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Understanding Psychopathy Through an Evaluation of Interpersonal Behavior: Testing the Factor Structure of the Interpersonal Measure of Psychopathy in a Large Sample of Jail Detainees

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Abstract

Interpersonal characteristics are core features of the psychopathy construct which have a unique pattern of correlations with a variety of external correlates. To improve the assessment of interpersonal traits, the current study evaluated the internal structure of the Interpersonal Measure of Psychopathy (IM–P) through exploratory and confirmatory factor analyses (CFA) in a large sample of jail inmates. A 17-item, 3-factor (Dominance, Grandiosity, and Boundary Violations) structure evidenced good fit in European American inmates. A second CFA demonstrated good fit for this structure in a sample of African American inmates. Moreover, a multigroup CFA indicated structural invariance between European and African American inmates. External validity was tested and demonstrated through positive correlations between IM–P factor scores and Psychopathy Checklist—Revised total and facet scores (R. D. Hare, 2003) and antisocial personality disorder symptoms and diagnoses. Modest correlations between Grandiosity scores and scores on the Shipley Institute of Living Scale—Revised (R. A. Zachary, 1994) were also observed. Finally, a step-down hierarchical regression was conducted to test for racial bias of the IM–P factor scores in relation to external correlates. Little evidence was found for slope bias, but there was evidence of intercept bias for some analyses. Implications and advantages of assessing psychopathy through a comprehensive evaluation of interpersonal traits are discussed.

Keywords

psychopathy; interpersonal traits; confirmatory factor analysis

Psychopathy consists of an amalgamation of traits, including glibness, superficiality, lack of remorse, callousness, and impulsivity, in conjunction with the violation of rules and social norms (Hare, 1996; Hare, 2003). The construct of psychopathy has demonstrated strong associations with untoward outcomes, including violent recidivism (Gray, Fitzgerald, Taylor, MacCulloch, & Snowden, 2007; Leistico, Salekin, DeCoster, & Rogers, 2008; Salekin, Rogers, & Sewell, 1996; Z. Walsh & Kosson, 2007) and decimated interpersonal relationships (LeBreton, Binning, & Adorno, 2006; Ullrich, Farrington, & Coid, 2008). As a result, psychopathy is now firmly established as a construct in experimental

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psychopathology (Patrick, 2006) and is frequently evaluated in clinical and forensic psychology contexts (T. Walsh & Walsh, 2006).

It is not surprising that, as psychopathy has gained in standing, there has been a concerted effort to develop specialized instruments to accurately assess the construct. Through programmatic research, the assessment of psychopathy has taken major strides since Cleckley (1941) first formalized the modern concept of the disorder. Based in part on Cleckley's conceptualization, the Psychopathy Checklist—Revised (PCL–R; Hare, 2003) and its progeny, the Psychopathy Checklist: Screening Version (PCL:SV; Hart, Cox, & Hare, 1995) and the Psychopathy Checklist: Youth Version (PCL:YV; Forth, Kosson, & Hare, 2003), were developed. Through multiple and diverse validation studies, PCL ratings of psychopathy have demonstrated solid reliability and construct validity (for reviews, see Hare & Neumann, 2008; Rogers, 2001). However, progress in assessing psychopathy did not end with PCL measures, and recent developments have yielded new insights into the disorder. In the last decade, specialized self-report instruments have been designed and validated for assessing psychopathy in community samples (Lilienfeld & Fowler, 2006). Even scales and subscales on multiscale inventories such as the Minnesota Multiphasic Personality Inventory (2nd ed.; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989) and the Personality Assessment Inventory (Morey, 1991; Morey, 1996) have demonstrated promise in capturing aspects of the psychopathy construct (Douglas, Guy, Edens, Boer, & Hamilton, 2007; Sellbom, Ben-Porath, & Stafford, 2007; Walters & Duncan, 2005). The increase in attention to assessment methodologies has been a boon to developing greater understanding of psychopathy.

Much of the literature demonstrating the value of assessing psychopathy consists of studies of European American offenders. In recent years, a small number of studies have demonstrated the value of assessing psychopathic features in African Americans (Cooke, Kosson, & Michie, 2001; Kosson, Smith, & Newman, 1990; Skeem, Edens, Camp, & Colwell, 2004) and in Latino Americans (Sullivan, Abramowitz, Lopez, & Kosson, 2006). These studies have demonstrated that psychopathy has many of the same correlates in Latino and African American offenders, although the pattern of correlations is not entirely the same in European American and African American offenders (e.g., Lorenz & Newman, 2002; Newman & Schmitt, 1998). Recently, it has been argued that a more systematic evaluation of the psychopathy construct in different ethnic groups is necessary (Sullivan & Kosson, 2006).

The Relevance of Interpersonal Behavior and Personality to the Construct of Psychopathy

In his clinical descriptions of the psychopath, Cleckley (1941) discussed unresponsiveness in interpersonal relationships and an impersonal sex life as cardinal features of psychopathy. Of note, even before Cleckley proposed specific characteristics associated with psychopathy, scholars emphasized the disturbed interpersonal and socially disruptive relationships of psychopathic individuals (Rush, 1812). The connection between problematic interpersonal behavior and psychopathy has been discussed in several articles and book chapters (Babiak, 2000; Herpertz & Sass, 2000; Rimé, Bouvy, Leborgne, & Rouillon, 1978). As noted by Widom (1976), "the psychopath seems to be aware of the discrepancy between his behavior and societal expectations, but he seems to be neither guided by the possibility of such a discrepancy nor disturbed by its occurrence" (p. 614). This common theme in clinical descriptions and in psychopathy research highlights the prominence of interpersonal features in the expression of psychopathy.

The importance of the interpersonal component of psychopathy is reflected by its inclusion in current three- and four-factor conceptualizations of the disorder (Cooke & Michie, 2001; Hare, 2003; Neumann, Hare, & Newman, 2007). The value of interpersonal traits is also reflected in recent cluster analytic studies (Swogger & Kosson, 2007; Vassileva, Kosson, Abramowitz, & Conrod, 2005; Vincent, Vitacco, Grisso, & Corrado, 2003) in which interpersonal features have been central in differentiating primary from secondary variants of psychopathy. Interpersonal traits offer a unique window into identifying individuals with psychopathic traits. Such traits can be identified by untrained observers in time intervals as brief as 5 s, illustrating how potent these traits can be within interpersonal interactions (Fowler, Lilienfeld, & Patrick, 2009).

