

# PSYCHOPATHY AND THE PERCEPTION OF AFFECT AND VULNERABILITY

ANGELA S. BOOK

*Brock University*

VERNON L. QUINSEY

*Queen's University*

DALE LANGFORD

*McGill University*

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The relationship between psychopathic traits and the perception of nonverbal communication, including facial expressions and body language, is investigated. Participants include 59 prison inmates and 60 community members. Psychopathic traits among inmates are measured using the Psychopathy Checklist–Revised (PCL-R) and Levenson’s Self Report Psychopathy Scale. Participants categorize the emotion of posed facial photographs and rate intensity of emotion. They view videotaped interactions of a confederate and a target individual and rate assertiveness using the Rathus Assertiveness Scale. There is a trend for the PCL-R to be positively correlated with the inmates’ accuracy of emotional intensity ratings. Psychopathic traits are also positively associated with the accuracy of assertiveness ratings.

**Keywords:** psychopathy; emotion; callous empathy

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Psychopathy is characterized by irresponsibility, impulsivity, anti-social behavior, an inability to learn from punishment, and a lack of long-term goals (Cleckley, 1941). The key characteristics of psychopathy are measured in the Psychopathy Checklist–Revised (PCL-R; Hare, 1991). The 20-item instrument was originally thought to consist

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of two factors: (a) affective and interpersonal symptoms, such as reduced affect, lack of empathy, manipulativeness, and lack of remorse, and (b) symptoms of social deviance, including a lack of long-term goals and behavioral problems. Patrick (1994) aptly relabeled these factors *emotional detachment* and *antisocial behavior*. Other research has suggested the existence of three factors (Cooke & Michie, 2001), and at the point of the last revision of the PCL-R, factor analyses indicate that there are four facets (subsumed under the two factors given above; Hare, 2003): interpersonal, affective, lifestyle, and antisocial. The interpersonal and affective facets make up the interpersonal/affective component (Factor 1), and the lifestyle and antisocial facets make up the social deviance component (Factor 2).

Because affect and empathy are typically attenuated in psychopaths, Cleckley (1941) suggested that psychopaths suffer from emotional poverty, a view that is shared by others (Hare, 1993). More specifically, it has been suggested that psychopaths have a selective deficit in emotional response (Newman, Schmitt, & Voss, 1997). For example, psychopaths exhibited significantly less differentiation in heart rate between fearful and neutral sentence stimuli than did nonpsychopaths (Patrick, Cuthbert, & Lang, 1994). Psychopaths also have demonstrated unusual startle responses, as measured by the number of eye blinks following neutral, pleasant, and unpleasant slides (Patrick, Bradley, & Lang, 1993), specifically showing diminished blink responses during unpleasant slides as compared with controls. However, they did not differ from controls during either pleasant or neutral slides. Furthermore, psychopaths appear to be less responsive to distress cues than nonpsychopaths (R. Blair, Jones, Clark, & Smith, 1997).

Although some researchers have suggested that psychopaths suffer from a general poverty of emotion, others maintain that they only lack fear. Plutchik (1995), in commentary on Mealey (1995), noted that although psychopaths do not seem to feel fear to the same degree as other individuals, it is not the case that all emotions are muted. Psychopaths experience anger, rage, mistrust, and irritability at high intensities according to physiological, behavioral, and self-report measures. Furthermore, psychopaths may not have any deficits in feeling positive emotions, such as pleasure or happiness. They are reward oriented (Newman, Patterson, & Kosson, 1987) and tend to be risk takers, both of which are associated with reward centers in

the brain (Levenson, 1990) and with increased positive emotionality (Izard, Libero, Putnam, & Haynes, 1993). Furthermore, Patrick et al. (1993) found that psychopathic individuals, while having deficient reactivity to negative stimuli, had normal reactivity in the presence of positive emotional stimuli.

In spite of experiencing attenuated fear and having underdeveloped empathy (Hare, 1993), psychopaths are able to manipulate, deceive, and charm others (Cleckley, 1941; Hare, 1993) and have been described as social predators and “natural born takers” who are skilled at deception (Hare, 2001). Given the duplicitous nature of psychopaths, Mealey (1995) suggested that they are cheaters in the sense that they exploit the cooperation of others. Supporting this assertion, psychopathy has been found to be positively correlated with deception in sexual and nonsexual contexts (Seto, Khattar, Lalumière, & Quinsey, 1997).

