for child and adult symptoms of antisocial personality disorder (ASPD) as defined in *Diagnostic and Statistical Manual of Mental Disorders, 4th edition* (American Psychiatric Association, 2000) and in the main diagnostic codes section (II) of *DSM-5* (American Psychiatric Association, 2013). Diagnostic ratings were also informed by offense and other historic data from prison files. Independent assessors performed secondary ratings, and raters' scores were averaged (ICCs for child and adult symptoms = .83 and .94).

Criminal record data. Prison file information was used to code crime variables. Count variables were created for number of violent charges (including assault, robbery, murder, weapons offenses, kidnapping, and arson) and nonviolent charges (all other offenses, including drug crimes, fraud/forgery, and vehicular violations). The frequency of other aggressive behavior (total number of adult and childhood fights) was coded from file data and interview responses.

Socialization Scale (Gough, 1960). The Socialization Scale (So) is a 54-item scale ($\alpha = .80$ in current prisoner sample) from the California Psychological Inventory (CPI) that assesses level of socialization, a construct similar to externalizing proneness that encompasses impulsive, hostile-alienated, and rebellious tendencies. Lower So scores are associated with higher engagement in delinquent behaviors (Gough, 1960).

Narcissistic Personality Inventory (Raskin & Terry, 1988). The Narcissistic Personality Inventory (NPI) is a 40-item self-report inventory designed to index the *DSM* conception of narcissistic personality disorder. The NPI yields a total score ($\alpha = .84$ in current prisoner sample) and seven subscale scores: Authority ($\alpha = .72$), Exhibitionism ($\alpha = .64$), Superiority ($\alpha = .57$), Entitlement ($\alpha = .43$), Exploitativeness ($\alpha = .66$), Self-Sufficiency ($\alpha = .43$), and Vanity ($\alpha = .67$). Scores on the NPI are associated with measures of interpersonal dominance, narcissism, self-confidence, and self-centeredness.

Sensation Seeking Scale (Zuckerman, 1979). The 40-item Sensation Seeking Scale (SSS) indexes need for stimulation and preference for novel and exciting/thrilling activities. It yields a total score ($\alpha = .85$ in current prisoner sample) and disinhibition ($\alpha = .70$), boredom susceptibility ($\alpha = .64$), thrill/adventure seeking ($\alpha = .81$), and experience seeking ($\alpha = .56$) scores.

Neuroticism-Extraversion-Openness Five Factor Inventory (Costa & McCrae, 1992). The Neuroticism-Extraversion-Openness Five Factor Inventory (NEO-FFI) is a 60-item self-report measure of the five-factor model of normal personality. The NEO-FFI yields scores on each of the five-factor personality dimensions: neuroticism ($\alpha = .85$), extraversion ($\alpha = .72$), agreeableness ($\alpha = .70$), conscientiousness ($\alpha = .83$), and openness to experience ($\alpha = .65$).

Emotionality-Activity-Sociability-Impulsivity Temperament Survey (Buss & Plomin, 1984). The Emotionality-Activity-Sociability-Impulsivity Temperament Survey (EASI) is a 25-item self-report inventory developed to measure four basic temperament traits: emotionality (sensitivity to negative emotions), encompassing fearfulness (4 items; $\alpha = .54$ in current prisoner sample), anger (4 items; $\alpha = .60$), and distress (4 items; $\alpha = .79$) facets; activity (energy, engagement in activities; 4 items; $\alpha = .56$); sociability (enjoyment of others' company; 4 items; $\alpha = .56$); and impulsivity (tendency to think before acting, inability to withhold responses; 4 items; $\alpha = .51$).

Fear Survey Schedule III (Arrindell, Emmelkamp, & van der Ende, 1984). The 52-item Fear Survey Schedule III (FSS-III; $\alpha = .94$ in current prisoner sample) asks respondents to rate their level of fear or similar unpleasant feelings (from 1 = *not at all* to 5 = *very much*) in relation to specific stimuli, places, or activities (animals; social situations; agoraphobic contexts; bodily injury, illness, and death; sexual and aggressive scenarios).

State-Trait Anger Experiences Inventory (Spielberger, 1988). The State-Trait Anger Experiences Inventory (STAXI) is a 20-item self-report inventory that measures various aspects of anger expression and regulation. The STAXI yields a total score and three subscale scores: Anger Out (outward expression of anger; $\alpha = .97$), Anger In (inward expression of anger; $\alpha = .98$), and Control (ability to suppress angry outbursts; $\alpha = .98$).

Shipley Institute of Living Scale (Shipley, 1940). The 60-item Shipley Institute of Living Scale (SIL) is a self-administered index of intellectual functioning. It yields a total score and scores on two subscales: Verbal Ability (40 items assessing vocabulary knowledge) and Abstraction (20 abstract problem-solving items).

Data Analytic Approach

Scale construction. Construction of the MPQ-based triarchic scales (Boldness, Meanness, and Disinhibition) took place in three phases. In the first development phase, candidate items were

selected based on consensus ratings of the 155 items composing the MPQ-BF. Following initial identification of candidate items, the MPQ-Tri scales underwent a refinement phase, and then a final psychometric evaluation phase.

Development phase: Candidate item selection. Five raters (4 clinical psychology graduate students and 1 senior psychology undergraduate) were provided with a Construct Definition Form containing narrative descriptions of boldness, meanness, and disinhibition, the constructs described in the triarchic model of psychopathy.² The raters used a secure online system to rate each of the MPQ-BF items in terms of their relevance to each of the triarchic model constructs. Items were rated individually, without information about their MPQ scale affiliations. For each item, raters indicated the degree to which its content related to a particular triarchic model construct (X) by selecting 1 of 5 options: unrelated to X, strongly represents HIGH X, somewhat represents HIGH X, somewhat represents LOW X, and strongly represents LOW X. Separate ratings for each triarchic model construct were completed for all 155 items.