Studies using the PCL–R or its derivatives have emphasized the distinct relationship between interpersonal features of psychopathy and key external criteria. Across diverse samples, scores on the Interpersonal facet of psychopathy have evidenced positive relationships with instrumental aggression (Flight & Forth, 2007; Vitacco, Neumann, Caldwell, Leistico, & Van Rybroek, 2006; Vitacco et al., 2009; Z. Walsh, Swogger, & Kosson, 2009), intelligence (Neumann & Hare, 2008; Vitacco, Neumann, & Jackson, 2005; Vitacco, Neumann, & Wodushek, 2008), and with structural and functional brain anomalies (Glenn, Raine, & Schug, 2009; Yang et al., 2005). Likewise, Neumann and Vitacco (2004) found that Interpersonal facet scores uniquely predicted increases in violence over time in the MacArthur Risk Assessment Study sample. However, recent research has suggested the Interpersonal traits are not uniquely predictive of violent or general recidivism (Walters, Knight, Grann, & Dahle, 2008). Walters et al. (2008) found that only Antisocial facet scores demonstrated incremental validity above and beyond the other three PCL–R facet scores in predicting general and violent recidivism in six independent samples.

In sum, extant research has provided general evidence of links between interpersonal features of psychopathy and a diverse set of external correlates. Furthermore, these links are apparent in studies of criminal and noncriminal samples, suggesting that these relationships hold, even in the absence of overt antisocial behavior. There is solid theoretical support for viewing psychopathy, like several other personality disorders, through the lens of interpersonal behavior (Doninger & Kosson, 2001; Wiggins, 1982). The current article's focus falls squarely on the interpersonal facet of psychopathy.

The Interpersonal Measure of Psychopathy

An understudied yet promising methodology for assessing psychopathy is the Interpersonal Measure of Psychopathy (IM–P; Kosson, Steuerwald, Forth, & Kirkhart, 1997). The IM–P is a 21-item observational measure designed to quantify interpersonal interactions occurring during traditional PCL–R interviews. As reported by Kosson et al. (1997), initial data suggested that, among inmates, IM–P scores have high internal consistency ($\alpha = .81$) and interrater reliability ($r = .83$) and are more strongly correlated with scores on Factor 1 (reflecting callous and manipulative personality traits) of the PCL–R ($r = .62$) than with Factor 2 scores (reflecting impulsive, irresponsible lifestyle and antisocial behavior, $r = .31$).[1]

The pattern of substantially stronger correlations with Factor 1 than with Factor 2 scores has been replicated in independent samples of students assessed with the PCL:SV (Kosson et al., 1997, Study 2), adolescents assessed with the PCL:YV (Kosson, Cyterski, Steuerwald, Neumann, & Walker-Matthews, 2002), and federal inmates assessed with the PCL–R

[1]A similar pattern of results was evident for the IM–P and PCL:SV. In this case, IM–P scores were correlated more strongly with scores on Factor 1 of the PCL:SV ($r = .33$) than with scores on Factor 2 ($r = .15$).

(Zolondek, Lilienfeld, Patrick, & Fowler, 2006). Kosson et al. (1997) also reported that IM–P scores contributed uniquely to the cross-sectional prediction of interviewer emotional response, offenders' self-reported histories of fighting, and observer ratings of interpersonal dominance. Similarly, Zolondek et al. (2006) reported that IM–P scores demonstrated incremental validity beyond total PCL–R scores in predicting fear and anxiety; however, consistent with Kosson et al. (1997), correlations between IM–P scores and scores on self-report variables were generally modest. In fact, IM–P scores generally did not predict self-report scores after controlling for PCL–R Factor 1 scores.[2] Using the same sample as Zolondek et al. (2006), Fowler et al. (2009) reported that IM–P scores correlated relatively highly with thin slice observer ratings of interpersonal behavior. In sum, available research suggests that explicit attention to interpersonal behavior can be a useful adjunct to more traditional interview- and self-report based assessments of psychopathy.

The Present Study

Although prior research findings on the psychometric properties of the IM–P have corroborated its utility, many questions remain. One central limitation in current knowledge about the IM–P is that its factor structure has not been established. Understanding the structure of a measure is an important component of its overall validation (Kline, 2005; Walters, 2008). As such, the current study was designed to address the internal structure underlying IM–P scores in a large sample of male offenders. Our goal was to develop and evaluate the fit of an internal structure for the IM–P that can be readily used to assist in understanding interpersonal traits associated with psychopathy.

As noted earlier, most of the empirical literature addressing the utility of various measures of psychopathy has demonstrated its validity in European Americans. However, all prior studies of this topic have focused on the PCL measures (e.g., Kosson et al., 1990; Skeem et al., 2004). In fact, there have been no prior studies of the comparability of psychopathy across ethnic differences with an observer measure of psychopathy. For these reasons, a second purpose of the study was to systematically examine the internal structure of IM–P scores in European Americans and African Americans. Initially, all tests of factor structure were conducted with European American inmates only. However, once we obtained a good fitting structure for the IM–P with European Americans, we also examined the internal structure of the IM–P on a large group of African Americans at the same county jail. In testing structural models, we used both exploratory factor analysis and confirmatory factor analysis (CFA).

Last, we evaluated the external validity of the new IM–P model by examining relationships between obtained factor scores and scores on the four-factor model of the PCL–R, as well as testing relationships between the IM–P factors and scores on the SILS–R, a screen of intellectual functioning. Given the focus of the IM–P on the interpersonal behavior of psychopathic offenders, we expected stronger correlations with Interpersonal facet scores than with scores on Lifestyle and Antisocial components of psychopathy. Because Kosson et al. (1997) examined only the two-factor model of psychopathy, we were also interested in examining whether correlations between IM–P factor scores and Affective facet scores would be stronger than correlations with Lifestyle and Antisocial facet scores or weaker than

[2]Also consistent with Kosson et al. (1997), Zolondek et al. (2006) reported that IM–P scores were not generally associated with increased criminal activity. In fact, Kosson et al. (1997) actually reported that IM–P scores were associated with lower scores on various indices of antisocial behavior but typically only after extracting variance associated with PCL–R Factors 1 and 2. The lack of an association between interpersonal aspects of psychopathy and general criminal activity is consistent with findings emphasizing that scores on the lifestyle and antisocial components of psychopathy are generally more closely related to antisocial behavior and criminal activity than are scores on the interpersonal and affective components. However, most studies have focused on Factor 1 and Factor 2, rather than the more specific facet scores (e.g., Walters et al., 2008).

correlations with Interpersonal facet scores, but no predictions were offered. Finally, although some authors have attributed the behavioral deficits of psychopathic offenders to general executive dysfunction (e.g., see review by Morgan & Lilienfeld, 2000), most studies of psychopathic offenders do not indicate differences in intelligence (e.g., Blair et al., 2006; Neumann & Hare, 2008; see Hare, 2003, for a review). Consequently, we expected any associations between IM–P and SIL-S scores to be relatively small. However, because some investigators have reported positive relationships (Vitacco et al., 2008; Vitacco et al., 2005), it was also possible that we would see positive correlations between IM–P factor scores and verbal intelligence scores.

