

The Interpersonal Measure of Psychopathy

Construct and Incremental Validity in Male Prisoners

Stacey Zolondek

Assessment and Treatment Alternatives, Philadelphia

Scott O. Lilienfeld

Emory University

Christopher J. Patrick

University of Minnesota

Katherine A. Fowler

Emory University

The authors examined the construct and incremental validity of the Interpersonal Measure of Psychopathy (IM-P), a relatively new instrument designed to detect interpersonal behaviors associated with psychopathy. Observers of videotaped Psychopathy Checklist–Revised (PCL-R) interviews rated male prisoners (N = 93) on the IM-P. The IM-P correlated significantly with the PCL-R total score. Moreover, the IM-P was preferentially related to the interpersonal rather than the affective and antisocial lifestyle features of psychopathy. IM-P scores were significantly correlated with age, antisocial behaviors, and self-reported fear, anxiety, and socialization (in reverse). Hierarchical multiple regression analyses demonstrated that although the IM-P exhibited incremental validity beyond the PCL-R total score in detecting self-reported fear, anxiety, and several personality traits, it did not exhibit much incremental validity beyond PCL-R Factor 1. These findings raise questions concerning the unique assessment contribution of the IM-P beyond PCL-R Factor 1. Potential reasons for these findings and alternative means of enhancing the interpersonal assessment of psychopathy are discussed.

Keywords: psychopathy; interpersonal; assessment; personality; antisocial behavior

According to the most recent edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; American Psychiatric Association [APA], 2000)*, “Personality traits are enduring patterns of perceiving, relating to, and thinking about the environment and oneself that are exhibited in a wide range of social and personal contexts” (p. 686). Abnormal interpersonal behavior is evident in the social interactions of individuals with psychopathic personality (psychopathy), a personality

disorder that does not appear formally in the *DSM-IV-TR* but that overlaps moderately with the *DSM-IV-TR* diagnosis of antisocial personality disorder (ASPD). In his classic book *The Mask of Sanity*, Cleckley (1941/1982) described psychopaths as interpersonally charming, boastful, and manipulative individuals who typically make a favorable initial impression on others. In addition, they are guiltless, callous, egocentric, and dishonest.

All correspondence should be sent to Scott O. Lilienfeld, PhD, Department of Psychology, Emory University, Room 205, 532 Kilgo Circle, Atlanta, GA 30322; e-mail: slilien@emory.edu.

Assessment, Volume 13, No. 4, December 2006 470-482
DOI: 10.1177/1073191106289861
© 2006 Sage Publications

Interpersonal behaviors have sometimes played an indirect role in the assessment of psychopathy. The most extensively validated instrument for assessing psychopathy is the Psychopathy Checklist–Revised (PCL-R; Hare, 1991/2003). PCL-R raters use a semistructured interview to gather data on personality traits and life history in conjunction with corroborative data, such as prison records. The scoring of some PCL-R items, such as lack of sincerity and ability to manipulate easily, requires interviewers to attend to their interpersonal interactions with participants.

Factor analyses of the PCL and PCL-R often have revealed two oblique dimensions (Harpur, Hakstian, & Hare, 1988). Factor 1 represents the core affective and interpersonal deficits of psychopathy, whereas Factor 2 reflects a chronic pattern of antisocial behavior and poor impulse control. These two factors exhibit a number of differential correlates. For example, diagnoses of ASPD correlate more highly with PCL-R Factor 2 than with Factor 1, as do most self-report measures intended to assess psychopathy, such as the Minnesota Multiphasic Personality Inventory–2 Psychopathic Deviate Scale, Personality Assessment Inventory Antisocial Scale, Millon Clinical Multiaxial Inventory–2 Antisocial Scale, and California Psychological Inventory Socialization Scale scored in reverse (Edens, Hart, Johnson, Johnson, & Olver, 2000; Harpur, Hare, & Hakstian, 1989; Hart, Forth, & Hare, 1991). Indeed, few or no psychopathy measures correlate more highly with PCL-R Factor 1 than Factor 2 (Lilienfeld, 1998). Some authors have recently posited alternative factor models for the PCL-R. For example, Cooke and Michie (2001) proposed a three-factor model consisting of affective deficits, interpersonal deficits, and an antisocial lifestyle (see also Hare, 1991/2003, for a four-factor model). Nevertheless, the validity of these alternative factor models remains controversial.

Although the PCL-R indirectly addresses participants' interactional style, there has been surprisingly little research concerning the value of assessing the interpersonal and nonverbal behaviors of psychopaths. Rime, Bouvy, Leborgne, and Rouillon (1978) examined the nonverbal behaviors of 25 psychopathic and 25 nonpsychopathic adolescents during videotaped interviews. They found that compared with nonpsychopaths, psychopaths spent a significantly greater portion of the time making eye contact with the interviewer, using hand gestures, and leaning forward and spent significantly less time smiling. Nevertheless, because Rime et al. assessed psychopathy using an unvalidated measure (ratings of Cleckley psychopathy by counselors), their findings should be interpreted with caution.

Gillstrom and Hare (1988) examined the hand gestures of high ($n = 10$), medium ($n = 10$), and low ($n = 10$) scorers on the PCL-R. Similar to Rime et al. (1978), Gillstrom and Hare found that psychopaths used more hand gestures

than nonpsychopaths. Compared with low and medium PCL-R scorers, psychopaths also used more beats, defined as gestures that are unrelated to the semantic content of speech. Nevertheless, there were no differences among groups in the number of hand gestures unrelated to language or in iconic gestures, defined as hand gestures that reflect the content of speech. These findings suggest that psychopaths may differ from nonpsychopaths in language processing, although Gillstrom and Hare acknowledged that hand gestures may be an attempt to control the interview or distract interviewers from the content of speech.

Louth, Williamson, Alpert, Pouget, and Hare (1998) analyzed the acoustic content of psychopaths' speech. Twenty inmates in a correctional facility were classified as psychopathic or nonpsychopathic based on PCL-R scores. Participants were audiotaped as they counted, pronounced vowels, read a paragraph, discussed such topics as sports and hobbies, gave monologues of their most positive and negative experiences, and read sentences containing either a positively or negatively valenced word. In their spontaneous speech, psychopaths spoke significantly more softly than nonpsychopaths. Furthermore, while reading sentences, nonpsychopaths' voice levels differed significantly based on emotional valence, whereas psychopaths' voice levels did not. Although these findings may offer evidence for emotional deficits among psychopaths, Louth et al. noted that speaking softly could be a manipulation technique because it forces interviewers to come closer and allows psychopaths to exploit personal space.

Until recently, no measure existed to explicitly assess the interpersonal behavior of psychopaths. To remedy this void, Kosson, Steuerwald, Forth, and Kirkhart (1997) developed the Interpersonal Measure of Psychopathy (IM-P). Although not developed within any specific theoretical framework of psychopathy, the IM-P was designed to enhance the assessment of psychopathic traits by providing increased coverage of interpersonal behaviors. The items on the IM-P were generated from the published literature on psychopathy, clinical observations of psychopaths, and a survey of psychopathy researchers. The items retained in the final version of the IM-P correlated $r = .3$ or higher with the total score. During an interview, such as the PCL-R, IM-P raters ascertain the extent to which 21 interpersonal behaviors (e.g., interrupts, ignores interpersonal boundaries, tests interviewer, showmanship, unusual calmness or ease) apply to the interviewee. In contrast to the PCL-R, the IM-P does not require formal training and can be completed by any rater who is broadly familiar with the features of psychopathy. Although developed fairly recently, the IM-P already has been used in a number of investigations of psychopathy (e.g., Colwell, 1998; Kosson et al., 1997; Raine, Lencz, Bihrlé, Lacasse, & Colletti, 2000; Schenley, 2003; Vassileva, Kosson, Abramowitz, & Conrod, 2005).