Agreement across raters was then evaluated for each item in order to identify candidate items for MPQ triarchic scale measures of each construct. Items rated as *strongly* indicative of a construct by 4 or 5 raters were selected as initial scale indicators. Items rated as strongly indexing the *low* pole of a construct by 4 or 5 raters were reverse coded and also included as candidates. There were 26 initial candidate items for boldness, 14 for meanness, and 15 for disinhibition.

Scale refinement phase. Initial versions of the MPQ-Tri scales were then refined using an iterative process that took into account several factors. First, items for each scale were evaluated for home-scale convergence (i.e., adjusted item-total r with other candidate scale items), and non-home-scale divergence (i.e., lack of association with aggregate scores for candidate items of other scales). Candidate items were dropped from scales if they demonstrated poor item-total r values with other constituent items, such that their deletion improved scale homogeneity (Cronbach's alpha) or reduced cross-correlations of the target scale with the other MPQ-Tri scales. This resulted in elimination of 11 items from boldness, 5 from meanness, and 4 from disinhibition.

After removal of these suboptimal items, the rating consensus criterion was relaxed to allow for other items to be evaluated for inclusion (i.e., items that had been rated as *strongly* indicative of a particular target construct by 3 of 5 raters and as *somewhat* indicative by the remaining two raters). These replacement items were retained only if they correlated more highly with the target scale than with the other two scales and contributed to better internal consistency of scores for the target scale. In addition to their internal properties within the scales, replacement items were evaluated for wording and content to ensure adequate coverage of all relevant features for each triarchic construct. Additionally, the keying of items was considered in an effort to include items worded in the direction of lower as well as higher levels of each construct to the extent possible.

These procedures were applied iteratively. The effects of removing and replacing particular items were evaluated in multiple steps rather than all at once in order to maintain contact with the core set of items selected on the basis of strict consensus ratings criteria. This led to the addition of 5 items to the boldness scale, 7 items to disinhibition, and 5 items to meanness. The final MPQ boldness scale contains 20 items (six reverse-keyed), MPQ meanness contains 16 items (four reverse-keyed), and MPQ disinhibition consists of 18 items (four reverse-keyed).

External validation. Following scale refinement, we evaluated the construct validity of scores on the resultant MPQ-Tri scales in relation to external criteria in two samples: the community/undergraduate sample used during scale construction, and a separate sample of incarcerated male offenders. Patterns of convergent and discriminant validity were assessed by computing Pearson correlations between scores for the MPQ-Tri scales and various criterion variables as described above. Additionally, to evaluate the unique contribution of each MPQ-Tri scale to prediction of criterion measures, we conducted multiple regression analyses in which scores on all three MPQ-Tri scales were included simultaneously as predictors of external criteria. All statistical effects were evaluated using an alpha level of $p < .005$.

Results

Content of Final Scales

The composition of items contained within the final MPQ-Tri scales (see Table 1) was largely consistent with prediction. The MPQ boldness scale consists mainly of items from the social potency (nine items), harm avoidance (three items), stress reaction (three items), and well-being (two items) scales. Also included are one item each from the achievement scale (indexing enjoyment of challenge), control scale (assessing readiness to enter unfamiliar situations), and MPQ unlikely virtues scale (pertaining to courage in the face of adversities). MPQ meanness is composed mostly of items from the MPQ aggression (10 items) and social closeness scales (five items), along with one item from the alienation scale pertaining to perception of others' friendliness as insincere. Lastly, MPQ disinhibition is composed mainly of items from the control (eight items), alienation (four items), and stress reaction (four items) scales, with two items from the MPQ aggression scale also included (pertaining to hitting when angry, and retaliating when hurt).

Psychometric Properties

Internal consistencies (α) for scores on the MPQ boldness, meanness, and disinhibition scales within the community sample were .80, .75, and .80, respectively, and .73, .70, and .81 within the incarcerated sample. Within the community sample, MPQ disinhibition and meanness showed a moderate positive correlation with each other ($r = .40$), whereas the boldness scale was unrelated to meanness or disinhibition ($r = .08$, $p = .29$) for each. The MPQ disinhibition and meanness scales were more strongly correlated within the male incarcerated sample ($r = .57$), with correlations of each with MPQ boldness similarly low (.03 and $-.09$, respectively).³

² The Construct Definition Form can be found in the online supplement to Hall et al. (2014). http://supp.apa.org/psycarticles/supplemental/a0035665/a0035665_supp.html.

³ Confirmatory factor analysis was performed on data from the community sample to evaluate the fit of a correlated three-factor model to the data. This model provided adequate absolute fit to the data as indicated by root-mean-square error of approximation (RSMEA = .07) and markedly improved fit over the baseline model, $\Delta\chi^2(57) = 1220.96$, $p < .001$; however, indices of incremental fit (i.e., comparative fit index, Tucker-Lewis Index) were not appropriate to evaluate for the three-factor model, as RSMEA of the null model was less than .158 (Kenny, 2012).

Table 1
List of MPQ-BF Items Comprising Each MPQ-Tri Scale

MPQ-Tri scale	MPQ-BF item #	MPQ-BF scale	
Boldness	2	Social potency	
	15	Social potency	
	45	Social potency	
	51	Social potency	
	63 (-)	Social potency	
	75	Social potency	
	117	Social potency (VRIN)	
	122 (-)	Social potency	
	145 (-)	Social potency	
	11	Harm avoidance	
	22	Harm avoidance	
	46	Harm avoidance	
	29 (-)	Stress reaction	
	60	Stress reaction (VRIN)	
	132 (-)	Stress reaction	
	109	Well-being	
	133	Well-being	
	123	Achievement	
	116 (-)	Control	
	25	Unlikely virtues	
	Meanness	31	Aggression
		43	Aggression
		55	Aggression
		67	Aggression
		79 (-)	Aggression
103		Aggression	
115		Aggression	
139		Aggression	
127		Aggression	
151		Aggression	
17 (-)		Social closeness	
40 (-)		Social closeness	
77 (-)		Social closeness	
124		Social closeness	
148		Social closeness	
138	Alienation		
Disinhibition	21	Control	
	33	Control	
	44 (-)	Control	
	56 (-)	Control	
	68 (-)	Control	
	80	Control	
	86	Control	
	140 (-)	Control	
	42	Alienation	
	54	Alienation	
	102	Alienation	
	114	Alienation	
	18	Stress reaction	
	78	Stress reaction	
	90	Stress reaction	
	149	Stress reaction	
	8	Aggression	
20	Aggression		