Method

Participants

Participants for this study included 592 European American inmates from a medium-sized county jail in the Chicago, Illinois area. The inmates ranged in age from 18 to 47 years (M = 26.09, SD = 6.67), and the average level of education was close to that of a high school graduate (M years of education = 11.27, SD = 1.78). The study also included 583 African American inmates (M age = 26.49 years, SD = 6.66) with a similar average level of education (M years = 11.27, SD = 1.67). There were no age (p = .46) or education differences (p = .16) on the basis of ethnicity.

Participants were incarcerated and charged with or convicted of a variety of offenses, including both misdemeanors and felonies. Any inmates with psychotic symptoms, unable to read or speak English, or taking psychoactive medications were excluded from the current study. Only participants with data for all IM–P items were retained for analyses.

Procedure

Participants were recruited via telephone contact. During the initial contact, inmates were provided a general description of the study and informed they would be provided a small monetary payment (e.g., either $5.00 or $8.00, depending on when they participated) for their participation. General demographic information was gathered; in addition, participants were administered a semistructured interview covering areas of the individual's life including development, social relationships, and criminal history as part of a comprehensive interview designed to rate the PCL–R and to diagnose antisocial personality disorder (ASPD). Each participant's behavior during this interview was used to score the IM–P.

Instruments

Interpersonal Measure of Psychopathy (IM–P)—The IM–P was designed as a 21-item behavioral observational measure of the nonverbal behavior exhibited by participants and the interpersonal processes that occur during a semistructured interview. The IM–P was not designed as a stand-alone measure of psychopathy; instead, its purpose was to supplement existing PCL measures by tapping into observable interpersonal qualities of the interviewee. In addition, the IM–P was designed to assess individual differences using a different method than the PCL–R. Whereas PCL–R ratings are based on participants' answers to specific questions and file reports of their behavior as well as interviewers' observations of interpersonal behavior, IM–P ratings are based solely on observed behavior during the interview and subjective impressions of interviewees. In short, the IM–P was designed so that scores would not be influenced by information in file reports and in the contents of participants' answers to specific questions. Unlike PCL–R scores, IM–P scores were designed to reflect the frequency with which specific kinds of nonverbal behaviors and interactions occurred. As such, the IM–P was designed to be completed without the need for integrating information across multiple domains.

After completing PCL–R ratings, interviewers and observers were asked to record independently the frequency with which each interpersonal process occurred and how well it described the interaction with the participant: Scores of 0 indicated that the behavior did not describe the interaction with the participant at all, scores of 1 indicated that the behavior described the interaction "somewhat" or that the behavior/feature was evident to a small extent or exhibited rarely, scores of 2 indicated that the behavior described the interaction "very well" or that the behavior/feature was clearly evident, and scores of 3 indicated that the behavior described the interaction perfectly and that the behavior/feature was exhibited consistently or very frequently. Twenty-six individuals provided IM–P ratings as interviewer, observer, or both. Apart from the second author, these raters were graduate students. All graduate student raters were trained in the use of the PCL–R and the IM–P by the second author.

Psychopathy Checklist-Revised (PCL–R)—The PCL–R (Hare, 2003) is a 20-item rater-based instrument designed to assess the construct of psychopathy in clinical and research settings (Hare, 2003). As part of the assessment, rater scoring for the 20 items relied on a semistructured interview and a review of file information and collateral records. Consistent with Hare (2003), we scored four factors that included Interpersonal, Affective, Lifestyle, and Antisocial tendencies for 577 participants (*n*s = 297 European Americans and 280 African Americans) with complete data for both the IM–P and PCL–R. Alpha coefficients for the four PCL–R factors were modest: Interpersonal α= .71, Affective α= .74, Lifestyle α = .63, and Antisocial tendencies α = .64. Total scores for the PCL–R ranged from 4 to 39 (*M* = 24.25, *SD* = 6.96).

Shipley Institute of Living Scale—Revised (SILS–R)—The SILS–R (Shipley, 1940; Zachary, 1994) is an intelligence screening measure consisting of two subtests (Vocabulary and Abstraction) designed to provide an estimate of a full scale intelligence quotient (IQ) based on the Wechsler Adult Intelligence Scale—Revised. Each subtest is timed, and a 10-min maximum is allotted for each subtest. Vocabulary consists of 40 questions whereas the Abstraction subtest contains 20 items for which a respondent needs to determine the underlying pattern or sequence. The SILS–R has been used extensively with offender and forensic samples (Bowers & Pantle, 1998; Megargee, 2003) as a screen for intellectual functioning and has demonstrated good reliability and validity (Zachary, 1994). In the current study SILS–R estimated IQ scores were available for 1,125 participants (*n*s = 567 European Americans and 558 African Americans) with complete IM–P and SILS–R data. Wechsler Adult Intelligence Scale—Revised estimates on the SILS–R ranged from 49 to 124 (*M* = 89.31, *SD* = 13.45).

Data Analytic Plan

The initial factor test for the IM–P model was conducted with SPSS Version 17. Using a principal component analysis (PCA) with varimax rotation, our initial goal was to develop a viable factor model for the IM–P. Items with a component loading of .35 or greater were retained for use in the confirmatory factor analyses. In the event of cross loadings, we decided to place the item on the factor on which it evidenced the greatest loading provided it was above the .35 threshold. The Mplus modeling program (Version 5.0; Muthén & Muthén, 2001) was used for confirmatory factor analyses because of its ability to deal with ordinal variables like the items that make up the IM–P. Consistent with the recommendations of Hu and Bentler (1998), we used both absolute and incremental indices to evaluate model fit. Absolute fit indices gauge how well a proposed model reproduces observed data. Incremental indices test the fit of a proposed model in relation to the null model.