In a study of 98 male inmates, Kosson et al. (1997) found that IM-P scores correlated significantly with scores on the PCL-R ($r = .51$). The correlation with Factor 1 ($r = .62$) was significantly higher than with Factor 2 ($r = .31$), suggesting that the IM-P may be the only measure of psychopathy to correlate more highly with the interpersonal and affective deficits of this condition than its associated antisocial behaviors (cf. Poythress, Edens, & Lilienfeld, 1998). Kosson et al. also found that the IM-P exhibited incremental validity beyond both PCL-R Factors 1 and 2 entered simultaneously in predicting adult fighting and the emotional response of interviewers toward participants (e.g., interviewers' self-report trepidation).

In the aforementioned study, the IM-P was scored by interviewers who conducted the PCL-R, raising the possibility that IM-P ratings were influenced by their scoring of the PCL-R. In a second study using a sample of 92 male and female undergraduates, Kosson et al. (1997) examined the relationship between the IM-P and psychopathic traits as assessed by an objective observer who was blind to participants' psychopathy scores. They used the Psychopathy Checklist: Screening Version (PCL:SV; Hart, Cox, & Hare, 1995) to assess psychopathy. IM-P scores correlated significantly with total scores on the PCL:SV ($r = .26$), and correlations were again significantly higher with Factor 1 ($r = .33$) than with Factor 2 ($r = .15$). In addition, IM-P scores predicted interviewer ratings of two interpersonal dimensions, namely, dominance and (low) love, beyond PCL:SV factor scores.

The present study was designed to replicate Kosson et al.'s (1997) findings and extend them by providing further information regarding the construct validity and incremental validity of the IM-P. We tested six major hypotheses.

First, we hypothesized that IM-P scores would correlate positively with overall PCL-R scores and both factors of the PCL-R. We also hypothesized that PCL-R psychopaths would score higher than PCL-R nonpsychopaths on the IM-P.

Second, following Kosson et al. (1997), we predicted that the IM-P would be more highly correlated with PCL-R Factor 1 than Factor 2 given its proposed closer association with the core interpersonal and affective deficits of psychopathy. In subsidiary analyses, we examined the correlations between the IM-P and the three-factor model of the PCL-R (Cooke & Michie, 2001). Because the three-factor model separates Factor 1 into interpersonal and affective facets, we predicted that the IM-P would be associated preferentially with the interpersonal facet and more highly correlated with this facet than with the antisocial lifestyle facet. We also examined the differential relations of the IM-P to the two estimated factors of a well-validated self-report measure of psychopathy—the Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996).

Because the first PPI factor (PPI-1) appears to assess many of the same interpersonal and affective deficits as PCL-R Factor 1, we anticipated that the IM-P would be preferentially associated with this PPI factor.

Third, again following Kosson et al. (1997), we hypothesized that IM-P scores would correlate positively with measures of child and adult antisocial behavior. Nevertheless, because measures of antisocial behavior are more closely associated with PCL-R Factor 2 than Factor 1, we predicted that these correlations would be relatively low, providing support for the discriminant validity of the IM-P. Although Kosson et al. (1997) did not find a significant relationship between scores on the IM-P and violent charges or violent institutional behaviors, they reported a significant relationship between the IM-P and adult fighting. We also examined the relation of the IM-P to alcohol use, which is preferentially associated with PCL-R Factor 2 (Smith & Newman, 1990).

Fourth, we hypothesized that IM-P scores would correlate negatively with self-report measures of anxiety and fear. According to Cleckley (1941/1982), one of the hallmarks of psychopathy is an immunity to anxiety (but see Lilienfeld, 1998; Lykken, 1995, for discussions of the distinction between anxiety and fear). Several researchers have found a significant and negative correlation between self-reported anxiety and Factor 1 scores (Harpur et al., 1989; for an exception, see Schmitt & Newman, 1999), and Kosson et al. (1997) found a nonsignificant trend toward negative correlations between IM-P scores and anxiety measures.

Fifth, using the interpersonal circumplex as a framework, we predicted that high scorers on the IM-P would fall into the interpersonal octant of Arrogant-Calculating. On the overriding dimensions of Love and Dominance, we predicted that IM-P scores should exhibit a negative correlation with Love and a positive correlation with Dominance (see also Salekin, Trobst, & Krioukova, 2001). On the Multidimensional Personality Questionnaire (MPQ; Tellegen, 1982), we hypothesized that IM-P scores would correlate preferentially with the Social Potency subscale because this subscale reflects interpersonal dominance (see Tellegen & Waller, in press).

Sixth, because psychopathy is marked by elevated levels of hostility, impulsivity, sensation seeking, Machiavellianism, and nontraditionalism and low levels of socialization (see Hare, 1991/2003; Lilienfeld & Andrews, 1996; McHoskey, Worzel, & Szyarto, 1998), we examined the association between IM-P scores and self-report measures of these traits. We also examined the relation of the IM-P to self-report measures of the five-factor model (FFM) of personality. Because psychopathy has generally been found to be negatively associated with measures of conscientiousness and agreeableness (Hart &

Hare, 1994; Lynam & Derefinko, 2006), we anticipated significant negative correlations between the IM-P and these two FFM traits.

Finally, we conducted two sets of exploratory analyses. First, we examined the association between the IM-P and a variety of demographic and life history variables, including early abuse history. Second, we examined the incremental validity of the IM-P in detecting behavioral and personality traits beyond the PCL-R as well as PCL-R Factor 1 (see Kosson et al., 1997), and vice versa. If the IM-P provides a unique contribution to the psychopathy assessment literature, it should exhibit incremental validity beyond extant measures of psychopathy, particularly the PCL-R and its first factor.

METHOD

Participants

Participants were 100 male inmates at a Federal Correctional Institute in Tallahassee, Florida, which is a large, medium-security prison. Inmates were recruited randomly from the prison roster. Inmates who demonstrated verbal competency in English and the ability to read aloud a text description of the study were scheduled for participation. In the analyses reported here, 7 prisoners were excluded due to poor videotape quality, leaving 93 participants. Their mean age was 32.3 ($SD = 7.3$, range = 19-55); 49.5% (46 inmates) were African American, 41.9% (39 inmates) were White, and 8.6% (8 inmates) were Hispanic.

Measures

Measures of Psychopathy and Antisocial Behavior

The Interpersonal Measure of Psychopathy (IM-P). The IM-P (Kosson et al., 1997) consists of 21 items that observers use to rate a variety of interpersonal interactions and nonverbal behaviors. In this study, the IM-P was scored from videotaped PCL-R interviews by a graduate student with extensive knowledge of psychopathy. This graduate student was blind to participants' PCL-R scores and all other assessment information collected on participants.

The 21 IM-P items are scored on a 1- to 4-point scale (with 1 describing the individual *not at all* and 4 describing the individual *perfectly*) so that the maximum score is 48. Eye contact, the 21st behavior measured by the IM-P, was not measured in this study because it was not possible to measure the degree of eye contact between interviewers and participants from the videotaped interviews. Kosson reported that the internal consistency of the IM-P in a sample of prison inmates was .91 and that its interrater

reliability, as measured by intraclass correlation (ICC), was .83 and .60 in prisoner and undergraduate samples, respectively.

Psychopathy Checklist-Revised (PCL-R). PCL-R (Hare, 1991/2003) ratings are based on a semistructured interview lasting from 90 to 120 min and a review of institutional file information. It consists of 20 items that are scored on a 0 to 2 scale based on how closely the individual meets the description of the item. The total score represents the degree to which a participant represents the prototypical psychopath as described by Cleckley (1941/1982). A cutoff score of 30 is typically used to classify participants as psychopaths. The PCL-R has been found to exhibit high interrater reliability, internal consistency, and construct validity in forensic populations (see Hare, 1991/2003, for a comprehensive review). In this sample, the interrater reliability of the PCL-R was assessed by a second rater who observed the interview along with the interviewer. The ICC for total PCL-R scores ($N = 91$) was .91; for PCL-R Factor 1 and Factor 2 scores, the ICCs were .83 and .90, respectively. In the analyses reported here, the PCL-R scores were averaged across these two raters.