Regardless of a lack of empathy, psychopaths appear to be able to use socially relevant information to manipulate the people around them, an assertion that is supported by research finding that psychopaths do appear to have insight into others’ intentions, emotions, and motivations (J. Blair et al., 1996; Richell et al., 2003). This special competence is described as “theory of mind” (often abbreviated as ToM; Premack & Woodruff, 1978). It is the ability to interpret others’ minds in terms of intentional states, such as beliefs and desires (Leslie & German, 1995). Byrne and Whiten (1997) refer to this ability as social intelligence or Machiavellian intelligence. Clearly, this type of intelligence would be invaluable in manipulating and deceiving others.

In one study examining the link between ToM and psychopathy, Richell et al. (2003) participants completed the “Reading the Mind in the Eyes” task, in which photographs of peoples eyes are displayed, and participants are asked to label the emotion/mental state that they perceive. It is interesting that psychopathic offenders did not demonstrate any impairment deficits on this task. Furthermore, psychopaths appear to be able to understand what others are feeling and what motivates them to act (J. Blair et al., 1996), although they do appear to be less responsive to distress signals (R. Blair et al., 1997). The findings to date suggest that psychopathic individuals have no problem knowing what others are feeling; they just don’t

react emotionally. The fact that psychopaths are able to understand others' motivations and actions but are not affected by the usual accompanying feelings has been described by Lorenz and Newman (2002) as the "emotion paradox" inherent in psychopathy. This paradox allows for a callous disregard for others, a lack of guilt, and may help to account for the duplicity and lack of empathy that characterize psychopaths.

Although it is important to know that psychopaths are able to judge the intentions and motivations of others and that they may use this information in manipulating and cheating others, the exact cues used for this analysis have not been studied. Because the face is central to interpersonal communication (Landau, 1989), facial expressions may be one type of cue relied on by manipulators.

Other nonverbal behavior may provide relevant social information. For example, research on the importance of nonverbal behavior in social interactions suggests that victims can be distinguished from nonvictims based on body language. Richards, Rollerson, and Phillips (1991) found that sexual assault victims lack self-confidence in social situations and exhibit emotional passivity and submissiveness. Submissive women tended to gesture more with hand and foot movements, and dominant women gestured more with arm movements and leg swings. Submissive women also tended to maintain established postures for extended lengths of time, whereas the more dominant adjusted seating postures more often. Furthermore, Murzynski and Degelman (1996) found a relationship between body language and judgments of vulnerability by strangers. Female models were videotaped using body language that indicated either vulnerability or confidence. These videotapes were then shown to participants, who judged the models on confidence and vulnerability to sexual assault. The models who were instructed to use body language associated with vulnerability were, in fact, judged to be less confident and more vulnerable to sexual assault by a stranger. This mirrors the findings of Grayson and Stein (1981), who suggested that "potential victims may actually be signaling their vulnerability to would-be assailants through gestures, posture, and exaggerated movements" (p. 68).

Given that individuals with psychopathic traits are able to successfully manipulate other people, they should be able to make use of socially relevant information, such as facial expressions of emotion

and other nonverbal behaviors. In other words, they should not show deficits in making judgments about emotion or vulnerability in other individuals. This hypothesis is in direct contrast to the emotional poverty argument, which suggests that they should exhibit deficits, especially in recognizing fearful facial expressions.

## METHOD

### PHASE I: STIMULI COLLECTION

*Videotapes of interpersonal interaction.* To determine whether psychopathic traits are associated with the ability to assess vulnerability in others, we used relatively natural interactions between a confederate and a target as the stimuli. Thus, the purpose of the first phase was to collect videotapes of natural dyadic interactions to be viewed and rated by participants in the second phase.

Three male participants were recruited and told that they were participating in a study on personality and self-esteem. The true purpose of this phase was to collect videotaped natural interpersonal interactions. The participants were chosen because of their close friendship with the confederate in the study, ensuring that any interaction would be relatively natural and flowing. When the participant arrived, the confederate was also there, and they were both asked to wait, under the impression that the researcher had to get the forms from another room. For 2 min, the dyad was left alone, and unbeknownst to the participant, the interaction was recorded using a hidden video camera (Sony Digital-8, Model # DCR-TRV 320). After 2 min, the researcher returned and told the participant that he had been videotaped talking to his friend, who was a confederate. After the deception was revealed, participants consented to the use of the resulting videotape for the present study and then filled out the Rathus Assertiveness Scale (RAS; Rathus, 1973).