We used the comparative fit index (CFI) and Tucker Lewis Index (TLI) to evaluate incremental fit. Large values represent better fit, with good fit indicated by values around .95. Absolute fit was evaluated by the root-mean-square error of approximation (RMSEA). Smaller values represent better fit, with good fit indicated by values below .05 and acceptable fit indicated by values below .08 (Hu & Bentler, 1999). The weighted root-mean-square residual (WRMR) was also used to evaluate absolute fit. Typically, values between .90 and 1.0 indicate good fit (Martin, Bonner, Brook, & Luscombe, 2006; Yu, 2002). Two additional parameters provided by Mplus are useful in evaluating ordinal data: factor loadings and thresholds. Factor loadings are the correlations of each item score with the variable or factor scores. Thresholds provide information on differential endorsement of items at different levels of latent traits. In addition, the variance accounted for (R^2) in each individual item in proportion to the common factors is provided by Mplus.

We also conducted a test of structural invariance on the basis of ethnicity (European American and African Americans). In testing for structural invariance we employed a multigroup CFA (MGCFA). The MGCFA provides a strict test of the structural properties of the model and evaluates whether the structural model holds across groups (e.g., ethnicity). In conducting an MGCFA, Mplus constrains item loadings and thresholds to be invariant (i.e., equal) between groups. Structural invariance is then tested through analysis of traditional fit indices: CFI, TLI, RMSEA, and WRMR. Structural invariance is assumed with good model fit, which "indicates that the assumption of parameter equivalence across the respective groups is justified" (Jackson, Neumann, & Vitacco, 2007, p. 295; for a complete review, see Vandenberg, 2002 and Vandenberg & Lance, 2000).

The final test of the IM–P involved evaluating the relationships of IM–P factor and total scores with external criteria. We examined three kinds of external criteria. First, we evaluated the relationship between the IM–P and the PCL–R scores via Pearson correlations. We hypothesized that scores on the Interpersonal facet of the PCL–R would show the strongest correlations with scores on the factors of the IM–P compared with scores on the other three facets of the PCL–R (i.e., Affective, Lifestyle, and Antisocial tendencies). Second, we examined correlations between IM–P factor scores and the number of adult symptoms of ASPD and dichotomous diagnoses (present/absent) of ASPD. Our expectation was that the IM–P factors would also be correlated with ASPD indices. However, we expected that the correlations with ASPD criteria would be somewhat smaller than correlations with the interpersonal features of psychopathy. Third, we evaluated the relationship between the IM–P factors and full scale, verbal, and nonverbal intelligence, as estimated by the SILS via Pearson correlations. We hypothesized that scores on the IM–P would be independent of SILS–R abstract and full scale Wechsler Adult Intelligence IQ estimates. Such findings would suggest that the IM–P factor scores are not affected by gross individual differences in executive and intellectual functioning.

Finally, we conducted a set of hierarchical regressions to examine whether the relationships between IM–P factor scores and external variables differed as a function of ethnicity. The method, originally reported by Lautenschlager and Mendoza (1986) examines whether the inclusion of a moderator (in this case, ethnicity) or the interaction between a putative moderator and a predictor variable (here, one of the IM–P factor scores) improves statistical prediction of a criterion. Hierarchical multiple regression analyses were repeated for each combination of predictor and criterion variable using procedures described by Lautenschlager and Mendoza (1986; see also Monnot, Quirk, Hoerger, & Brewer, 2009). Where the combination of the ethnicity variable and the interaction added to prediction, it was assumed that racial bias was present. Subsequent analyses were then conducted to examine whether the bias was only intercept bias (i.e., a main effect of ethnicity) or slope bias (an interaction), where slope bias is interpreted as indicating that the relationship

between a predictor (e.g., an IM–P factor score) and a criterion is different for African Americans than for European Americans. Because of the large number of regressions conducted, an alpha of .01 was used for these analyses.

Results

Preliminary Analyses

Prior to conducting tests of model fit, we evaluated descriptive statistics for all 21 IM–P items with the 592 European American participants. Preliminary results indicated two issues that needed to be addressed prior to testing the factor structure of the IM–P. First, few individuals scored a 3 on the IM–P items. The mean endorsement of a rating of 3 across all 21 items was only 1.33% (range across items = 0.2% to 5.9%). A score of 3 was endorsed at a rate of 1% or lower on 13 of the 21 items. As such, each rating of 3 was rescored as a 2. Table 1 presents means and standard deviations for all IM–P items for the European American participants after rescoring. Even after the transformation, two items (IMP–7 and IMP–11) were endorsed (i.e., scored either 1 or 2) at such low rates (8.7% and 1.4%, respectively) that they were removed from further analyses.

Exploratory Analyses: Developing a Model for the IM–P

The remaining 19 IM–P items were subjected to an exploratory factor analysis. We conducted a principal components analysis (PCA) with varimax rotation for the 592 European American participants. The PCA analysis was conducted with SPSS software, Version 17. PCA analyses are well suited for scale development when there is not an a priori factor structure. The PCA yielded evidence for valid three- and four-factor models of the IM–P.

Based on the PCA results, we subjected the data to a Humphreys-Montanelli parallel analysis to assist in the factor retention decision (Humphreys & Montanelli, 1975; see Hayton, Allen, & Scarpello, 2004). Parallel analyses provide an independent analysis of the correct number of higher order dimensions or factors in a dataset. In brief, parallel analysis procedures carry out a factor analysis of a correlation matrix that is randomly generated from sample data so that the randomly generated dataset contains the same number of variables and same number of observations as the actual data set. Parallel analyses provide statistics indicating the number of factors for which the actual PCA does a significantly better job of reproducing the pattern of interitem correlations than a similar number of dimensions generated for the randomized dataset. We repeated these procedures 1,000 times to ensure a stable result. The parallel analyses indicated that three factors underlie the pattern of correlations in the actual IM–P dataset.

The results for the 19-item three-factor PCA are presented in Table 2. The three factors accounted for 41.23% of the total variance, and, following rotation, each factor accounted for an almost equivalent proportion of variance in the model (i.e., 14.12%, 13.60%, and 13.51%, respectively). All items included met our criterion of item loadings greater than .35. It is notable that Items 9 and 14 evidenced cross loadings. The resulting 19 items were then subjected to CFAs. The model fit did not meet expectations for one relative fit index and one absolute fit index (i.e., CFI = .92, TLI = .95, RMSEA = .06, and WRMR = 1.23). A close examination of the results revealed the model accounted for little variance for two items, IMP–18 and IMP–19 (R^2 = .20 and .16, respectively). Consequently, these items were removed from subsequent analyses.