MPQ-Estimated Psychopathic Personality Inventory (PPI) Factor Scales. The PPI (Benning, Patrick, Hicks, Blonigen, & Krueger, 2003) is a 187-item, eight-subscale, self-report measure of psychopathy that has shown promising reliability and construct validity in undergraduate (Lilienfeld & Andrews, 1996) and prison (Poythress et al., 1998) samples. Although the PPI per se was not administered in the present study, we estimated the two major factors underpinning the PPI from the Multidimensional Personality Questionnaire (MPQ) lower-order scales (see below) by using regression-weighted formulas presented in Benning et al. (2003). PPI-1 comprises scores on the PPI subscales of Fearlessness, Social Potency, and Stress Immunity, whereas PPI-2 comprises scores on the PPI subscales of Machiavellian Egocentricity, Impulsive Nonconformity, Carefree Nonplanfulness, and Blame Externalization. Although PPI-1 and PPI-2 roughly parallel the content of PCL-R Factors 1 and 2, respectively, the corresponding correlations are only modest (Benning et al., 2003). Evidence suggests that the two PPI factors have markedly different correlates, for example, MPQ estimated PPI-1 tends to be negatively associated with internalizing symptoms, fearlessness, and thrill and adventure seeking, whereas MPQ estimated PPI-2 tends to be positively associated with externalizing symptoms, trait anxiety, and both disinhibition and boredom susceptibility (Benning et al., 2003).

Socialization (So) scale. The So scale (Gough, 1960) is a 54-item, true-false scale of the California Psychological

Inventory (CPI) and was developed to assess the role-taking deficiencies often found in psychopaths. It was constructed empirically by contrasting the item responses of delinquents with those of nondelinquents. The So scale successfully rank-orders a variety of criterion groups (e.g., nursing students, delinquents, incarcerated criminals) along a hypothesized continuum of socialization (Gough, 1964). Although the So scale is sometimes scored in reverse as a measure of psychopathy, most evidence suggests that this scale is almost exclusively a measure of PCL-R Factor 2 rather than PCL-R Factor 1 (Harpur et al., 1989). Therefore, it is better regarded as a measure of nonspecific behavioral deviance rather than of the core affective and interpersonal deficits of psychopathy.

DSM-IV-TR criteria for ASPD. The *DSM-IV-TR* criteria for ASPD (APA, 2000) were assessed for each participant based on a set of structured interview questions for each ASPD criterion that was appended to the PCL-R. These ratings were treated as a dimensional measure in the analyses reported here.

Short Michigan Alcohol Screening Test (SMAST). The SMAST (Selzer, Vinokur, & vanRooijen, 1975) is a 13-item screening measure that assesses complications associated with heavy alcohol use. The SMAST correlates moderately to highly with other self-report measures of alcoholism and distinguishes alcoholic inpatients and outpatients from nonalcoholic patients (Hedlund & Viewig, 1984).

Demographic and Life History Information

Background information was collected from participants' files. This information included basic demographic data, history of abuse as a child, violent and nonviolent childhood criminal charges, violent and nonviolent adult criminal charges, institutional charges, number of childhood fights, number of adult fights, and medical history. We also coded IQ as measured by the Shipley Institute of Living Scale (Shipley, 1983), a widely used short measure of global intelligence that correlates approximately $r = .85$ with IQ as measured by the Weschler Adult Intelligence Scale (Deaton, 1992).

Omnibus Measures of Personality Traits

Neuroticism-Extraversion-Openness Five-Factor Inventory (NEO-FFI). The NEO-FFI (Costa & McCrae, 1992) is a 60-item self-report measure of the five-factor model of personality that assesses the dimensions of neuroticism, extraversion, agreeableness, conscientiousness, and openness to experience using a 5-point scale.

Multidimensional Personality Questionnaire (MPQ). The MPQ (Tellegen, 1982) is an omnibus measure of personality constructed using a combination of deductive (rational/theoretical) and factor-analytic approaches. The version of the MPQ used in this study consists of 300 binary, mostly true-false questions. The measure contains 11 primary scales. The 11 lower-order scales of Well-Being, Social Potency, Achievement, Social Closeness, Absorption, Stress Reaction, Alienation, Aggression, Control Versus Impulsiveness, Harm Avoidance, and Traditionalism load onto three higher-order factors labeled Positive Emotionality (PEM), Negative Emotionality (NEM), and Constraint (CON). PEM, which taps the extent to which individuals are prone to positive emotions of many kinds, is primarily associated with Well-Being, Social Potency, Achievement, Social Closeness, and to a lesser extent, Absorption. NEM, which taps the extent to which individuals are prone to negative emotions of many kinds, is primarily associated with Stress Reaction, Alienation, Aggression, and to a lesser extent, Absorption. CON, which taps individual differences in fearfulness and propensity to inhibit responses, is primarily associated with Harm Avoidance, Control Versus Impulsiveness, and Traditionalism.

Positive and Negative Affect Schedule (PANAS-X). The PANAS-X (Watson & Clark, 1994) is a 60-item questionnaire designed to assess moderately stable dispositions toward positive and negative mood states. In the version used here, participants were asked to rate their mood for the "past few weeks" using a 60-item scale. In addition to the two higher-order dimensions of positive and negative affect, the PANAS-X yields scores on 11 lower-order dimensions of affect: attentiveness, shyness, fatigue, serenity, surprise, fear, hostility, guilt, sadness, joviality, and self-assurance.

Emotionality Activity Sociability Impulsivity Scale (EASI). The EASI (Buss & Plomin, 1975) is a widely used self-report measure of temperament consisting of statements that index four basic constructs: activity, sociability, impulsivity, and emotionality. Participants rate, on a scale of 1 (*a little*) to 5 (*a lot*), how well each statement describes them. The activity, sociability, and impulsivity scales (from Buss & Plomin, 1975) comprise four, four, and five items, respectively. The emotionality scale (from Buss & Plomin, 1984) is subdivided into distress, fearfulness, and anger subscales, comprising four items each.

The Interpersonal Adjectives Scale-Revised (IAS-R). The IAS-R (Wiggins, Trapnell, & Phillips, 1988) consists of a set of 64 adjectives, with 8 adjectives reflecting each octant of the interpersonal circumplex. In this study, we used an abbreviated, 32-item version of the IAS-R. To create this version, we retained the most easily interpretable

questions with coordinates that best approximated those of each octant. Participants rated the applicability of each descriptor to themselves using a 1 to 8 scale.

Measures of Specific Lower-Order Personality Traits

Sensation Seeking Scale (SSS-V). The SSS-V (Zuckerman, 1994) is a 30-item, forced-choice questionnaire that measures a propensity to seek out novel, exciting, and risky experiences. In addition to a total score, it provides scores on four subscales: Experience Seeking, Thrill and Adventure Seeking, Disinhibition, and Boredom Susceptibility.

Machiavellianism Scale (MACH-IV). The MACH-IV (Christie & Geis, 1970) is a 20-item questionnaire that assesses a willingness to manipulate others for one's gain as well as cynically instrumental attitudes toward interpersonal relationships. It yields a total score and scores on three subscales: Tactics, Cynicism, and Abstract Morality.

Fenz-Epstein Questionnaire (FEQ). The FEQ (Fenz & Epstein, 1965) consists of 160 items rated on a 1 to 5 scale. This questionnaire contains three sets of scales measuring anxiety, hostility and attitudes toward hostility, and inhibition.

Fear Survey Schedule (FSS-III). The FSS-III (Arrindell, Emmelkamp, & van der Ende, 1984) is a 55-item measure that assesses individuals' fears of specific objects, places, and situations using a 0 to 3 scale. The version of the FSS-III used in this study consists of five subscales: Social Fears; Agoraphobic Fears; Fears of Harmless Animals; Fears of Sex/Aggression; and Fears of Injury, Death, and Illness.

Fear Questionnaire (FQ). The FQ (Marks & Matthews, 1979) is a 17-item measure that asks respondents to rate the severity of their phobic symptoms on a 1 to 8 scale. In addition to a total score, it yields scores on social phobia, blood-injury, and agoraphobia subscales.