### PHASE II: DATA COLLECTION

#### Participants

The facial expressions of emotion used as stimuli (see below) in the present study were all posed by Caucasian individuals. To avoid

cross-race effects in facial expression recognition, only Caucasian individuals were recruited to take part in the study.

*Inmates.* Seventy-two inmates from a federal correctional facility in Ontario were asked to participate in the present study. The inmates who were approached were consecutive admissions to an assessment unit, ensuring a relatively representative sample. Fifty-nine (82%) of these inmates agreed to participate. They ranged in age from 19 to 58 ( $M = 32.1$ ,  $SD = 10.2$ ).

*Community participants.* Sixty men from the community were recruited through a newspaper advertisement. The advertisement asked for men to participate in a research project examining recognition and expression of emotions. Interested individuals were told that they would be paid \$20 for participation. The age of community participants ranged from 19 to 63 ( $M = 32.9$ ,  $SD = 13.2$ ). Participants were recruited in Kingston, Ontario, Canada.

## Materials

*Measures of psychopathy.* Levenson's Self Report Psychopathy Scale (LSRP; Levenson, Kiehl, & Fitzpatrick, 1995) was used to measure psychopathic traits. The scale has high internal consistency ( $\alpha = .83$ ), test-retest reliability ( $r = .83$ ), and exhibits both construct and convergent validity (Lynam, Whiteside, & Jones, 1999). Scores on each item range from 1 (*strongly disagree*) to 4 (*strongly agree*). Higher scores represent increasing psychopathy. There are two domains: primary psychopathy and secondary psychopathy, which map onto Factors 1 and 2 of the PCL-R (Hare, 1991). The first purports to measure a selfish, callous, uncaring, and manipulative orientation toward others (e.g., "Success is based on survival of the fittest; I am not concerned with the losers"), whereas the second measures impulsivity and poor behavioral controls ("I find myself in the same kinds of trouble, time after time").

PCL-R scores (Hare, 1991) were scored based on an interview with the inmate, as well as from institutional files. This measure was collected only for institutional participants because of the extent of the corroborating information that is required for accurate scoring.

Scoring was done by the first author, who was trained in the Hare PCL-R Training Program, and scoring was completed without knowledge of the participants' ability on the tasks of interest. Where file information included a previous PCL-R assessment ( $n = 34$ ), the previous score was compared to the ratings from the present study for the purposes of reliability analysis. Interrater reliability was very good,  $r(33) = .94$ ,  $p < .001$ . Disagreements were small, resulting in total PCL-R scores that differed by 1 to 3 points for four of the participants. It is important to note that the rater was completely blind to the existing PCL-R score until the rating had been completed.

*Intelligence measure.* The Vocabulary subscale of the Kaufman Brief Intelligence Test (K-BIT; Kaufman & Kaufman, 1990) was used to get an index of general intelligence. This subscale has been found to be a valid measure of intelligence. For example, scores correlate .83 with the Weschler Adult Intelligence Scale Verbal subscale (Naugle, Richard, Chelune, & Tucker, 1993). Scores on the K-BIT Vocabulary subscale were obtained to ensure that intelligence differences did not account for relationships between study variables.

*Ability to read emotions.* The Japanese and Caucasian Facial Expressions of Emotion and Neutral Faces (Matsumoto & Ekman, 1988) is a compilation of 56 Japanese and Caucasian facial expressions and 56 neutral expressions. Equal numbers of Caucasian male and female faces were used in this study. Faces depicting surprise were excluded because they are often confused with faces depicting fear, regardless of the population being studied (Ekman & Friesen, 1978). With these photographs removed, only 24 remained. These color photographs of affect have been normed and standardized (Matsumoto & Ekman, 1988). Twenty-four faces, then, (four each of happy, sad, fearful, angry, disgusted, and neutral) were employed in the present study.

*Ability to judge vulnerability videotapes of interpersonal interactions.* Three videotapes collected in Phase I were used in the present study. The videotapes were 2 min in length and involved an interpersonal interaction between a target and a confederate.