We then repeated the CFA, loading each of the remaining 17 IM–P items onto their respective factors in Mplus. Results indicated that the three correlated factor IM–P model

provided generally good fit, $\chi^2(66, N = 592) = 183.84$, $p < .0001$, CFI = .94, TLI = .96, and RMSEA = .055. The WRMR was slightly above but close to the guideline of 1.0 recommended by Yu (2002): WRMR = 1.15. Table 3 presents the item loadings, thresholds, and R^2s for the IM–P items for European American participants.[3] The three factors were moderately correlated with each other (*r*s ranging from .43 to .50) but not so highly correlated that they appeared to be redundant. All item loadings exceeded .50 (range = .51 to .88). The first threshold represents the expected value on the factor at which an individual is most likely to transition from a rating of 0 to 1 on a particular IM–P item, whereas the second threshold represents the value at which an individual is expected to transition from a rating of 1 to a rating of 2 on the IM–P item. Item thresholds were also generally good, indicating that different items were endorsed at different levels of the trait, although for three items (Items 8, 13, and 14), the threshold corresponding to scores of 0 versus 1 was quite low, suggesting that the primary source of individual differences was between scores of 1 versus 2.

Table 4 presents the proposed three-factor structure for the IM–P based on the 17 remaining items. As shown in Table 4, the items in the first dimension seem to reflect various ways in which participants may attempt to control the interview or impose idiosyncratic agendas on the interaction; consequently this dimension was labeled *Dominance*. The items in the second dimension appear related to self-presentation as special, unique, or superior to others, and this dimension was labeled *Grandiosity*. Finally, the items in the third dimension seem to represent failures to exhibit the kinds of behaviors typically associated with the role of a participant in a research interview. Although there are no explicit constraints on how research participants behave, they typically answer the questions they are asked and respect the professional nature of the research interaction. Whereas some of the items on this factor suggest a lack of respect for professional or personal boundaries or intrusiveness, others suggest a more general tendency to seek alliances or to perceive an alliance between the participant and the interviewer; consequently, this dimension was labeled *Boundary Violations*.

Descriptive and reliability statistics for the proposed model were tested in the group of 592 European American jail inmates. Total scores ranged from 0 to 26 ($M = 6.20$, $SD = 5.22$), with good internal consistency (alpha correlation coefficient = .83) for the 17-item scale. As expected, alpha coefficients were less robust for the three IM–P factors than for the total IM–P, although still adequate: Dominance $\alpha = .71$, Grandiosity $\alpha = .71$, Boundary Violations $\alpha = .66$.

Cross Validation of the Three-Factor Model in African American Inmates

To examine the generalizability of the model for a sample of African American inmates, we repeated the CFA in a sample of 583 African American inmates. Scores on the 17-item IM–P ranged from 0 to 34 ($M = 6.45$, $SD = 5.83$) with good internal consistency ($\alpha = .86$) for total scores. As expected, alpha coefficients were less robust for the IM–P subscales than for the total IM–P: Dominance $\alpha = .76$, Grandiosity $\alpha = .71$, and Boundary Violations $\alpha = .74$. Table 1 presents means and standard deviations for the IM–P items in the African American sample.

[3]To examine the extent to which our rescoring of the IM–P altered the obtained factor structure, we also tested the three-factor CFA for the 17 items with the original IM–P scoring. As expected, the fit for the three-factor model with the original scoring did not indicate as good a fit for the model as did the revised scoring; however, the generally acceptable fit of the three-factor model suggests that the rescoring did not dramatically alter the construct assessed by the IM–P (CFI = 0.93, TLI = 0.95, RMSEA = .06, and WRMR = 1.21).

In reviewing differences between African and European Americans at the item level, only one item was found to perform differently. Scores on Item 15 (Incorporates Interviewer into Stories) were higher in African Americans (M = 0.22, SD = 0.55) compared with European Americans (M = 0.15, SD = 0.43), $t(1102.18) = 2.73$, $p = .006$, with a relatively small effect size (Cohen's d = 0.14). The 17-item total score for the IM–P did not differ between European Americans and African Americans, $F(1, 1176) = .63$, $p = .43$. Neither were mean Dominance ($p = .51$) nor Grandiosity ($p = .70$) factor scores different as a function of ethnicity; however, African Americans (M = 1.79, SD = 2.45) scored slightly higher than European Americans (M = 1.50, SD = 1.95) on the Boundary Violations factor, $F(1, 1172) = 2.28$, $p = .03$, d = 0.13.

We then performed a CFA on the IM–P items for the African American sample. Again, CFA results indicated generally good fit, $\chi^2(65) = 188.24$, $p < .0001$, CFI = .94, TLI = .97, and RMSEA = .057, with the WRMR slightly above optimal at 1.11. Table 5 presents item loadings, thresholds, and R^2s for the IM–P items for African American participants. Again, the three factors were moderately correlated with each other (rs ranging from .50 to .55). An inspection of the item loadings and thresholds in Tables 3 and 5 suggests relatively similar parameter values for European Americans and African Americans. As for European Americans, all loadings were above .50 (range = .54 to .88).

Testing Structural Invariance for the IM–P

The final test of model fit consisted of the MGCFA to test for invariance across ethnicity (i.e., European American vs. African American offenders). In conducting the MGCFA, we constrained loadings and thresholds to be equal between the two ethnic groups. Invariance was then evaluated through a review of traditional fit indices. The relative fit indices and one of two absolute fit indices indicated that the IM–P ratings evidenced structural invariance across ethnicity, $\chi^2(132) = 325.79$, $p < .001$, CFI = .95, TLI = .97, and RMSEA = .05. In this case, the WRMR was above acceptable levels (WRMR = 1.64). Overall, on the basis of good fit for three of the four indices, we can conclude there is evidence of invariance in the construct assessed by the IM–P across these two ethnic groups.[4]

External Correlates of IM–P Factor Scores

A final test of the new model involved evaluating the relationships between the new IM–P model and scores on the four facets of the PCL–R, symptoms of ASPD, and scores on the SILS–R in our sample of offenders. As expected, the relationships between the IM–P scores and PCL–R factor scores were all positive. Table 6 shows that scores on all three factors were significantly correlated with scores on all four PCL–R factors. As predicted, the largest correlations were with Interpersonal facet scores. For instance, PCL–R Interpersonal facet scores correlated .38 with Dominance scores, .62 with Grandiosity scores, and .38 with Boundary Violations scores (all ps < .001). Moreover, Z tests revealed that the correlations between scores on each factor and PCL–R Interpersonal scores were significantly greater than correlations between the same factor scores and scores on the other PCL–R dimensions of psychopathy (for Dominance Zs > 4.25, $p < .001$; for Grandiosity, Zs > 6.90, $p < .001$; for Boundary Violations, Zs > 3.30, $p \leq .001$). In addition, although IM–P factor score correlations with Affective facet scores were generally not significantly larger than correlations with Lifestyle or Antisocial facet scores, the correlation between Grandiosity and Affective scores was significantly greater than that between Grandiosity and Antisocial scores (Z = 5.08, $p < .001$). Correlations were also calculated separately on the basis of

[4]Complete output is available upon request by contacting the first author.

ethnicity (i.e., African American and European American). All correlations remained highly significant among European and African Americans (*p*s < .001).