Anger Expression Questionnaire (AEQ). The AEQ (Spielberger, Krasner, & Solomon, 1988) is a 44-item questionnaire that assesses the subjective experience of anger. It yields a total score as well as scores on anger-in, anger-out, and control of anger subscales.

Procedure

Participants completed the PCL-R and a large battery of self-report questionnaires as part of a broader study on the emotional and personality functioning of psychopaths (Patrick, Zempolich, & Levenston, 1997). No incentives or inducements were provided for participation. Interviews

were conducted by the third author and a team of bachelor's-level and master's-level psychology students trained in the administration of the PCL-R by the third author. All interviews were conducted with the full consent of the participants. As noted earlier, PCL-R interviews were videotaped and later scored for IM-P items by a graduate student with extensive knowledge of psychopathy. This student was blind to all assessment information (including PCL-R scores) collected on each participant.

RESULTS

Reliability and Descriptive Statistics

The internal consistency of the IM-P, as measured by Cronbach's alpha, was .89. Corrected item-to-total correlations ranged from $r = .11$ to $.82$. Most of these correlations were in the $.4$ to $.8$ range and 17 of the 20 correlations were greater than $r = .3$. These findings are broadly comparable to those reported by Kosson et al. (1997).

A second graduate student rater with expertise in psychopathy, who (similar to the original rater) was blind to PCL-R overall and factor scores of each participant and all other assessment information collected on the participant, scored the IM-P after viewing videotapes of the PCL-R interviews. Interrater reliability was assessed for 25 randomly selected interviews. The intraclass correlation (ICC) for IM-P scores between the two raters was $.77$, which falls between the two ICCs of $.60$ and $.83$ reported by Kosson et al. (1997).

Table 1 displays descriptive statistics for the IM-P items in this sample, along with comparable descriptive statistics from the Kosson et al. (1997) prison sample for comparison. Mean scores on the IM-P were 7.37 ($SD = 7.14$) and ranged from 0 to 26. As can be seen in Table 1, the mean IM-P item scores in our data set are slightly lower than those reported by Kosson et al.

Using the standard PCL-R cutting scores of 30 and 20, respectively, to define high- and low-psychopathy groups, mean IM-P scores differed significantly between psychopathic (13.82) and nonpsychopathic (4.31) inmates ($t = 4.27$, $p < .001$). This mean difference was large in magnitude ($d = 1.35$).

Zero-Order and Partial Correlational Analyses

To provide a reasonable balance between Type I and Type II errors, we Bonferroni-corrected the correlational analyses within each measure by the total number of scales and subscales within each measure. For example, for the NEO-FFI correlational analyses, the Bonferroni-corrected

TABLE 1
Interpersonal Measure of Psychopathy (IM-P) Item Descriptive Statistics

Item	Present Study		Kosson, Steuerwald, Forth, and Kirkhart (1997)	
	M	SD	M	SD
1. Interrupts	1.35	0.52	1.59	0.67
2. Refuses to tolerate interruption	1.26	0.53	1.37	0.58
3. Ignores professional boundaries	1.15	0.51	1.59	0.82
4. Ignores personal boundaries	1.27	0.49	1.52	0.8
5. Tests interviewer	1.24	0.52	1.51	0.89
6. Makes personal comments	1.22	0.46	1.5	0.76
7. Makes requests of interviewer	1.00	0	1.4	0.72
8. Tends to be tangential	1.74	1.01	1.97	1.08
9. Fills in dead space	1.39	0.8	1.74	0.87
10. Unusual calmness or ease	1.61	0.85	2.2	0.91
11. Frustration with argument avoidance	1.02	0.21	1.11	0.32
12. Preservation	1.5	0.69	1.86	0.86
13. Ethical superiority	1.89	0.9	2.02	0.97
14. Expressed narcissism	1.49	0.82	2.11	0.89
15. Incorporation of interviewer into personal stories	1.1	0.3	1.56	0.89
16. Seeking of alliance	1.67	0.77	1.82	0.79
17. Showmanship	1.62	0.91	1.76	0.85
18. Angry	1.32	0.55	1.28	0.59
19. Impulsive answers	1.3	0.67	1.68	0.77
20. Expressed toughness	1.12	0.5	1.61	0.83

NOTE: IM-P item scores range from 1 to 4.

TABLE 2
Correlations Among IM-P Scores, Psychopathy Measures, and Demographic Variables

Variable	IM-P	PCL-R Total Score	PCL-R Factor 1	PCL-R Factor 2
PCL-R Total Score	.43***			
PCL-R Factor 1	.59***	.81***		
PCL-R Factor 2	.23*	.90***	.51***	
PPI-1	.20	.08	.25*	-.06
PPI-2	.05	.31**	.17	.37***
Age	.33**	-.03	.12	-.20
SILS IQ	.02	.03	.07	.03
Abused as child	.22**	.29**	.27**	.25*
Single-parent household	-.29**	-.10	-.22*	-.01

NOTE: IM-P = Interpersonal Measure of Psychopathy; PCL-R = Psychopathy Checklist-Revised; PPI = Psychopathic Personality Inventory; SILS = Shipley Institute of Living Scale.

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

alpha level was set at $p = .01$ (.05/5), for the MPQ correlational analyses, the Bonferroni-corrected alpha level was set at $p = .0036$ (.05/14), and so on. We did not implement Bonferroni correction in the case of scales for which we reported only total scores (e.g., So scale). For the sake of comprehensiveness, we note all cases in which findings

were significant at $p < .05$ but nonsignificant following Bonferroni correction.

Measures of Psychopathy and Antisocial Behavior

As shown in Table 2, IM-P ratings correlated with PCL-R total scores ($r = .43$, $p < .001$), Factor 1 scores ($r = .59$, $p < .001$), and Factor 2 scores ($r = .23$, $p < .05$). The correlation with Factor 2 scores became nonsignificant following Bonferroni correction. A test of the significance of the difference between dependent correlations (Steiger, 1980) revealed that the IM-P was significantly more highly correlated with PCL-R Factor 1 than Factor 2, $t = 4.17(89)$, $p < .001$.

Partial correlations revealed that the correlation between PCL-R Factor 1 scores and IM-P scores remained significant after controlling for Factor 2 scores ($r = .56$, $p < .001$). In contrast, partial correlations revealed that the correlation between PCL-R Factor 2 scores and IM-P scores became negligible and nonsignificant after controlling for Factor 1 scores ($r = -.09$, ns). These analyses demonstrate that the positive zero-order association between IM-P and PCL-R Factor 2 scores is attributable entirely to the variance that PCL-R Factor 2 shares with PCL-R Factor 1.

TABLE 3
Correlations Among the IM-P, PCL-R, and Antisocial Behaviors

Variable	IM-P	PCL-R	PCL-R Factor 1	PCL-R Factor 2
Meets criteria for ASPD	.19	.74***	.38**	.80***
No. adult ASPD behaviors	.27*	.86***	.56***	.82***
No. childhood antisocial behaviors	.22*	.69***	.37***	.77***
No. childhood violent behaviors	.18	.52**	.30**	.56***
Age at first charge	.09	-.36**	-.11	-.48***
No. of charges by age 17	.03	.16	.05	.20
No. nonviolent criminal charges	.05	.52***	.30**	.49***
No. violent institutional charges	.07	.21*	.12	.21*
No. nonviolent institutional charges	-.05	.25*	.12	.30**
No. robbery charges	.15	.13	.08	.15
No. assault charges	.02	.35***	.18	.42***
No. murder/attempted murder charges	-.02	.21*	.17	.19
No. possession of weapons charges	.20	.36***	.36***	.23*
No. sex offense charges	.02	.08	.12	-.04
No. kidnapping/false imprisonment charges	.27**	.29**	.33**	.24*
No. arson charges	-.02	-.17	-.12	-.16
No. other violent charges	.06	.16	.11	.13
No. all violent charges	.19	.48***	.38***	.43***
No. childhood fights	.12	.37***	.17	.47***
No. of adult fights	.16	.37***	.21*	.37***
Violence against girlfriend (y/n)	.08	.36***	.15	.41***

NOTE: IM-P = Interpersonal Measure of Psychopathy; PCL-R = Psychopathy Checklist-Revised; ASPD = Antisocial Personality Disorder.
 * $p < .05$. ** $p < .01$. *** $p < .001$.