Note. MPQ-BF = Multidimensional Personality Questionnaire-Brief Form; VRIN = variable response inconsistency. "(VRIN)" following Boldness scale items 117 and 60 indicates that these two items (from social potency and stress reaction scales, respectively, of the full-form MPQ) are included in the brief-form MPQ to augment VRIN item pairs, but do not enter into scoring of the MPQ-BF trait scales (see Patrick et al., 2002, pp. 153, 155, and 159).

Community Sample

Relations with TriPM psychopathy, substance problems, and pathological personality. At the zero-order (simple bivariate) level, MPQ boldness, meanness, and disinhibition showed expected strong convergence with their counterpart TriPM scales (see Table 2). In addition: MPQ boldness showed a modest positive r with TriPM meanness, but was unrelated to TriPM disinhibition; MPQ meanness showed a modest positive r with TriPM disinhibition and a weaker positive r with TriPM boldness; and MPQ disinhibition showed a modest r with TriPM meanness and negligible r with TriPM boldness. As shown in Table 2, specificity of relationships between the two sets of triarchic scales was further demonstrated by results from regression analyses using the three MPQ-Tri scales to predict each TriPM scale in turn, wherein only the counterpart MPQ-Tri scale exhibited unique prediction of the target TriPM scale (see Table 2).

Table 2 also presents correlations of MPQ-Tri scale scores with self-report measures of alcohol dependence (ADS) and drug abuse (SDAST). Scores on both substance measures showed moderate positive r values with MPQ disinhibition, and corresponding non-significant positive r values with MPQ boldness and meanness. Regression analyses utilizing all three MPQ-Tri scales as predictors yielded similar results (i.e., significant unique prediction for disinhibition only in each case).

With regard to personality pathology as indexed by the PID-5, MPQ boldness scores demonstrated negative associations with negative affect and detachment scores and positive associations with antagonism and disinhibition scores, which remained significant after controlling via regression for variance shared with the other two MPQ-Tri scales. MPQ meanness was positively correlated with antagonism and detachment, and to a lesser degree with negative affect and psychoticism. The relationship with negative affect was reduced to nonsignificance when all MPQ-Tri scales were examined as concurrent predictors in a regression analysis. MPQ disinhibition scores showed positive associations with all PID-5 domains both at the bivariate level and in regression analyses.

Relationships with affectivity measures. All three MPQ-Tri scales showed significant r values with the negative affect scale of the PANAS—positive for MPQ meanness and disinhibition, and negative for MPQ boldness. When examined jointly in a regression analysis, the opposing associations for boldness and disinhibition remained significant, whereas the relationship for meanness was reduced to nonsignificance. Relations with PANAS positive affect were positive for MPQ boldness and negative for disinhibition, both at the simple r level and in regression analyses.

Relationships of MPQ-Tri scale scores with measures of depression, fear, and anxiety (cf. Benning et al., 2005; Hicks & Patrick, 2006) were also examined. For BDI depression, both MPQ disinhibition and meanness showed significant positive r values, but only the association for disinhibition remained significant in the regression analysis. MPQ boldness showed a strong negative association with dispositional fear as indexed by the TFI-45, indicating that this operationalization of boldness largely indexes (in reverse) the bipolar dimension of fear/fearlessness (Kramer et al., 2012). By contrast, MPQ meanness and disinhibition showed nonsignificant associations with TF-45 scores. Paralleling results for PANAS negative affect, MPQ boldness and disinhibition

Table 2
Relations Between MPQ-Based Triarchic Scales and Self-Report Criterion Measures in Community Participants

	MPQ-Tri scale			
	Boldness <i>r</i> (β)	Meanness <i>r</i> (β)	Disinhibition <i>r</i> (β)	Multiple <i>R</i> (R^2)
Triarchic Psychopathy Measure (TriPM)				
Total	.55 (.50)	.50 (.34)	.48 (.30)	.77 (.59)
Boldness	.80 (.80)	.14 (.10)	.05 (–.05)	.81 (.65)
Meanness	.22 (.18)	.65 (.62)	.29 (.04)	.67 (.45)
Disinhibition	.07 (.02)	.26 (.02)	.62 (.61)	.62 (.38)
Substance use problems				
Alcohol Dependence Scale	.19 (.17)	.17 (.04)	.34 (.32)	.38 (.14)
Short Drug Abuse Screening Test	.07 (.04)	.18 (.05)	.36 (.33)	.36 (.13)
Personality Inventory for <i>DSM-5</i>				
Negative affect	–.38 (–.44)	.24 (.06)	.54 (.55)	.69 (.48)
Detachment	–.29 (–.35)	.55 (.45)	.45 (.30)	.69 (.48)
Antagonism	.34 (.29)	.51 (.37)	.48 (.31)	.66 (.43)
Disinhibition	.37 (.33)	.16 (–.10)	.57 (.58)	.66 (.44)
Psychoticism	.10 (.05)	.35 (.22)	.41 (.32)	.46 (.22)
Positive and Negative Affect Schedule				
Positive affect	.39 (.41)	–.15 (–.08)	–.26 (–.25)	.48 (.23)
Negative affect	–.27 (–.29)	.25 (.14)	.37 (.34)	.49 (.24)
Beck Depression Inventory-II	–.05 (–.09)	.26 (.10)	.47 (.44)	.48 (.23)
Trait Fear Inventory	–.75 (–.74)	–.12 (–.07)	–.06 (.02)	.75 (.56)
State-Trait Anxiety Inventory	–.35 (–.38)	.21 (.08)	.41 (.40)	.56 (.31)