Analyses with the full sample also indicated that the correlations between Grandiosity scores and scores on most PCL–R facets were significantly greater than the corresponding correlations for the Dominance and Boundary Violations scores (for Interpersonal scores, *Z*s > 6.70, *p*s < .001; for Affective scores, *Z*s > 3.18, *p*s < .005; for Antisocial scores, *Z*s > 3.06, *p*s < .005).

In addition, data on 684 individuals (323 African Americans and 361 European Americans) evidenced significant correlations between all three IM–P factor scores and the total number of adult ASPD symptoms present: Dominance $r = .26$, $p < .001$; Grandiosity $r = .31$, $p < .001$; and Weak Boundaries $r = .23$, $p < .001$.[5] Point biserial (r_{pb}) correlations were used to examine correlations between IM–P factor scores and the presence versus absence of an ASPD diagnosis. For the entire sample with diagnostic information ($n = 684$), all three scales of the IM–P were correlated with ASPD diagnoses: Dominance $r_{pb} = .15$, $p < .001$; Grandiosity $r_{pb} = .20$, $p < .001$; and Weak Boundaries $r_{pb} = .19$, $p < .001$. All correlations remained statistically significant when the sample was divided on the basis of ethnicity. None of the correlations between an IM–P factor score and an ASPD criterion were significantly greater than any of the others.

Only one of the Pearson correlation coefficients between IM–P factor scores and SILS–R estimated full-scale IQ scores was significantly different from zero. No significant correlations were evidenced between Dominance ($r = .02$, *ns*) or Weak Boundaries scores ($r = -.01$, *ns*) and SILS–R estimated IQ scores. However, a small but significant correlation between Grandiosity and the SILS–R estimated IQ was found ($r = .09$, $p < .005$). Similarly, scores on the Verbal subtest of the SILS–R were unrelated to IM–P Dominance ($r = .04$, *ns*) and Boundary Violations scores ($r = .00$, *ns*). However, there was a small but significant correlation between IM–P Grandiosity scale and SILS–R verbal scores ($r = .10$, $p = .001$). Scores on the Abstract subtest demonstrated the same pattern of results: They were unrelated to Dominance ($r = .01$) and Boundary Violations ($r = -.02$) scores and evidenced a small but significant correlation with Grandiosity scores ($r = .07$, $p < .05$).[6] In all cases, the correlation between the Grandiosity score and the estimated intelligence was greater than the corresponding correlation for Boundary Violations (all *Z*s > 3.06, *p*s < .005).

Analyses of Bias

Finally, multiple regressions examining the possibility of differential relationships between IM–P factor scores and scores on external correlates were conducted. Analyses for PCL–R factor scores yielded evidence of intercept bias, indicating that ethnicity affected PCL–R total scores as well as PCL–R interpersonal and affective factor scores (*F change* values = 9.49–11.64, 6.70–15.02, and 15.33–17.61, respectively, *p*s ≤ .01). However, there was no evidence of slope bias; none of the IM–P Factor × Ethnicity interactions proved significant (all *p*s > .05). There was no evidence of slope or intercept bias for PCL–R lifestyle or antisocial facet scores or for adult symptoms of ASPD.

With respect to SILS scores, regressions yielded evidence of intercept bias for estimated IQ scores, for SILS–Verbal scores and for SILS–Abstract scores, *F change* values = 26.66–

[5]We repeated these correlational analyses separately for African Americans and European Americans; however, the pattern of significant correlations remained the same (all *p*s < .001) across ethnicity for all IM–P factors. As such, we presented the output for the entire sample.

[6]We also ran correlations eliminating cases in which the estimated IQ was ≤ 70. However, the pattern of correlations did not change. As such, we presented the output for the entire sample.

49.01, 38.90–68.59, and 16.55–24.48, respectively (*p*s ≤ .01). In addition, there was evidence of slope bias for full scale IQ estimates for both Grandiosity and Weak Boundaries (*F change* values = 6.76 and 6.18, respectively, *p*s ≤ .01). No other regressions yielded significant interactions at the alpha level of .01, although there were trends toward slope bias for the prediction of SILS–Verbal scores for all three IM–P factor scores (*F change* values = 4.76–5.32, *p*s < .05).

Discussion

The current study is the first to rigorously assess the factor structure of the IM–P, a measure designed to systematically assess the interpersonal features of psychopathy. Results provide strong evidence for a 17-item, three-factor model of interpersonal traits, here interpreted as: Dominance, Grandiosity, and Boundary Violations. Dominance describes individuals who attempt to control an interview and express their own agenda during the process. Grandiosity describes individuals who express superiority to others or toughness and who often exhibit a high degree of show-manship. Boundary Violations describes individuals who fail to respect the professional relationship and instead make personal or inappropriate comments to the interviewer and seek an alliance or other special relationship. On the basis of the correlations evidenced in both the European and African American participants, it is clear these factors are characterized by moderate overlap in their representation of the interpersonal characteristics associated with psychopathy.

The identification of the IM–P's factor structure using CFA represents a significant advancement in understanding and assessing interpersonal traits associated with the psychopathy construct. In helping to specify the components of the interpersonal dimension of psychopathy, the current study provides a way to organize observations of individuals, which may lead to identifying additional behaviors of interest. In addition, the moderate correlations between the three components suggests that some individuals may exhibit high scores on only one or two of these components and that scores on these factors may have distinct correlates. Consistent with this possibility, although all three factors evinced larger correlations with PCL–R Interpersonal facet scores than with other PCL–R facet scores, Grandiosity factor scores correlated more highly with several PCL–R facet scores than did scores on other IM–P factors, suggesting that Grandiosity may overlap more closely than the other factors with the PCL–R operationalization of psychopathy. In addition, only Grandiosity scores demonstrated stronger correlations with Affective than with Antisocial facet scores and significant correlations with SILS–R intelligence estimates.