Subsidiary analyses examining the Cooke and Michie (2001) three-factor solution for the PCL-R revealed that the IM-P was significantly correlated with the first (interpersonal) facet ($r = .58, p < .001$) and second (affective) facet ($r = .40, p < .001$). In contrast, the correlation between the IM-P and the third (antisocial lifestyle) facet was lower and only marginally significant prior to Bonferroni correction ($r = .20, p < .06$). A test of the significance of the difference between dependent correlations revealed that the correlation between the IM-P and the Cooke and Michie interpersonal facet significantly exceeded the correlation between the IM-P and the Cooke and Michie affective facet, $t(90) = 2.08, p < .05$.

As can be seen in Table 2, the IM-P was marginally significantly correlated with MPQ-estimated PPI-1 prior to Bonferroni correction ($r = .20, p < .07$) but was not significantly correlated with MPQ-estimated PPI-2. A test of the significance of the difference between dependent correlations revealed that these two correlations did not differ significantly, $t = 1.01(87), p = ns$. The IM-P was significantly and negatively correlated with So scale scores ($r = -.26, p < .05$). As shown in Table 3, IM-P scores were significantly correlated with number of *DSM-IV-TR* adult antisocial behaviors ($r = .27, p < .05$) and with number of *DSM-IV-TR* child antisocial behaviors ($r = .22, p < .05$), although only the former association remained significant following Bonferroni correction. The IM-P did

not, however, correlate significantly with *DSM-IV-TR* diagnoses of ASPD or number of childhood violent behaviors. The IM-P also did not correlate significantly with SMAST scores ($r = .01, ns$).

Demographic and life history information. Scores on the IM-P correlated significantly with age ($r = .33, p < .01$). Also, as seen in Table 3, IM-P scores were correlated significantly and positively with file history of childhood abuse (although this correlation did not survive Bonferroni correction) and negatively with being raised by a single parent. The IM-P correlated significantly with number of kidnapping/false imprisonment charges, although this correlation became nonsignificant following Bonferroni correction. IM-P scores did not relate significantly to number of fights in childhood or adulthood or with violence against a girlfriend. IM-P scores were not significantly correlated with Shipley total IQ scores ($r = .01, ns$).

Omnibus Measures of Personality Traits

Although the IM-P was not correlated significantly with any of the NEO-FFI scales, its correlations with extraversion ($r = .20, p < .07$) and agreeableness ($r = -.20, p < .06$) was marginally significant prior to Bonferroni correction. The IM-P was not significantly associated with any of the MPQ scales except for Achievement ($r = .25,$

$p < .05$), although this correlation became nonsignificant following Bonferroni correction. The IM-P was negligibly related to both positive ($r = .07$, ns) and negative ($r = -.03$, ns) affect as assessed by the PANAS-X but was significantly associated with the PANAS-X shyness ($r = -.28$, $p < .01$) and self-assurance ($r = .21$, $p < .05$) lower-order scales (although the latter correlation became nonsignificant following Bonferroni correction). Scores on the IM-P did not correlate significantly with any of the EASI scales (r s ranged from $-.07$ to $.18$).

Scores on the IM-P correlated significantly with scores on the IAS-R unassured-submissive octant ($r = -.29$, $p < .01$) and with scores on the IAS-R dominance coordinate ($r = .22$, $p < .05$), although only the former correlation remained significant following Bonferroni correction.

Measures of Specific Lower-Order Personality Traits

IM-P scores were not significantly correlated with scores on the SSS-V or its subscales (r s ranged from $.04$ to $.13$) or the MACH-IV or its subscales (r s ranged from $-.02$ to $.13$). The IM-P did not correlate significantly with FEQ feelings of anxiety, muscle tension, or autonomic arousal (r s ranged from $-.01$ to $-.15$). The IM-P correlated significantly and negatively with FSS-III total score for fears ($r = -.23$, $p < .05$), agoraphobia ($r = -.22$, $p < .01$), and fears of harmless animals ($r = -.25$, $p < .05$), although none of these correlations remained significant following Bonferroni correction. In addition, the IM-P correlated significantly with FQ total phobia ($r = -.29$, $p < .01$), agoraphobia ($r = -.31$, $p < .01$), and blood injury ($r = -.22$, $p < .05$) scores, although the lattermost correlation became nonsignificant following Bonferroni correction. In addition, the correlation with the FQ social phobia score was marginally significant prior to Bonferroni correction ($r = -.20$, $p < .06$). Scores on the IM-P were significantly related to total FQ scores ($r = -.23$, $p < .05$) as well as to agoraphobic fears ($r = -.22$, $p < .05$), and fears of harmless animals ($r = -.25$, $p < .05$). There were no significant relationships between IM-P and AEQ scores, although the correlation with AEQ anger-out was marginally significant prior to Bonferroni correction ($r = .19$, $p < .07$).

Hierarchical Multiple Regressions

We conducted hierarchical multiple regression analyses to examine the incremental validity of the IM-P beyond the PCL-R. For each criterion variable that was statistically significant prior to Bonferroni correction, we conducted two regressions. Model 1 regressions assessed the contribution of IM-P scores beyond PCL-R total

scores. In these regressions, PCL-R total scores were entered first, followed by IM-P scores. Model 2 regressions examined the contribution of the IM-P over and above PCL-R Factor 1. In these regressions, PCL-R Factor 1 scores were entered first, followed by IM-P scores. For ease of exposition, we focus primarily on statistically significant findings here; all findings not reported fell short of statistical significance.

Model 1 Regressions

Demographic and life history information. The IM-P demonstrated incremental validity above and beyond PCL-R total scores in predicting age (R^2 change = $.13$, $\beta = .40$, $p < .001$) and in predicting whether the participant came from a single-parent family (R^2 change = $.07$, $\beta = -.302$, $p < .01$). Older participants scored higher on the IM-P, and higher IM-P scores were associated with coming from two-parent families. The IM-P did not contribute significantly above and beyond the PCL-R in the prediction of antisocial behaviors.

Omnibus measures of personality traits. The IM-P contributed to the prediction of MPQ Achievement above and beyond PCL-R total scores (R^2 change = $.08$, $\beta = .31$, $p < .01$), indicating that those with higher scores on the IM-P show greater self-reported achievement. The IM-P did not exhibit incremental validity in predicting any other MPQ subscales. The IM-P contributed to the prediction of PANAS-X shyness (R^2 change = $.10$, $\beta = -.14$, $p < .01$) and PANAS-X self-assurance (R^2 change = $.05$, $\beta = .15$, $p < .05$), indicating that higher IM-P scores were associated with less self-reported shyness and more self-assurance. The IM-P significantly contributed to the prediction of the unassured/submissive score of the IAS (R^2 change = $.06$, $\beta = -.27$, $p < .05$), but it did not contribute above and beyond the PCL-R to the prediction of any of the other IAS octants or to the higher-order dimensions of Love and Dominance.

Measures of specific lower-order personality traits. On the FQ, the IM-P demonstrated incremental validity in predicting total phobia scores (R^2 change = $.08$, $\beta = -.32$, $p < .01$), agoraphobia (R^2 change = $.08$, $\beta = -.31$, $p < .01$), blood and injury phobias (R^2 change = $.07$, $\beta = -.263$, $p < .05$), and social phobia (R^2 change = $.05$, $\beta = -.251$, $p < .05$). In all cases, higher scores on the IM-P indicated lower phobic scores. On the FSS-III, the IM-P showed incremental validity in predicting the overall score (R^2 change = $.05$, $\beta = -.26$, $p < .05$). In addition, scores on the IM-P predicted scores on the subscales of fears of harmless animals (R^2 change = $.05$, $\beta = -.24$, $p < .05$) and agoraphobic fears (R^2 change = $.07$, $\beta = -.267$, $p < .05$). Again, in all cases, higher scores on the IM-P predicted lower fear.