*Vulnerability measure.* Individuals with severe victimization histories are perceived as less assertive than other individuals (Corbin, Bernat, & Calhoun, 2001), and assertiveness serves as a protective factor against victimization in adolescents (Kuther & Fisher, 1998). For the present study, then, it was assumed that a lack of assertiveness indicates vulnerability to victimization and that high assertiveness would indicate lowered vulnerability. The measure employed in the present study was the RAS (Rathus, 1973), which has been used widely and is reported to be a reliable ( $r = .72$ ; Del Greco, Breitbach, Rumer, McCarthy, & Suissa, 1986) and valid measure of assertiveness (Pearson, 1979). It is a 30-item self-report scale measuring assertiveness in a variety of contexts and uses a scale of  $-3$  to  $3$  (*very uncharacteristic of me* and *very characteristic of me*, respectively). Negative scores indicate a lack of assertiveness, and positive scores indicate high assertiveness.

## Procedure

First, participants were asked to fill out the LSRP. This questionnaire was used to obtain a measure of psychopathy that would be common to the community and inmate samples. After filling in the LSRP, the vocabulary portion of the K-BIT was administered. Then, participants were asked to judge emotion from facial expressions. Photographs were displayed using PRESENTATION 0.43 (Neurobehavioral Systems, 2001), a stimulus delivery program with millisecond temporal precision for psychological and neuropsychological experimentation.

For pictures of facial affect, participants were asked to view photographs (positioned in one of three random orders). Each photograph was followed by the question, "What was the previous person feeling?" Participants were given five categories from which to choose: happy, sad, angry, disgusted, or afraid.

Because there were so few faces in each emotional category (and thus a limited opportunity to err), participants were also asked to rate the intensity (from 1 to 10, 10 being very intense) of each emotion depicted in the faces. Intensity ratings were only examined where the individual correctly classified the emotional expression. The accuracy of the intensity ratings was determined by comparing them

to an external and objective criterion. An objective score was calculated using the Facial Action Coding System (FACS; Ekman & Friesen, 1978), which is scored depending on specific muscle movements in the face. Each of the 20 facial expressions of emotion (not the neutral faces) employed in the present study was coded by two independent raters for the intended emotion. The two raters were blind to each other's rating of each face and to psychopathy scores but not to the emotional category of each face. Each emotion typically involves the movement of certain muscle groups. A typical happy face, for example, should include upward turning of the corners of the mouth, visible teeth, and partially closed eyes. For each expected feature, photographs were scored 0 (*not present*), 1 (*slightly present*), or 2 (*definitely present*). The scores were then added up and scaled to be out of 10 (to match the scale of intensity ratings that participants were required to use). Interrater reliability for the FACS coding in the present study was excellent ( $r = .96$ ). These objective ratings were used to calculate accuracy scores for each participant, for each photograph. The scaled score (out of 10) was subtracted from the individual's intensity rating. The resultant score was the discrepancy between their rating and the objective rating. The absolute value of the discrepancy was used in analyses, given that 1 point below the objective rating and 1 point above the objective rating were assumed to be equal in terms of accuracy. However, higher levels of the variable, at this stage, meant lowered accuracy. For ease of interpretation, the absolute discrepancy was given a negative sign, making higher values indicative of higher accuracy.

Four neutral faces were included in the original presentation. When a neutral face was shown, participants were asked two questions to be consistent: "Was the person male or female?" and "How sure are you on a scale from 1 to 10?" Neutral faces were intended to weed out perceptual difficulties. None of the participants erroneously categorized these faces.

Feyereisen, Malet, and Martin (1986) have shown that visual processing of facial stimuli involves several cognitive operations, of which stimulus recognition is the first. These researchers found that people can register a facial expression in as little as 20 ms. To assure that individuals had enough time to register the stimuli ( $> 20$  ms) but not enough to dwell on the photograph, pictures were shown for 100 ms.

Participants were assigned to one of three orders, within which the photographs were placed randomly. Although each photograph was shown for 100 ms, participants were given as much time as they needed to record their responses to the two questions listed above.

In the final stage, participants were asked to view three 2-min videotapes of interactions between volunteers and a confederate. Following each video, they were asked to fill out the RAS from the perspective of the person in the video. Scores given by the target were subtracted from the score given by each participant, resulting in a discrepancy score. The absolute value of the discrepancy was used in analyses, given that 1 point below the objective rating and 1 point above the objective rating were assumed to be equal in terms of accuracy. Absolute discrepancies appear to be valid measures of accuracy, given their use in other studies of personality perception (e.g., Pietromonaco, Rook, & Lewis, 1992). Once again, for ease of interpretation, negative signs were added to the absolute discrepancy value. This transformation made higher scores indicative of higher accuracy. Thus, a positive correlation would imply that increased psychopathy was associated with increased accuracy. It was expected that psychopathic traits would be positively correlated with accuracy of assertiveness perception.