The preliminary examination of external correlates yielded two other findings. First, the general lack of relationships between IM–P factor scores and Shipley test performance suggests that individual differences in intelligence did not confound the ratings in the current study. Moreover, the finding of a small but significant relationship between scores on Grandiosity and all the SILS–R scales is consistent with research on both the PCL–R and PCL:SV in suggesting a positive association between intelligence and scores on the Interpersonal facet of psychopathy (Vitacco et al., 2008; Vitacco et al., 2005). Second, the strength of the relationship between scores on the Interpersonal facet of the PCL–R and on all of the IM–P factors was consistent with expectations. Moreover, that these correlations were consistently greater for Interpersonal than for Affective facet scores raises the possibility that the IM–P factors may be particularly relevant to the Interpersonal component of psychopathy. However, whether the IM–P factors differently correlate with other external criteria remains an important question for future study.

Adding to the strength and generalizability of the model is evidence of invariance evidenced across African American versus European American ethnicity in this large sample of jail

inmates. The structural invariability is consistent with earlier research on other psychopathy measures. For example, prior studies of the PCL:SV indicated structural invariance in samples of civil psychiatric patients (Jackson et al., 2007) and community-based participants (Neumann & Hare, 2008). Likewise, Skeem et al.'s (2004) meta-analysis demonstrated little variability in the overall results using the PCL–R on the basis of ethnicity. Cooke et al. (2001) also reported that the PCL–R performed generally similarly in African American and European American inmates. The IM–P's structural consistency with European and African Americans adds to the applicability of the instrument. One notable finding was that African Americans scored higher on the Boundary Violations factor, although the effect size was quite small (Cohen's d = .13). Even with evidence of structural invariance, Jackson et al. (2007) and Cooke et al. (2001) found slight differences in the relationship between impulsivity and the PCL factor dimensions on the basis of ethnicity. Whether the factor difference on Boundary Violations is replicable or clinically relevant is clearly an issue for further study.

In our examination of bias, the hierarchical regression analyses recommended by Lautenschlager and Mendoza (1986) generally indicated the presence of slope bias but not intercept bias. The findings for slope biases were relatively modest, consistent with the general lack of evidence for ethnic differences in relationships between IM–P factor scores and external measures. The one exception was for analyses involving SILS scores, which indicated both slope and intercept bias. Based on this, it appears necessary to consider the influence of ethnicity if researchers are going to test the utility of the IM–P in predicting intelligence scores. However, otherwise, our analyses yielded little evidence of bias in the relationships between IM–P scores and external correlates among African Americans and European Americans.

Interpersonal features have been a prominent component of psychopathy since Cleckley's (1941) treatise and have continued to be featured in modern psychopathy models (Cooke & Michie, 2001; Hare & Neumann, 2008). Recently, Fowler et al. (2009) demonstrated the usefulness of interpersonal traits in assessing the construct of psychopathy and that such traits can be identified even by generally untrained raters during brief samples of interactions. Using a systematic approach to reliably assess interpersonal traits associated with psychopathy provides some assurance that we are measuring the same attributes each time. Moreover, it is likely that there are other interpersonal attributes not currently being assessed by the IM–P that are relevant to the construct of psychopathy. It is probable that the measure could be improved by increasing its complexity to evaluate additional interpersonal exchanges.

The systematic assessment and scoring of interpersonal traits represents a substantial improvement over the use of clinical intuition to evaluate interpersonal behavior. One advantage of the IM–P is that it is based on a methodology that is not reliant on multiple sources of information; instead, it provides a structured approach to evaluating only interpersonal behavior during interviews. As there has been a discernible push to advance assessments of psychopathy, the IM–P provides clinicians with another tool which can contribute to the comprehensive assessment of psychopathy.

Although we eliminated four items from analyses for the final CFA model, we are not advocating for the removal of these items from the IM–P, as these items may be important for understanding interpersonal traits associated with psychopathy. In the initial validation studies, these items were selected on the basis of corrected item-total correlations. As such, it is very likely that these items tap important components of the interpersonal components of psychopathy, even though they do not contribute to a good fit on the three-factor structure. One potential way to address this issue in future research is to examine whether

the IM–P total score exhibits a different pattern of correlations with external criteria with versus without these four items.

Limitations and Future Directions

The results of the current study must be considered in light of its limitations. First, the entire sample was drawn from a county jail. As such, the generalizability of the new three-factor structure to other samples is unknown. We are encouraged by the finding of structural invariance across ethnicity; however, additional validation is needed before we can be confident in this finding. Validation of the new three-factor solution for the IM–P with community-based samples is a needed step in furthering our understanding of the construct measured by IM–P scores. Evidence for a similar factor structure for the IM–P in community and college samples would add substantially to the applicability of the structure identified in this study.

Exploring the IM–P's utility for individuals from different cultures is a needed step in its validation process. As noted by Cooke, Michie, Hart, and Clark (2005), it is important to demonstrate that measures of psychopathy show cross-cultural validity, even for individuals in different countries. Of note, Cooke et al. (2005) found that the Interpersonal features of the PCL–R demonstrated the most variability as a function of culture. Conducting multigroup CFAs and using item response theory with the IM–P to evaluate additional potential cultural differences in the expression of interpersonal traits would improve the cross-cultural understanding of psychopathy. An additional aspect to consider is the ethnicity of the raters. In this study, the majority of the raters were European American. As such, comparing scores on the IM–P with raters of different ethnic backgrounds is an area in need of study.

Third, the current study relied entirely on cross-sectional data. Certainly, such data are appropriate for evaluating the factor structure of IM–P scores. However, examining the predictive validity of IM–P scores in prospective longitudinal studies will represent an important step in evaluating the clinical usefulness of the IM–P and the manner in which interpersonal traits are expressed as a part of the larger construct of psychopathy. One additional area in which the IM–P appears promising is in its capacity for examining psychopathic traits over time in a manner that is not dependent on self-report or PCL measures. For instance, PCL assessments are largely based on historical information which cannot change as a function of treatment or physiological development in youths. As such, the IM–P may offer an advantage for assessing change in the interpersonal features of psychopathy over time and, in doing so, may provide an opportunity to measure treatment effectiveness.