Note. $N = 176$ for all correlations; MPQ = Multidimensional Personality Questionnaire; *DSM-5* = *Diagnostic and Statistical Manual of Mental Disorders, 5th edition*. Bold font entries denote r/β magnitudes $\geq .20$ that are significant at the $p < .005$ level. Zero-order correlations (r) reflect bivariate associations for each MPQ-Tri scale with criterion measure. To quantify distinct contributions of each of the MPQ-Tri scales (Boldness, Meanness, Disinhibition) to prediction of criterion measures after controlling for their shared variance, standardized regression coefficients (β) from regression models incorporating all three MPQ-Tri subscales as predictors are presented alongside zero-order correlations; the multiple regression coefficient (R) and squared value of this coefficient (R^2) are also presented for each of these models.

showed r values in opposing directions with scores on the STAI that were maintained in a regression analysis. By contrast, MPQ meanness showed a modest positive r that dropped to nonsignificance in the regression model.

Forensic Sample

Relations with interview and file-based assessments of psychopathy, antisocial personality, and aggressive behavior.

As shown in Table 3, MPQ meanness and disinhibition each showed moderate positive r values with PCL-R total score, with meanness showing greater unique prediction in the context of a regression model. Although MPQ boldness contributed only weakly to the prediction of overall PCL-R scores, known to reflect criminal tendencies to a substantial degree (Patrick, Hicks, Nichol, & Krueger, 2007), boldness predicted significantly to PCL-R Factor 1 and emerged as the strongest independent predictor of its interpersonal facet. MPQ meanness contributed independently to prediction of scores on both PCL-R factors, and emerged as the strongest unique predictor of the affective facet of Factor 1. By contrast, MPQ disinhibition contributed to the prediction of PCL-R Factor 2 only, with its contribution being most distinct for the impulsive-irresponsible facet. MPQ meanness and disinhibition also contributed significantly at the zero-order level to the prediction of scores on the PCL-R antisocial facet, with meanness more distinctly predictive in a regression model.

With regard to ASPD, MPQ meanness showed positive r values with child, adult, and total symptoms, and its associations with child

and total symptoms remaining significant in regression models. MPQ disinhibition showed positive r values with adult and total ASPD symptoms—apparently as a function of variance in common with MPQ meanness, as predictive relations were reduced to nonsignificance in regression models. Boldness showed no significant relationship with any of the ASPD symptom variables (cf. Venables, Hall, & Patrick, 2014).

MPQ meanness also emerged as the most distinctive predictor of aggressive acts coded from interview and file sources. Meanness alone was predictive of reported engagement in fights as a child, and although meanness and disinhibition both predicted the number of reported fights in adulthood at the zero-order level, only meanness contributed uniquely to prediction when scores for the three MPQ-Tri scales were included together in a regression model. Additionally, meanness alone was predictive of violent offense behavior coded from official criminal records. MPQ boldness was neither positively nor negatively related to these aggressive behavioral indicants.

Relations with substance abuse and self-report measures of psychopathy-related personality constructs.

Scores on the two measures of substance problems (ADS, SDAST) were related to MPQ meanness and disinhibition scores at the zero-order level, but disinhibition emerged as the sole unique predictor when all three Tri scales were entered into a regression model. Boldness was not correlated either positively or negatively with ADS or SDAST scores.

Table 3
Relations Between MPQ-Based Triarchic Subscales and Interview/Self-Report Measures of Psychopathy and Antisocial-Externalizing Tendencies in Incarcerated Male Participants

	MPQ-Tri scale			
	Boldness <i>r</i> (β)	Meanness <i>r</i> (β)	Disinhibition <i>r</i> (β)	Multiple <i>R</i> (R^2)
Psychopathy Checklist Revised (PCL-R; <i>n</i> = 240)				
PCL-R total score	.12 (.13)	.35 (.27)	.28 (.14)	.39 (.15)
PCL-R Factor 1	.23 (.22)	.22 (.23)	.09 (–.03)	.32 (.10)
Interpersonal facet	.33 (.34)	.10 (.07)	.05 (.04)	.35 (.12)
Affective facet	.09 (.08)	.30 (.30)	.14 (–.02)	.31 (.10)
PCL-R Factor 2	.03 (.04)	.38 (.24)	.38 (.24)	.43 (.18)
Impulsive/irresponsible facet	.08 (.12)	.32 (.11)	.41 (.36)	.44 (.19)
Antisocial facet	–.02 (–.02)	.35 (.32)	.24 (.05)	.36 (.13)
DSM-IV antisocial personality disorder (<i>n</i> = 115)				
Total symptoms	.10 (.10)	.40 (.34)	.29 (.10)	.42 (.18)
Child conduct disorder symptoms	.17 (.17)	.36 (.34)	.21 (.03)	.40 (.16)
Adult antisocial behavior symptoms	–.03 (–.02)	.34 (.25)	.31 (.16)	.37 (.14)
Aggressive acts coded from interview/files (<i>n</i> = 236)				
Number of fights (childhood)	.07 (.07)	.31 (.29)	.19 (.03)	.31 (.10)
Number of fights (adulthood)	.12 (.11)	.38 (.36)	.21 (.02)	.39 (.15)
Number of violent charges	–.06 (–.08)	.18 (.33)	.11 (–.08)	.29 (.08)
Substance use problems				
Alcohol Dependence Scale (<i>n</i> = 111)	–.13 (–.13)	.29 (.22)	.38 (.31)	.42 (.18)
Short Drug Abuse Screening Test (<i>n</i> = 228)	.02 (.05)	.24 (.08)	.32 (.28)	.33 (.11)
CPI Socialization Scale (<i>n</i> = 170)	.11 (.06)	–.50 (–.26)	–.58 (–.42)	.61 (.37)
Narcissistic Personality Inventory (<i>n</i> = 74)				
Total score	.71 (.72)	.17 (.17)	.03 (.04)	.73 (.53)
Authority	.66 (.67)	.03 (.05)	–.08 (.00)	.67 (.45)
Superiority	.51 (.50)	–.04 (.03)	–.17 (–.12)	.52 (.27)
Vanity	.49 (.45)	.02 (.19)	–.26 (–.29)	.55 (.30)
Self-sufficiency	.30 (.29)	.01 (.04)	–.07 (–.05)	.30 (.09)
Entitlement	.32 (.32)	.31 (.34)	.10 (–.04)	.45 (.20)
Exploitativeness	.22 (.26)	.29 (.16)	.30 (.25)	.42 (.18)
Exhibitionism	.60 (.65)	.20 (.04)	.25 (.32)	.69 (.48)
Sensation Seeking Scale (<i>n</i> = 166)				
Total score	.39 (.43)	.10 (–.07)	.17 (.27)	.46 (.21)
Thrill and adventure seeking	.43 (.44)	–.11 (–.15)	–.07 (.08)	.45 (.20)
Experience seeking	.35 (.37)	–.03 (–.10)	.02 (.13)	.37 (.14)
Boredom susceptibility	.23 (.27)	.31 (.15)	.33 (.28)	.45 (.20)
Disinhibition	.32 (.36)	.32 (.15)	.34 (.31)	.52 (.27)