Model 2 Regressions

Demographic and life history information. The IM-P demonstrated incremental validity over PCL-R Factor 1 in predicting age (R^2 change = .08, $\beta = .36$, $p < .01$) but did not significantly contribute above and beyond Factor 1 to the prediction of the other demographic variables. The IM-P did not add to PCL-R Factor 1 in the prediction of any antisocial behaviors, criminal charges, or institutional charges.

Omnibus measures of personality. The IM-P did not add significantly to PCL-R Factor 1 in predicting scores on the MPQ or IAS. The IM-P did contribute above PCL-R Factor 1 in predicting scores on PANAS-X shyness (R^2 change = .05, $\beta = -.12$, $p < .02$).

Measures of specific lower-order personality traits. The IM-P contributed above and beyond Factor 1 in predicting FQ agoraphobia (R^2 change = .05, $\beta = -.27$, $p < .05$).

Subsidiary Analyses

Finally, in subsidiary analyses, we found that the PCL-R total score displayed statistically significant and often substantial incremental validity above and beyond the IM-P for numerous variables, including total (summed child and adult) features of ASPD (R^2 change = .54); number of nonviolent institutional charges; charges for assault, murder, and attempted murder, kidnapping/false imprisonment, and total violent charges (R^2 changes ranged from .05 to .22); MPQ Alienation, Aggression, and Negative Emotionality (R^2 changes ranged from .06 to .15); NEO-FFI Agreeableness and Conscientiousness (R^2 changes were both .05); and AEQ Total Anger, Anger-Out, and Control of Anger scores (R^2 changes ranged from .07 to .09).

Further subsidiary analyses examining the incremental validity of PCL-R Factor 1 scores above and beyond the IM-P yielded similarly significant, although somewhat less marked, results for antisocial behaviors, including total features of ASPD, kidnapping/false imprisonment, and total violent charges (R^2 changes ranged from .12 to .14). Nevertheless, the results for nonviolent institutional charges; assault; murder and attempted murder; MPQ Alienation, Aggression, and Negative Emotionality; NEO-FFI Agreeableness and Conscientiousness; and AEQ scales became nonsignificant. Parallel analyses examining the incremental validity of residualized PCL-R Factor 1 scores (controlling for PCL-R Factor 2 scores) above and beyond the IM-P yielded nonsignificant results for all of these variables with the exception of total violent charges (R^2 change = .04).

DISCUSSION

The PCL-R findings obtained in this study replicate those of Kosson et al. (1997). As Kosson et al. found, the IM-P exhibited moderately high correlations with PCL-R Factor 1 and significantly weaker correlations with PCL-R Factor 2. Partial correlation analyses controlling for the influence of each factor revealed that the association between the IM-P and PCL-R Factor 2 was attributable entirely to the effects of Factor 1. These findings demonstrate that the IM-P assesses a dimension of psychopathy more closely tied to the interpersonal and emotional than behavioral features of psychopathy. As a consequence, they offer support for both the convergent and discriminant validity of the IM-P.

Somewhat less convincingly, these findings were mirrored by the pattern of relations between the IM-P and the two estimated factors of the PPI; MPQ-estimated PPI-1 exhibited a positive correlation, approaching significance, with the IM-P, whereas the correlation for MPQ-estimated PPI-2 was negligible. Moreover, although the IM-P was significantly associated with several measures of antisocial behavior and self-reported socialization, the magnitudes of these associations were modest. Because some of the antisocial and criminal behaviors in this data set (e.g., childhood and adult criminal charges, childhood and adult fights) were coded from file data of unknown interrater reliability, they may underestimate the association between the IM-P and antisocial and criminal behavior. Nevertheless, these findings, similar to those examining the relation between the IM-P and the factors of the PCL-R, suggest that the IM-P is more highly related to the interpersonal-affective than behavioral deviance features of psychopathy. In this respect, they again provide at least some support for the discriminant validity of the IM-P from generalized antisocial behavior.

More broadly, our findings for self-report measures replicate those of Kosson et al. (1997), who also reported that the IM-P was less highly correlated with questionnaire measures than with the PCL-R. These findings may in part reflect differences in method variance (self-report vs. interview), paralleling earlier findings in the psychopathy literature suggesting that self-report and interview-derived indices of psychopathy tend to load on different factors (Hare, 1985; Widom & Newman, 1985).

Further analyses examining Cooke and Michie's (2001) three-factor model of the PCL-R revealed that the IM-P was selectively associated with the interpersonal factor compared with the affective factor. This finding affords further evidence for the construct validity of the IM-P given that this measure was designed to assess the interpersonal features of psychopathy.

Participants who scored higher on the IM-P reported fewer phobic symptoms and less agoraphobic fear than participants who scored lower. As expected, they were less likely to fall in the unassured/submissive quadrant of the IAS and more likely to be high in dominance. This relation indicates that the IM-P assesses some of the interpersonal traits associated empirically with psychopathy. The strong relationship of the IM-P to Dominance, as compared with Love, replicates the findings of Kosson et al. (1997) and is consistent with other reports on the personality of the psychopath (Blackburn, 1995). High scorers on the IM-P also showed greater levels of achievement, as measured by the MPQ. Contrary to prediction, IM-P scores were not highly associated with MPQ Social Potency or to measures of impulsivity, hostility, sensation seeking, Machiavellianism, or nontraditionalism. IM-P scores were not significantly associated with FFM scales, although they displayed trends toward positive correlations with extraversion and negative correlations with agreeableness.

Although the IM-P contributed to the prediction of several variables measuring anxiety and fear above and beyond the PCL-R, the IM-P provided little additional information when only PCL-R Factor 1 was considered. The lone exceptions were in the prediction of age and self-reported shyness and agoraphobia. Our findings therefore raise questions regarding the incremental validity and clinical utility of the IM-P above and beyond PCL-R Factor 1. One potential explanation for these findings is that many of the interpersonal behaviors measured by the IM-P are already assessed implicitly by several PCL-R Factor 1 items, thereby producing method covariance. For example, high levels of IM-P ethical superiority and expressed narcissism would typically contribute to raising an inmate's score on the PCL-R item 2—Grandiose Sense of Self-Worth (which is on Factor 1). It therefore remains to be seen whether the IM-P offers an important addition to the clinical assessment of psychopathy, especially its Factor 1 traits, above and beyond the PCL-R.

In contrast, hierarchical multiple regression analyses provided evidence that the PCL-R and, to a lesser extent, PCL-R Factor 1 possess incremental validity above and beyond the IM-P, especially for ASPD symptoms. This finding is not entirely surprising given that the IM-P appears to be more a measure of the core interpersonal and affective traits of psychopathy than its associated antisocial behaviors. More conservative analyses examining the incremental validity of PCL-R Factor 1 scores (controlling for PCL-R Factor 2 scores) above and beyond the IM-P were largely negative. These findings suggest that the unique component of PCL-R Factor 1, namely, the component of this factor that does not overlap with PCL-R Factor 2, may afford little incremental validity above and beyond the IM-P.

One unexpected finding was the positive and significant relationship between IM-P scores and age of the inmates, which remained significant even after controlling for PCL-R total and Factor 1 scores. The positive association between IM-P scores and age replicates that of Kosson et al. (1997). The reasons for this finding are unclear. Prisoners may develop certain interpersonal behaviors preferentially associated with the IM-P as they age. It is also possible that older inmates are more interview-savvy and may therefore feel more comfortable participating in the PCL-R. This, in turn, may lead them to receive higher scores on many IM-P items (e.g., interrupts, showmanship). In a meta-analysis of longitudinal data on personality traits, Roberts and Walton (in press) found that social dominance and emotional stability tend to increase with age. Because the IM-P may be positively associated with both traits, our findings and those of Kosson et al. could reflect this age-related trend.