Finally, we recognize that this is an initial study on the factor structure of the IM–P, and additional factor studies are needed to evaluate the robustness of the proposed model. In addition, studies with additional external correlates will assist in clarifying the factor structure. For example, it is possible that scores on the Dominance factor of the IM–P may reflect verbal disinhibition or problems modulating impulses, rather than dominance per se. Further testing of the factor structure of the IM–P should assist in disentangling potential alternative explanations of the latent structure underlying IM–P scores.

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Table 1

Means and Standard Deviations for All IM–P Ratings

	European Americans		African Americans	
IM–P item	***M***	***SD***	***M***	***SD***
1. Interrupts	.16	.41	.16	.42
2. Refuses to tolerate interruption	.16	.43	.18	.46
3. Ignores professional boundaries	.14	.40	.17	.48
4. Ignores personal boundaries	.12	.37	.16	.46
5. Tests interviewer	.18	.45	.23	.52
6. Makes personal comments	.14	.43	.18	.50
7. Makes requests of interviewer[a]	.08	.31	.14	.40**
8. Tends to be tangential	.70	.80	.70	.80
9. Fills in dead space	.39	.62	.37	.61
10. Unusual calmness	.51	.69	.57	.71
11. Frustration with avoiding argument[a]	.01	.12	.02	.16
12. Perseveration	.58	.75	.50	.72
13. Ethical superiority	.61	.72	.66	.75
14. Expressed narcissism	.77	.79	.82	.77
15. Incorporates interview into stories	.15	.43	.23	.55**
16. Seeking alliance	.44	.63	.47	.71
17. Showmanship	.40	.66	.37	.66
18. Angry[a]	.22	.50	.21	.48
19. Impulsive answers[a]	.45	.62	.54	.68**
20. Expressed toughness	.42	.66	.36	.63
21. Intense eye contact	.34	.60	.35	.64

Note. IM–P = Interpersonal Measure of Psychopathy (Kosson, Steuerwald, Forth, & Kirkhart, 1997).

[a]Item not used in final model.

**$p < .01$.

Table 2

Exploratory Factor Analysis Loadings on IM–P Ratings for European American Participants

IM–P item	Factor 1	Factor 2	Factor 3
1[a]	.62		
2[a]	.75		
3[a]			.67
4[a]			.61
5[a]			.43
6[a]			.65
8[a]	.72		
9[a]	.63	.36	
10[a]		.59	
12[a]	.40		
13[a]		.44	
14[a]	.39	.44	
15[a]			.64
16[a]			.44
17[a]		.63	
18		.48	
19	.50		
20[a]		.73	
21[a]			.35

Note. IM–P = Interpersonal Measure of Psychopathy (Kosson, Steuerwald, Forth, & Kirkhart, 1997). Only loadings > .35 are reported.

[a]Items used in the final 17-item confirmatory factor analysis.

Table 3

Factor Loadings, Threshold Estimates and R^2 for IM–P Items for European American Participants

Item no.	Scale	Loading	T_1	T_2	R^2
1	D	.64	1.08	2.12	.41
2	D	.74	1.11	1.95	.55
8	D	.82	0.05	0.79	.68
9	D	.88	0.48	1.46	.78
12	D	.58	0.19	0.99	.34
10	G	.62	0.26	1.22	.38
13	G	.67	0.08	1.08	.45
14	G	.71	−0.13	0.77	.49
17	G	.87	0.52	1.30	.76
20	G	.51	0.47	1.31	.27
3	BV	.65	1.20	2.05	.42
4	BV	.61	1.26	2.12	.39
5	BV	.55	1.04	1.90	.31
6	BV	.64	1.26	1.83	.41
15	BV	.64	1.19	1.88	.41
16	BV	.75	0.36	1.41	.56
21	BV	.57	0.61	1.45	.32

Note. IM–P = Interpersonal Measure of Psychopathy (Kosson, Steuerwald, Forth, & Kirkhart, 1997); D = Dominance; G = Grandiosity; BV = Boundary Violations.

Table 4

Three-Factor Model for the IM–P

Factor	Item no.	Item description
1. Dominance	1	Interrupts
	2	Refuses to tolerate interruption
	8	Tends to be tangential
	9	Fills in dead space
	12	Perseveration
2. Grandiosity	10	Unusual calmness
	13	Ethical superiority
	14	Expressed narcissism
	17	Showmanship
	20	Expressed toughness
3. Boundary Violations	3	Ignores professional boundaries
	4	Ignores personal boundaries
	5	Tests interviewer
	6	Makes personal comments
	15	Incorporates interviewer into stories
	16	Seeking alliance
	21	Intense eye contact

Note. IM–P = Interpersonal Measure of Psychopathy (Kosson, Steuerwald, Forth, & Kirkhart, 1997).

Table 5

Factor Loadings, Threshold Estimates, and R^2 for IM–P Items for African American Participants

Item no.	Scale	Loading	T_1	T_2	R^2
1	D	.75	1.07	2.08	.57
2	D	.76	1.06	1.82	.57
8	D	.86	0.06	0.78	.74
9	D	.80	0.54	1.47	.64
12	D	.71	0.33	1.13	.51
10	G	.62	0.16	1.14	.38
13	G	.74	0.03	0.97	.42
14	G	.71	−0.23	0.76	.51
17	G	.88	0.61	1.29	.77
20	G	.54	0.59	1.40	.29
3	BV	.80	1.12	1.72	.64
4	BV	.69	1.15	1.80	.48
5	BV	.60	0.91	1.68	.36
6	BV	.76	1.11	1.63	.58
15	BV	.74	1.00	1.51	.55
16	BV	.74	0.40	1.16	.55
21	BV	.64	0.66	1.34	.41

Note. IM–P = Interpersonal Measure of Psychopathy (Kosson, Steuerwald, Forth, & Kirkhart, 1997); D = Dominance; G = Grandiosity; BV = Boundary Violations.

Table 6

Correlations Between the IM–P and PCL–R Factor Scores

Factor	PCL INT	PCL AFF	PCL LIF	PCL ANT	PCL TOT
IM–P D	.38*	.21*	.18*	.15*	.30*
IM–P G	.62*	.38*	.28*	.28*	.52*
IM–P BV	.38*	.25*	.21*	.15*	.33*

Note. IM–P = Interpersonal Measure of Psychopathy (Kosson, Steuerwald, Forth, & Kirkhart, 1997); PCL–R = Psychopathy Checklist—Revised (Hare, 2003); INT = Interpersonal; AFF = Affective; LIF = Lifestyle; ANT = Antisocial Tendencies; TOT = total score for the PCL–R; D = Dominance; G = Grandiosity; BV = Boundary Violations.

* $p < .001$.