Note. Sample sizes differ as indicated by measure, reflecting available participant data for each. Bold font entries denote r/β values $\geq .20$ that are significant at $p < .005$. Zero-order correlations (r) reflect bivariate associations for each MPQ-Triarchic (MPQ-Tri) scale with criterion measure. To quantify distinct contributions of each of the MPQ-Tri scales (Boldness, Meanness, Disinhibition) to prediction of criterion measures after controlling for their shared variance, standardized regression coefficients (β) from regression models incorporating all three MPQ-Tri subscales as predictors are presented alongside zero-order correlations; the multiple regression coefficient (R) and squared value of this coefficient (R^2) are also presented for each of these models. MPQ = Multidimensional Personality Questionnaire; DSM-IV = *Diagnostic and Statistical Manual of Mental Disorders, 4th edition*; CPI = California Psychological Inventory. Not all participants completed all interviews and self-report measures due to the nature of the sample. Therefore, subject number for each measure is reported in the table.

MPQ meanness and disinhibition scores each showed significant negative r values with scores on the CPI So scale, with disinhibition contributing most to prediction in the context of regression. MPQ boldness, by contrast, emerged as the strongest predictor of overall scores on the NPI and its authority, superiority, vanity, and self-sufficiency subscales. MPQ boldness and meanness were each predictive of NPI entitlement. Meanness and disinhibition were similarly predictive of scores on the NPI's exploitativeness scale, with prediction for each reduced in a regression model, indicating overlap between the two in predicting this facet of NPI narcissism. Finally, boldness and disinhibition (but not

meanness) each contributed uniquely to scores on the NPI exhibitionism scale.

MPQ boldness and disinhibition (but not meanness) emerged as unique predictors of overall sensation seeking. Boldness was uniquely predictive of SSS thrill/adventure seeking and experience seeking scales, whereas disinhibition contributed along with boldness to the prediction of scores on the boredom susceptibility and disinhibition subscales.

Associations with self-report measures of personality, temperament, and intelligence. Results of analyses for the NEO-FFI, EASI Temperament Inventory, PANAS, and Shipley

intelligence measures are reported in Table 4. Scores on the MPQ-Tri scales showed expected relations with scores on the five broad personality dimensions of the NEO-FFI. MPQ boldness demonstrated significant positive and negative associations, respectively, with extraversion and neuroticism, and lesser positive associations with openness and conscientiousness (cf. Poy, Segarra, Esteller, López, & Moltó, 2014). MPQ meanness and disinhibition showed comparable negative associations with NEO-FFI agreeableness both at the zero-order level and within a regression model. MPQ meanness and disinhibition also showed common positive associations with neuroticism, but only the relationship for disinhibition remained significant in the three-predictor regression analysis. Additionally, MPQ meanness and disinhibition showed parallel *negative* associations with extraversion, but in this case only the relationship for meanness remained significant in the regression analysis. A similar picture was evident for openness, although in this case the more pronounced negative association for meanness in the regression analysis fell short of significance. Finally, the MPQ disinhibition scale showed a distinct negative relationship with NEO-FFI conscientiousness, both at the zero-order level and in the regression model.

Scores for the MPQ-Tri scales also exhibited theory-consistent associations (cf. Patrick et al., 2009) with subscales of the EASI temperament inventory. MPQ boldness showed positive associations with activity and sociability, reflecting tendencies toward agency and social assertiveness, and negative associations with EASI fearfulness and distress, indicative of low fear and stress immunity. Notably, MPQ boldness showed negligible and slightly positive (but nonsignificant) associations with EASI anger and impulsivity, respectively—indicating relative independence of boldness from tendencies of these types, as opposed to systematic incompatibility. By contrast, disinhibition showed selective *positive* associations with EASI fearfulness and distress, and also impulsivity—indicating tendencies toward affect dysregulation and lack of behavioral restraint. Both disinhibition and meanness showed significant positive associations with EASI anger at the zero-order level and when examined concurrently in a regression analysis, consistent with the idea that these scales tap differing aspects of hostile antagonism. Notably, meanness but not disinhibition was negatively associated with EASI sociability, indicating social detachment.