## RESULTS

### DESCRIPTIVES

Descriptive statistics are given in Table 1 for all study variables. The community and institutional samples did not differ in terms of age,  $t(113) = -0.38$ ,  $p = .70$ , or the number of errors on the K-BIT Vocabulary subtest,  $t(112) = 1.78$ ,  $p = .07$ , although the latter approached significance, with inmates having more errors than community members.

As expected, the institutional sample scored higher than the community participants on Primary and Total Psychopathy, as measured by the LSRP,  $t(114) = 1.76$ ,  $p = .04$ , one-tailed,  $t(114) = 1.81$ ,  $p = .04$ , one-tailed, respectively. However, this was not the case for Secondary Psychopathy ( $p > .05$ , one-tailed).

**TABLE 1: Descriptive Statistics and Group Comparisons**

<i>Variable</i>		<i>Community</i>	<i>Institution</i>	<i>p</i>
Age	<i>M</i>	32.93	32.1	.70
	<i>SD</i>	13.15	10.17	
K-BIT errors	<i>M</i>	2.68	3.44	.07
	<i>SD</i>	2.07	2.22	
PCL-R total	<i>M</i>	NA	17.56	NA
	<i>SD</i>		7.74	
Factor 1	<i>M</i>	NA	5.54	NA
	<i>SD</i>		4.31	
Factor 2	<i>M</i>	NA	9.75	NA
	<i>SD</i>		4.04	
LSRP total	<i>M</i>	54.16	57.38	.07
	<i>SD</i>	9.33	9.81	
Primary psychopathy	<i>M</i>	32.3	34.54	.08
	<i>SD</i>	6.53	7.19	
Secondary psychopathy	<i>M</i>	21.74	22.84	.20
	<i>SD</i>	4.8	4.51	
Errors for fear	<i>M</i>	0.47	0.64	.63
	<i>SD</i>	0.85	1.08	
Total errors	<i>M</i>	3.61	4.11	.09
	<i>SD</i>	3.69	3.07	
Accuracy of fear intensity rating	<i>M</i>	7.15	7.71	.52
	<i>SD</i>	3.48	5.03	
Accuracy of other intensity rating	<i>M</i>	37.66	37.09	.84
	<i>SD</i>	10.82	13.91	
Accuracy of RAS rating (self)	<i>M</i>	56.15	48.94	.31
	<i>SD</i>	41.62	35.03	

*Note.* K-BIT = Kaufman Brief Intelligence Test; PCL-R = Psychopathy Checklist-Revised; LSRP = Levenson's Self Report Psychopathy Scale; RAS = Rathus Assertiveness Scale. Sample sizes for community and institutional samples were 57 and 59, respectively. *p* values are two-tailed.

The total LSRP score was significantly positively correlated with the total PCL-R score,  $r(57) = .30, p = .01$ , one-tailed. Similarly, secondary psychopathy was significantly positively correlated with Factor 2 of the PCL-R,  $r(57) = .40, p = .001$ . Contrary to expectations, primary psychopathy was not significantly related to Factor 1 of the PCL-R,  $r(57) = .11, p = .20$ , one-tailed.

#### STATISTICAL ISSUES

The Kolmogorov-Smirnov Test was used to determine whether variables met the assumption of normality. Normality tests were

judged using a  $p$  value of .001, as suggested by Tabachnick and Fidell (1996). Three variables were found to be positively skewed: (a) the number of errors categorizing fearful facial expressions, (b) the number of errors categorizing other emotional expressions, and (c) the discrepancy between rated and actual intensity of emotional expressions (excluding fear). Number of errors categorizing fear faces was inverted because of the L-shaped pattern of the distribution. "Errors in categorizing other emotions" was transformed using a logarithmic function because of the substantial skew observed in the scores. The problem with these two variables was that few individuals made errors, and this tendency did not differ between the two samples,  $\chi^2(1) = 0.01, p = .94$ . Thirty-nine of 60 participants in the community group and 40 of 59 in the inmate sample made no errors in categorizing fear faces, resulting in a floor effect. Finally, the absolute discrepancy between participant-rated emotional intensity and objective intensity (based on FACS coding) was transformed using a square root function because it was moderately skewed in a positive direction. These transformations are recommended by Tabachnick and Fidell and resulted in variables that were much closer to normality, according to now non-significant Kolmogorov-Smirnov tests ( $p > .001$ ).