Our study was marked by several limitations. First, because we excluded one item from the IM-P (eye contact), our findings should be extrapolated to past findings on the IM-P with at least some caution. Second, because our sample size ($N = 93$) was relatively modest, some of our findings, such as the positive correlation between the IM-P and both MPQ-estimated PPI-I and NEO-FFI extraversion and the negative correlation between the IM-P and NEO-FFI agreeableness, might have failed to attain significance because of low statistical power. Therefore, several of our negative findings, particularly those of marginal statistical significance, should similarly be interpreted with caution. Further investigation of the convergent and discriminant validity of the IM-P in larger samples is therefore warranted.

Although interpersonal behaviors measured by the IM-P relate strongly to some features of psychopathy, particularly Factor 1 traits, it is not known whether these behaviors extend to disorders other than psychopathy. For example, many of the IM-P items (e.g., interrupting, a tendency to be tangential, filling dead space) might be found in individuals during the manic phase of bipolar disorder. Other IM-P items (e.g., manipulative behaviors, personal and professional boundary violations, making personal comments) might be found in individuals with borderline personality disorder, and still others (e.g., ethical superiority, expressed narcissism, showmanship) might be found in individuals with narcissistic personality disorder (see Widiger, 2006, for a review of the association between PCL-R psychopathy and narcissistic personality disorder).

Further work on the interpersonal behaviors of psychopaths should incorporate behaviors linked empirically to psychopathy, such as leaning forward, smiling, and hand gesturing (Gillstrom & Hare, 1988; Rime et al., 1978). In addition, because psychopaths are notorious liars, it may

prove useful to measure nonverbal behaviors associated with lying. Ekman (1992) has found that when lying, people often unknowingly express emblems, which are gestures that carry specific meanings understood by nearly everyone in a cultural group. When lying, people also tend to decrease their use of illustrators, which are gestures that amplify speech, and to increase their use of manipulators, which are grooming behaviors (e.g., twirling hair, picking at blemishes; Ekman, 1992). Nevertheless, psychopaths' well-known immunity to social anxiety (Cleckley, 1941/1982; Lilienfeld & Andrews, 1996) may render them less likely to leave these tell-tale signs of prevarication than nonpsychopaths.

In addition, although the PCL-R is a semistructured interview, it may be too structured to allow for the full range of naturally occurring interpersonal behaviors on the part of interviewees. Consequently, the IM-P may be able to detect a greater range of behaviors if administered while observing inmates engaged in everyday social interactions. Personality traits best predict behavior in situations that allow for the demonstration of individuals' typical interpersonal styles (Snyder & Monson, 1975; Wachtel, 1973). Moreover, extracting the IM-P from a measure other than the PCL-R could minimize method covariance and thereby permit higher levels of incremental validity to emerge.

Finally, although psychopaths tend to display differences from nonpsychopaths in interpersonal behaviors, it is not clear whether psychopaths display deficits in receptive interpersonal behavior. Stevens (1998) examined the performance of psychopathic children on the Diagnostic Tests of Nonverbal Accuracy (DANVA; Nowicki & Duke, 1994). Overall, psychopathic children experienced greater difficulty than nonpsychopathic children in detecting low-intensity emotional stimuli and sadness, fear, anger, and happiness (see also Blair, Mitchell, Richell et al., 2002; Blair, Mitchell, Peschardt et al., 2004, for findings concerning adult psychopaths' insensitivity to fear in others). These early-appearing receptive deficits could, in turn, lead to certain aberrant interpersonal behaviors observed in psychopathic adults. Further studies examining the ability of psychopathic individuals to decode nonverbal cues could contribute to our understanding of the intriguing differences that such individuals display when interacting with others.

REFERENCES

- American Psychiatric Association. (APA). (2000). *Diagnostic and statistical manual of mental disorders* (DSM-IV-TR; 4th Rev. ed.). Washington, DC: Author.
- Arrindell, A., Emmelkamp, P. M. G., & van der Ende, J. (1984). Phobic dimensions: I. Reliability and generalizability across samples, genders, and nations. *Advances in Behavioral Research and Therapy*, 6, 207-253.
- Benning, S. D., Patrick, C. J., Hicks, B. M., Blonigen, D. M., & Krueger, R. F. (2003). Factor structure of the Psychopathic Personality Inventory: Validity and implications for clinical assessment. *Psychological Assessment*, 15, 340-350.
- Blackburn, R. (1995). Psychopathy and personality disorder: Implications of interpersonal theory. *Issues in Criminological & Legal Psychology*, 24, 18-23.
- Blair, R. J. R., Mitchell, D. G. V., Peschardt, K. S., Colledge, E., Leonard, R. A., Shine, J. H., et al. (2004). Reduced sensitivity to others' fearful expressions in psychopathic individuals. *Personality and Individual Differences*, 37, 1111-1122.
- Blair, R. J. R., Mitchell, D. G. V., Richell, R. A., Kelly, S., Leonard, A., Newman, C., et al. (2002). Turning a deaf ear to fear: Impaired recognition of vocal affect in psychopathic individuals. *Journal of Abnormal Psychology*, 111, 682-686.
- Buss, A. H., & Plomin, R. (1975). *A temperament theory of personality development*. New York: John Wiley.
- Buss, A. H., & Plomin, R. (1984). *Temperament: Early developing personality traits*. Hillsdale, NJ: Lawrence Erlbaum.
- Cleckley, H. (1982). *The mask of sanity*. St. Louis: Mosby. (Original work published 1941)
- Christie, R., & Geis, F. L. (1970). *Studies in Machiavellianism*. New York: Academic Press.
- Colwell, J. T. (1998). An interpersonal method for scoring the TAT: Implications for distinguishing individuals with psychopathic symptomatology using Leary's circumplex model. *Dissertation Abstracts International: Section B. The Sciences and Engineering*, 59(5-B), 2478.
- Cooke, D. J., & Michie, C. (2001). Refining the construct of psychopathy: Toward a hierarchical model. *Psychological Assessment*, 13, 171-181.
- Costa, P. T., Jr., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI): Professional manual*. Odessa, FL: Psychological Assessment Resources.
- Deaton, W. L. (1992). The Shipley Hartford. In J. J. Kramer & J. Close (Eds.), *The eleventh mental measurements yearbook* (pp. 822-824). Lincoln: University of Nebraska Press.
- Edens, J. F., Hart, S. D., Johnson, D. W., Johnson, J. K., & Olver, M. E. (2000). Use of the personality assessment inventory to assess psychopathy in offender populations. *Psychological Assessment*, 12, 132-139.
- Ekman, P. (1992). *Telling lies*. New York: Norton.
- Fenz, W. D., & Epstein, S. (1965). Manifest anxiety: Unifactorial or multifactorial composition? *Perceptual and Motor Skills*, 20, 773-780.
- Gillstrom, B. J., & Hare, R. D. (1988). Language-related hand gestures in psychopaths. *Journal of Personality Disorders*, 2(1), 21-27.
- Gough, H. G. (1960). Theory and measurement of socialization. *Journal of Consulting Psychology*, 24, 23-30.
- Gough, H. G. (1964). *Manual for the California Psychological Inventory*. Palo Alto, CA: Consulting Psychologists Press.
- Hare, R. D. (1985). A comparison of procedures for the assessment of psychopathy. *Journal of Consulting and Clinical Psychology*, 53, 7-16.
- Hare, R. D. (2003). *Manual for the Revised Psychopathy Checklist*. Toronto, Canada: Multi-Health Systems. (Original work published 1991)
- Harpur, T. J., Hakstian, A. R., & Hare, R. D. (1988). Factor structure of the psychopathy checklist. *Psychological Assessment*, 56, 741-747.
- Harpur, T. J., Hare, R. D., & Hakstian, A. R. (1989). Two-factor conceptualization of psychopathy: Construct validity and assessment implications. *Psychological Assessment*, 1, 6-17.
- Hart, S. D., Cox, D. N., & Hare, R. D. (1995). *Manual for the Psychopathy Checklist: Screening Version (PCL:SV)*. Toronto, Canada: Multi-Health Systems.
- Hart, S. D., Forth, A. E., & Hare, R. D. (1991). Psychopathy and the Millon Clinical Multiaxial Inventory-II. *Journal of Personality Disorders*, 5(4), 318-327.