Table 4
Relations Between MPQ-Based Triarchic Subscales and Self-Report Measures of Personality, Temperament/Affectivity, and Intelligence in Incarcerated Male Participants

	MPQ-Tri scale			
	Boldness <i>r</i> (β)	Meanness <i>r</i> (β)	Disinhibition <i>r</i> (β)	Multiple <i>R</i> (R^2)
NEO-Five Factor Inventory (<i>n</i> = 167)				
Neuroticism	-.40 (-.32)	.33 (.04)	.60 (.53)	.68 (.46)
Extraversion	.60 (.59)	-.26 (-.23)	-.27 (-.06)	.65 (.42)
Openness	.34 (.33)	-.25 (-.21)	-.24 (-.07)	.43 (.18)
Agreeableness	-.06 (-.10)	-.54 (-.36)	-.51 (-.32)	.60 (.36)
Conscientiousness	.26 (.19)	-.18 (.09)	-.46 (-.48)	.50 (.25)
EASI Temperament Inventory (<i>n</i> = 171)				
Emotionality: Fearfulness	-.44 (-.40)	.12 (-.07)	.35 (.34)	.54 (.29)
Emotionality: Distress	-.31 (-.24)	.26 (-.03)	.53 (.52)	.58 (.34)
Emotionality: Anger	-.02 (.00)	.41 (.28)	.39 (.23)	.45 (.20)
Activity	.38 (.40)	.07 (-.04)	.11 (.18)	.41 (.17)
Sociability	.21 (.22)	-.26 (-.31)	-.13 (.07)	.34 (.12)
Impulsivity	.13 (.19)	.29 (.04)	.43 (.43)	.47 (.22)
Positive and Negative Affect Schedule (<i>n</i> = 98)				
Positive affect	.45 (.40)	-.29 (-.14)	-.43 (-.29)	.59 (.25)
Negative affect	-.34 (-.27)	.26 (.03)	.49 (.44)	.56 (.31)
Beck Depression Inventory (<i>n</i> = 101)				
	-.29 (-.24)	.30 (.11)	.44 (.33)	.50 (.25)
Fear Survey Schedule-III (<i>n</i> = 172)				
	-.22 (-.20)	.21 (.13)	.24 (.14)	.33 (.11)
State-Trait Anger Expression Inventory (<i>n</i> = 167)				
Total score	-.13 (-.07)	.53 (.32)	.57 (.38)	.63 (.40)
Anger in	-.32 (-.26)	.42 (.24)	.48 (.31)	.57 (.32)
Anger out	.11 (.16)	.39 (.25)	.38 (.26)	.46 (.21)
Control	.08 (.03)	-.36 (-.20)	-.40 (-.29)	.44 (.19)
Shipley Institute of Living Scale (<i>n</i> = 103)				
Total score	.31 (.32)	-.14 (-.08)	-.18 (-.00)	.32 (.10)
Verbal	.29 (.29)	-.16 (-.13)	-.19 (-.08)	.35 (.12)
Abstraction	.24 (.25)	-.04 (-.06)	-.06 (.02)	.25 (.06)

Note. Sample sizes differed by measure as indicated. Bold font entries denote r/β magnitudes $\geq .20$ that are significant at the $p < .005$ level. Zero-order correlations (r) reflect bivariate associations for each MPQ-Triarchic (MPQ-Tri) scale with criterion measure. To quantify distinct contributions of each of the MPQ-Tri scales (Boldness, Meanness, Disinhibition) to prediction of criterion measures after controlling for their shared variance, standardized regression coefficients (β) from regression models incorporating all three MPQ-Tri subscales as predictors are presented alongside zero-order correlations; the multiple regression coefficient (R) and squared value of this coefficient (R^2) are also presented for each of these models. MPQ = Multidimensional Personality Questionnaire; EASI = Emotionality-Activity-Sociability-Impulsivity.

Results for the affectivity measures paralleled those for the community sample. MPQ boldness showed positive and negative associations, respectively, with the positive and negative affect scales of the PANAS, and negative associations with BDI depression and FSS-III fearfulness, at the zero-order level and also in regression analyses. Meanness and disinhibition both showed contrasting negative r values with positive affect and positive r values with the BDI, but for these criterion measures only the associations for disinhibition remained significant in regression analyses. Disinhibition also showed a modest positive r with FSS-III fearfulness, but this association was reduced to nonsignificance in the regression analysis. Additionally, MPQ disinhibition (but not meanness) showed a positive association with PANAS negative affect in both simple r and regression analyses. Results for the STAXI anger expression measure helped to clarify aforementioned results for EASI anger. MPQ boldness showed a moderate negative r with the anger in subscale, versus somewhat positive but nonsignificant r values, respectively, with anger out and control—resulting in a null association with overall STAXI scores, paralleling that observed for the EASI anger scale. MPQ meanness and disinhibition each showed positive r values with anger in and anger out that remained significant in regression analyses. By contrast, disinhibition was more distinctly predictive of low anger control, exhibiting a significant β coefficient in the regression model not evident for meanness.

Table 4 also presents bivariate r values and regression analysis results for Shipley intelligence scores. Shipley total IQ and verbal IQ scores both showed positive associations with MPQ boldness at the zero-order level, and also when controlling for scores on the other MPQ-Tri scales in regression analyses. Notably, MPQ disinhibition demonstrated a contrasting trend-level *negative* relationship with Shipley verbal IQ specifically, not evident for Shipley abstraction scores.