As mentioned in the materials section, the K-BIT Vocabulary subtest was administered to determine whether effects were based merely on intelligence. The number of errors on the K-BIT was significantly correlated with the total number of emotion categorization errors, number of fear categorization errors, and the discrepancy between participant and self-ratings of assertiveness,  $r(114) = .32, p < .001$ ,  $r(114) = -.28, p = .002$ , and  $r(114) = .28, p = .002$ , respectively. Therefore, where these variables were correlated with measures of psychopathy, K-BIT errors were partialled out of the relationship.

Frequently, when researchers conduct multiple analyses, a Bonferroni adjustment is used. However, some researchers have suggested that this is not a necessary step in some contexts (Moran, 2003; Perneger, 1998). Examples of such contexts include ecological studies (Moran, 2003), studies that have small sample sizes, and studies where the universal null hypothesis is not of interest (i.e., specific predictions are made; Perneger, 1998). Both researchers were quick to refer to the increased risk of Type II errors and the need to stimulate future

research. Given the exploratory nature of the present study, the relatively small sample size, and the specificity of the predictions, the results are interpreted without such a correction.

#### RECOGNITION OF EMOTION

Table 2 gives the Pearson product moment correlations between measures of psychopathy (PCL-R and LSRP) and all study variables, and Table 3 gives *t* tests comparing individuals who made two or more mistakes to those who made fewer on all psychopathy measures. As expected, psychopathy was not associated with a deficit in categorizing emotions over all categories. As well, individuals who made more mistakes in categorizing fearful facial expressions did not differ in terms of psychopathy scores, regardless of the measure used ( $p > .05$ , one-tailed). However, correlations between the PCL-R total score and intensity ratings for all emotions and fear alone were marginally significant,  $r(57) = .20$ ,  $p = .06$ , one-tailed,  $r(57) = .22$ ,  $p = .05$ , one-tailed (a small to medium effect), suggesting that, if anything, psychopathy scores were associated with greater rather than less accuracy in rating emotional intensity.

#### ABILITY TO JUDGE VULNERABILITY

There were also significant positive relationships between some of the measures of psychopathy and the ability to rate assertiveness in other people after watching a short interaction (compared to the “self” rating of assertiveness; see Table 2), specifically primary psychopathy, secondary psychopathy, and total LSRP score. The correlation between Factor 1 of the PCL-R and accuracy also approached significance,  $r(57) = .21$ ,  $p = .06$ , one-tailed. In other words, higher psychopathy scores on these measures were associated with higher accuracy in rating assertiveness.

Because of the possibility that psychopaths are just biased toward judging individuals as vulnerable, we ran correlations between psychopathy scores and the raw discrepancy between their ratings and self-ratings, finding that none of the relationships were significant (Table 4).

**TABLE 2: Psychopathy and Perception of Nonverbal Cues**

	<i>PCL</i>	<i>PCL-1</i>	<i>PCL-2</i>	<i>PPSYC</i>	<i>SPSYC</i>	<i>LSRP Total</i>
Total errors	-.05	.001	-.04	.11	.05	.11
Errors for fear	.04	.03	.02	-.13	.01	-.11
Accuracy of intensity ratings for emotions other than fear	.20 ( <i>p</i> = .06)	.15	.13	.01	.07	.02
Accuracy of fear intensity ratings	.21 ( <i>p</i> = .06)	.11	.18	.002	.08	.04
Accuracy of RAS rating (compared to self)	.09	.21 ( <i>p</i> = .06)	-.02	.24**	.18*	.24**

*Note.* *PCL* = Psychopathy Checklist; *PPSYC* = primary psychopathy; *SPSYC* = secondary psychopathy; *LSRP* = Levenson's Self Report Psychopathy Scale; *RAS* = Rathus Assertiveness Scale; *K-BIT* = Kaufman Brief Intelligence Test. All correlations that are italicized are partial correlations (controlling for number of errors on *K-BIT*). Sample size for correlations involving the *PCL-R* was 59. Sample size for correlations involving the *LSRP* was 116.