- Hart, S. D., & Hare, R. D. (1994). Psychopathy and the Big Five: Correlations between observers' ratings of normal and pathological personality. *Journal of Personality Disorders*, 8, 32-40.
- Hedlund, J. L., & Viewig, B. W. (1984). The Michigan Alcoholism Screening Test (MAST): A comprehensive review. *Journal of Operational Psychiatry*, 15, 55-64.
- Kosson, D. S., Steuerwald, B. L., Forth, A. E., & Kirkhart, K. J. (1997). A new method for assessing interpersonal behavior of psychopathic individuals: Preliminary validation studies. *Psychological Assessment*, 9, 89-101.
- Lilienfeld, S. O. (1998). Methodological advances and developments in the assessment of psychopathy. *Behaviour Research and Therapy*, 36, 99-125.
- Lilienfeld, S. O., & Andrews, B. P. (1996). Development and preliminary validation of a self-report measure of psychopathic traits in noncriminal populations. *Journal of Personality Assessment*, 66, 488-524.
- Louth, S. M., Williamson, S., Alpert, M., Pouget, E. R., & Hare, R. D. (1998). Acoustic distinctions in the speech of male psychopaths. *Journal of Psycholinguistic Research*, 27, 376-383.
- Lykken, D. T. (1995). *The antisocial personalities*. Hillsdale, NJ: Lawrence Erlbaum.
- Lynam, D. R., & Derefinko, K. J. (2006). Psychopathy and personality. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 133-155). New York: Guilford.
- Marks, I. M., & Matthews, A. N. (1979). Brief standard self-rating for phobic patients. *Behavior Research and Therapy*, 17, 263-267.
- McHoskey, J. W., Worzel, W., & Szyarto, C. (1998). Machiavellianism and psychopathy. *Journal of Personality and Social Psychology*, 74, 192-210.
- Nowicki, S., & Duke, M. (1994). Individual differences in the nonverbal communication effect: The Diagnostic Assessment of Nonverbal Accuracy Scale. *Journal of Nonverbal Behavior*, 18, 9-35.
- Patrick, C. J., Zempolich, K. A., & Levenston, G. K. (1997). Emotionality and violent behavior in psychopaths: A biosocial analysis. In A. Raine (Ed.), *Biosocial bases of behavior* (pp. 145-161). New York: Plenum.
- Poythress, N. G., Edens, J. F., & Lilienfeld, S. O. (1998). Criterion-related validity of the Psychopathic Personality Inventory in a prison sample. *Psychological Assessment*, 10, 426-430.
- Raine, A., Lencz, T., Bihlre, S., Lacasse, L., & Colletti, P. (2000). Reduced prefrontal gray matter volume and reduced autonomic activity in antisocial personality disorder. *Archives of General Psychiatry*, 57, 119-127.
- Rime, B., Bouvy, H., Leborgne, B., & Rouillon, F. (1978). Psychopathy and nonverbal behavior in an interpersonal setting. *Journal of Abnormal Psychology*, 87, 636-643.
- Roberts, B. W., & Walton, K. E. (in press). Patterns of mean-level change in personality traits across the life course: A meta-analysis of longitudinal studies. *Psychological Bulletin*.
- Salekin, R. T., Trobst, K. K., & Krioukova, M. (2001). Construct validity of psychopathy in a community sample: A nomological net approach. *Journal of Personality Disorders*, 15, 425-441.
- Schenley, A. (2003). Correlational analysis of psychopathic personality traits in male and female offenders: A multitrait-multimethod approach. *Dissertation Abstracts International: Section B. The Sciences & Engineering*, 61(9-B), 2928.
- Schmitt, W. A., & Newman, J. P. (1999). Are all psychopathic individuals low-anxious? *Journal of Abnormal Psychology*, 108, 353-358.
- Selzer, M. L., Vinokur, A., & vanRooijen, L. (1975). A self-administered short Michigan Alcohol Screening Test (SMAST). *Journal of Studies on Alcohol*, 36, 117-126.
- Shipley, W. C. (1983). *Shipley Institute of Living Scale*. Los Angeles: Western Psychological Services.
- Smith, S. S., & Newman, J. P. (1990). Alcohol and drug abuse/dependence disorders in psychopathic and nonpsychopathic criminal offenders. *Journal of Abnormal Psychology*, 99, 430-439.
- Snyder, M., & Monson, T. L. (1975). Personality, situation and control of social behavior. *Journal of Personality and Social Psychology*, 43, 385-399.
- Spielberger, C. D., Krasner, S. S., & Solomon, E. P. (1988). The experience, expression, and control of anger. In M. P. Janisse (Ed.), *Health psychology: Individual differences and stress* (pp. 89-108). New York: Springer Verlag.
- Steiger, J. H. (1980). Tests for comparing elements of a correlation matrix. *Psychological Bulletin*, 87, 245-251.
- Stevens, D. (1998). *The association between degree of psychopathy and emotion recognition in 11- to 12-year-old boys*. Unpublished doctoral dissertation, University of London.
- Tellegen, A. (1982). *Brief manual for the Multidimensional Personality Questionnaire*. Unpublished manuscript, University of Minnesota.
- Tellegen, A., & Waller, N. G. (in press). Exploring personality through test construction: Development of the Multidimensional Personality Questionnaire. In S. R. Briggs & J. M. Cheek (Eds.), *Personality measures: Development and evaluation*. Greenwich, CT: JAI.
- Vassileva, J., Kosson, D., Abramowitz, C., & Conrod, P. (2005). Psychopathy versus psychopathies in classifying criminal offenders. *Legal and Criminological Psychology*, 10, 27-43.
- Wachtel, P. (1973). Psychodynamics, behavior therapy, and the implacable experimenter: An inquiry into the consistency of personality. *Journal of Abnormal Psychology*, 82, 324-334.
- Watson, D., & Clark, L. A. (1994). *Manual for the Positive and Negative Affect Schedule* (Expanded form). Iowa City: University of Iowa.
- Widiger, T. A. (2006). Psychopathy and DSM-IV psychopathology. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 156-171). New York: Guilford.
- Widom, C. S., & Newman, J. P. (1985). Characteristics of non-institutionalized psychopaths. In D. Farrington & J. Gunn (Eds.), *Aggression and dangerousness* (pp. 57-80). New York: John Wiley.
- Wiggins, J. S., Trapnell, P., & Phillips, N. (1988). Psychometric and geometric characteristics of the revised Interpersonal Adjectives Scale (IAS-R). *Multivariate Behavioral Research*, 23, 517-305.
- Zuckerman, M. (1994). *Behavioral expressions and biosocial bases of sensation seeking*. Cambridge, UK: Cambridge University Press.

Stacey Zolondek received her PhD in clinical psychology from Emory University in 2003. She is currently director of an outpatient sexual offender treatment program at Assessment and Alternatives in Philadelphia.

Scott O. Lilienfeld is associate professor of psychology (clinical psychology program) at Emory University in Atlanta and editor-in-chief of the *Scientific Review of Mental Health Practice*. His research interests include the assessment and etiology of psychopathic personality and the classification of psychopathology.

Christopher J. Patrick is Starke R. Hathaway distinguished professor and director of clinical training in the Department of Psychology at the University of Minnesota. His research interests focus on psychopathy, antisocial behavior, substance abuse, and the contributions of psychophysiology, affective neuroscience, and cognitive neuroscience to the understanding of these domains.

Katherine A. Fowler is an advanced graduate student in the clinical psychology program at Emory University. She has published several articles and chapters focusing on the assessment and diagnosis of psychopathy.