Discussion

In line with prediction based on prior research, the MPQ provided sufficient coverage of content relevant to each of the triarchic constructs to allow for the development of effective item-based MPQ-Tri scales. Paralleling Benning et al.'s (2005) regression-based approach for estimating scores on PPI Factor 1 ("fearless dominance") from trait scales of the MPQ, the MPQ boldness scale includes representation of items from social potency, stress reaction, and harm avoidance scales, along with a small number from other MPQ scales.⁴ Compelling evidence was found for the criterion-related validity of scores on the MPQ boldness scale. Consistent with Benning et al. (2005), higher MPQ boldness in the community sample was associated both with positive adjustment tendencies (i.e., higher positive affect and social engagement, lower anxiety, and fearfulness) and maladaptive tendencies (i.e., higher antagonism and disinhibition as defined by the PID-5). The finding of a positive relationship for MPQ boldness with PID-5 antagonism, which mirrors the reported association between TriPM boldness and antagonism as indexed by the full-form NEO (Poy et al., 2014), is important given the emphasis placed on this broad trait dimension in personality-oriented conceptions of psychopathy (Lynam & Derefinko, 2006). The comparable-level positive r between MPQ boldness and PID-5 disinhibition, which contrasts notably with its lack of relationship

to either MPQ disinhibition or TriPM disinhibition within this same sample, can be attributed to the inclusion of a risk taking facet in the PID-5 disinhibition domain, reflecting fearless, venturesome tendencies (see Strickland et al., 2013; Table 2).

Within the incarcerated sample, higher MPQ boldness was likewise associated with sensation seeking tendencies as indexed by the SSS (cf. Benning et al., 2005), and with lower anxiety, fearfulness, negative affect, and depression—consistent with Patrick et al.'s (2009) theoretical conception of boldness. These associations parallel correlates of PCL-R Factor 1, and its interpersonal facet in particular, when controlling for overlap with Factor 2 (Hall, Benning, & Patrick, 2004; Hicks & Patrick, 2006). Other dispositional tendencies that showed salient positive relations with MPQ boldness in this sample included extraversion, activity, intelligence, and narcissism. Notably, boldness in the correctional sample was more substantially related to narcissistic tendencies as indexed by the NPI than either MPQ meanness or disinhibition. PCL-R scores were also available for the correctional sample, and analyses revealed a clear preferential relationship for MPQ boldness with the interpersonal facet of PCL-R Factor 1, encompassing charm, grandiosity, manipulation, and deceitfulness. These findings for narcissism and interpersonal features of psychopathy provide further support for the claim that high boldness is associated with maladaptive as well as adaptive tendencies (Lilienfeld et al., 2012; Patrick, Venables, & Drislane, 2013) and for the more general claim that interpersonal dominance may be predictive of adverse outcomes (e.g., violence, poor treatment response) even though the construct itself may not appear overtly pathological or correlate strongly with traditional indicators of antisocial personality traits (Edens, 2009; Smith, Edens, & McDermott, 2013).

The MPQ meanness scale, composed largely of items from the aggression and social closeness scales along with one alienation scale item, showed a strong selective association with TriPM meanness in the community sample—albeit lower (.65) than between MPQ boldness and its TriPM counterpart (.80); this difference is likely attributable to differences in thematic content (i.e., whereas MPQ meanness includes more items pertaining to lack of social warmth and connectedness, TriPM meanness contains more items pertaining to presence/absence of empathic concern). Additionally, MPQ meanness correlated substantially with antagonism and detachment as indexed by the PID-5 in the community sample, consistent with patterns of relations reported by Strickland et al. (2013) for TriPM meanness scores. Within the incarcerated sample, MPQ meanness showed a corresponding negative correlation with NEO agreeableness, and a preferential positive association with the affective facet of the PCL-R, which indexes callousness, shallow affect, and lack of remorse. MPQ meanness was also most strongly and distinctly predictive of the PCL-R's antisocial facet, which indexes persistent delinquent and aggressive behavior. Additionally, MPQ meanness in this sample was related to ASPD symptoms—in particular, child (conduct disorder) symptoms of ASPD, which include salient representation of aggressive tenden-

⁴ Within both the community and incarcerated samples of the current study, scores on the MPQ-Tri boldness scale correlated very highly with scores on MPQ-estimated fearless dominance (r values = .84 and .83, respectively).

cies (cf. Venables & Patrick, 2012)—and with violent charges and instances of fighting in childhood and adulthood. MPQ meanness also showed a negative association with NEO extraversion (which includes a salient component of social affiliation; Church, 1994) and strong positive associations with measures indexing outward expression of anger. These results are consistent with the theoretical conception of meanness as entailing callous aggressiveness and a lack of affiliative capacity, and with empirical evidence for the early emergence of callous-unemotional tendencies as a distinct facet of psychopathy (Frick & Marsee, 2006).

The MPQ disinhibition scale is composed mainly of items from the alienation, control, and stress reaction scales, along with two items from the MPQ aggression scale. In contrast with aggression scale items included in MPQ meanness that reflect themes of exploitativeness, proactive use of force, and enjoyment of victimization, the two aggression items assigned to MPQ disinhibition reflect angry/reactive aggression. Consistent with prediction, MPQ disinhibition showed a strong selective association with TriPM disinhibition in the community sample. Disinhibition was also distinctively predictive of substance problems in both the community and incarcerated samples and, consistent with previous studies (Drislane, Patrick, et al., 2014), showed positive relations with indices of anxiety and negative affect (but not fearfulness; cf. Benning et al., 2005) as well as depression in both samples. These predictive associations parallel findings for the PCL-R impulsive/irresponsible facet in offenders (Hall et al., 2004) and the TriPM disinhibition scale in community samples (Patrick & Drislane, 2014; Sellbom & Phillips, 2013; Stanley et al., 2013).

Additionally, within the incarcerated sample, MPQ disinhibition scores were preferentially related to the impulsive/irresponsible facet of PCL-R Factor 2, which indexes boredom proneness, unrestrained and irresponsible behavior, and a lack of planfulness. Of note, disinhibition was not predictive of the PCL-R antisocial facet apart from its overlap with MPQ meanness, perhaps due to the absence of items dealing with acts of malfeasance (i.e., stealing, conning) or more serious forms of impulsiveness and irresponsibility—as are contained in the TriPM disinhibition scale (Patrick et al., 2013). Also notable was that MPQ disinhibition related more strongly than meanness (or boldness) to all facets of anger expression as indexed by the STAXI, but was not uniquely predictive over and above meanness of aggression acts as indexed by interview/file data. With regard to ASPD symptoms, MPQ disinhibition was more predictive of adult than child symptoms, as has been shown as well for the general disinhibition factor of the ESI, which the TriPM disinhibition scale was developed to index (Venables & Patrick, 2012).

Implications

The results of this study indicate that the MPQ can provide an effective means for indexing the three phenotypic constructs of the triarchic model. Effectiveness of the MPQ operationalization of these constructs was demonstrated by their ability to predict a range of clinically relevant criteria assessed through interview and file data as well as through self-report. As such, our findings are consistent with the notion of psychopathy as a continuous, dimensional phenomenon (Edens, Marcus, & Vaughn, 2011; Marcus, John, & Edens, 2004) that can be indexed in trait-dispositional terms (Lynam & Derefinko, 2006; see also Walton et al., 2008).

Our results also serve to highlight the conceptualization of boldness, meanness, and disinhibition as open constructs (Meehl, 1986) that are represented to differing degrees in various instruments. In particular, current findings indicate that although boldness, meanness, and disinhibition are descriptive concepts distilled from the psychopathy literature, they reflect configurations of basic dispositions and can be indexed using items from inventories designed to assess for broad personality dimensions. The implication is that the construct rating approach used here can be applied to other inventories of general personality or personality pathology to develop scale measures of the triarchic model constructs. One obvious candidate, given its clear existing ties to the psychopathy literature (e.g., Lynam & Derefinko, 2006; Poy et al., 2014), is the full-form NEO personality inventory (NEO-PI-R; Costa & McCrae, 1992). Another instrument likely to be useful, in light of recent research demonstrating its effectiveness in predicting facets of psychopathy indexed by the TriPM, is the PID-5 (Krueger et al., 2012).

As regards to the MPQ, this inventory has been used in a number of large-scale studies of personality and general psychopathology that can serve as sources of data for investigations of psychopathy facets. One such study is the Minnesota Twin Family Study (MTFS; Iacono et al., 1999), which includes clinical diagnostic, self-report (including MPQ), task-behavioral, and electro-physiological data in the context of a longitudinal, genetically informed design. Another is the Dunedin Multidisciplinary Health and Development Study (Silva, 1990). The development and validation of the MPQ-based triarchic scales provides a foundation for the triarchic constructs to be studied in existing datasets and extend what is known about their correlates in differing domains and their etiologic origins and developmental dynamics.

Limitations and Future Directions

Some limitations of our study warrant mention. First, the incarcerated sample is limited in that not all measures were available for all participants, reducing statistical power to detect effects for some variables of interest (e.g., NPI, $n = 74$). Additionally, incarcerated participants were from a federal prison, limiting generalizability to other offender samples, and were exclusively male. The issue of gender is particularly important in view of evidence for male/female differences in the extent and expression of psychopathy and antisocial behavior (Alegria et al., 2013; Cale & Lilienfeld, 2002). Given these limitations, it will be important to further investigate the validity of MPQ-Tri scale scores in other correctional and forensic settings, and with female offenders. The current community sample, which consisted of undergraduate students along with adults from the community, was also limited in terms of demographic and ethnic representation. As such, follow-up studies with more diverse samples of community participants are needed to establish the generalizability of current findings to nonincarcerated individuals more broadly.

Some limitations pertaining to the MPQ-Tri scales should also be acknowledged. Generally speaking, no single operationalization can be considered definitive for capturing a psychological construct or set of constructs (Cronbach & Meehl, 1955; Loevinger, 1957). Particularly when a measure of a target construct is developed from an item pool not assembled specifically for assessing that construct, it is important to consider possible gaps in coverage of the construct. In the case of the MPQ-Tri scales, the boldness

scale cohered very closely with the boldness scale of the TriPM ($r = .8$), but correspondence was lower for the MPQ meanness and disinhibition scales in relation to their counterpart TriPM scales (.65 and .62, respectively). Additionally, it is important to bear in mind that the MPQ, as a normal-range personality inventory, does not contain items with more extreme (“difficult”) content needed to effectively index the severe end of the psychopathy continuum (cf. Watson, Clark, & Chmielewski, 2008). By contrast, the disinhibition and meanness scales of the TriPM are derived from the ESI (Krueger et al., 2007), which was developed for use in clinical as well as community samples, and contain extreme items (e.g., dealing with theft, robbery, conning, serious disregard, and deliberate harm) designed to tap more severe disinhibitory and callous-aggressive tendencies. From this perspective, item-based measures of the triarchic model constructs developed from normal-range personality inventories are best viewed as complementary to, rather than isomorphic with, counterpart scales developed from inventories of psychopathy or broader clinical/personality pathology.

Given these limitations, it will be important in future studies to further evaluate the MPQ-Tri scales in relation to criteria in other measurement domains, including physiological and behavioral domains, as well as in relation to psychopathy-relevant trait and diagnostic variables (e.g., aggression subtypes). For example, the TriPM disinhibition scale shows distinct brain correlates (Patrick et al., 2013; Yancey, Venables, Hicks, & Patrick, 2013) that should be evaluated also for the MPQ disinhibition scale to determine replicability of effects. This question can readily be addressed using the MTFS dataset, which includes brain response measures along with MPQ score data.

Notwithstanding these limitations, the MPQ-Tri scales can afford researchers with unique opportunities to further investigate the biological underpinnings of the triarchic constructs, their developmental trajectories, and their diagnostic correlates in future studies. Datasets in which the full- or brief-form MPQ have been administered can be used to examine the boldness, meanness, and disinhibition facets of psychopathy.⁵ Work using this and other operationalizations of the triarchic model constructs should permit rapid progress to be made in the understanding of this intriguing and important clinical phenomenon.

⁵ Because the items of the MPQ are copyrighted, permission from the University of Minnesota Press is required for administration of the MPQ or the MPQ-Tri scales in research studies. To obtain permission for research use, contact Tami Brown, Test Divisions Permissions and Translations Coordinator (brown307@umn.edu).

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