**TABLE 3: Psychopathy Scores and Errors Categorizing Fear Expressions**

<i>Measure</i>	<i>Mistakes</i>	N	M	SD	t	p
PCL-R						
Total	0 or 1	47	17.58	8.08	0.04	.97
	2 or more	12	17.48	6.58		
Factor 1	0 or 1	47	5.65	4.49	0.41	.69
	2 or more	12	5.08	3.67		
Factor 2	0 or 1	47	9.64	4.29	-0.42	.67
	2 or more	12	10.19	3.02		
LSRP						
Total	0 or 1	99	33.08	7.07	-1.33	.18
	2 or more	17	35.51	5.86		
Primary	0 or 1	99	22.05	4.72	-1.37	.17
	2 or more	17	23.73	4.23		
Secondary	0 or 1	99	55.21	10.03	-1.58	.12
	2 or more	17	59.20	6.45		

*Note.* PCL-R = Psychopathy Checklist–Revised; LSRP = Levenson’s Self Report Psychopathy Scale.

## DISCUSSION

The present study examined the relationship between psychopathic traits and the perception of nonverbal cues of vulnerability, specifically facial expressions of emotion and body language associated with vulnerability. It was expected that psychopathic traits would not be associated with any deficits on these tasks, which was borne out by the findings. Psychopathy scores were not significantly correlated with the number of errors in categorizing facial expressions, and individuals who made mistakes categorizing fearful faces did not differ on psychopathy scores from those who made relatively few mistakes. Furthermore, there was a general tendency for psychopathy to be positively associated with increased accuracy in judging emotional intensity for facial expressions in general and, more specifically, for fearful faces.

Psychopathy was also not associated with any deficit in rating individuals on assertiveness after viewing a short interpersonal interaction. In fact, psychopathic traits were significantly positively correlated with accuracy in ratings, with a small to medium effect size. Together, these findings suggest that psychopathic traits may enable accuracy in judging vulnerability in other people, at least in an interpersonal context.

The discrepancy between findings for the PCL-R and the LSRP deserves attention. Although high scores on both instruments were

**TABLE 4: Test for Bias in Vulnerability Judgments**

		<i>PCL</i>	<i>PCL-1</i>	<i>PCL-2</i>	<i>Primary</i>	<i>Secondary</i>	<i>LSRP Total</i>
Participant-self discrepancy (RAS)	<i>r</i>	-.01	-.17	.18	.001	.01	.01
	<i>N</i>	59	59	59	116	116	116

*Note.* PCL = Psychopathy Checklist; LSRP = Levenson's Self Report Psychopathy Scale; RAS = Rathus Assertiveness Scale.

not associated with any deficit in recognizing emotion or vulnerability, there were some differences in relationships with specific measures of accuracy. On the one hand, the PCL-R was correlated with accuracy in judging intensity of emotion (fear and overall) and in judging vulnerability to victimization. On the other hand, the LSRP was not correlated with accuracy of intensity judgments but was significantly correlated with accuracy of vulnerability judgments. The discrepancy is likely due to the construct validity of the LSRP, which may not have fully captured the psychopathic traits in which we were interested. The LSRP correlated more substantially with Factor 2 of the PCL-R than with the more relevant interpersonal and emotional traits (as measured by Factor 1 of the PCL-R), a finding that replicates previous research (see Hare, 2003, for a full review). Researchers may wish to consider another self-report measure of psychopathic traits, such as the Psychopathic Personality Inventory (Lilienfeld & Andrews, 1996), because it has been shown to correlate substantially with both factors of the PCL-R (Benning, Patrick, Hicks, Blonigen, & Krueger, 2003; Poythress, Edens, & Lilienfeld, 1998).

With that in mind, the results of the present study still suggest that the general emotional poverty argument put forth by Cleckley (1941) is not completely accurate. If psychopathy is associated with a general lack of emotion, one might predict that individuals scoring higher on psychopathic traits would show deficits in attributing emotion to other people. However, Day and Wong (1996) found no such deficit associated with psychopathy. In fact, from the findings of the presents study, there is some indication that individuals who score higher on measures of psychopathy are, if anything, more accurate at making judgments of emotional intensity and vulnerability.

Findings from previous research (R. Blair et al., 1997; Richell et al., 2003) combined with the results of this study provide evidence that individuals with psychopathic traits may actually lack feeling for the individual in distress while knowing that the person is distressed. The fact that they are able to judge emotions but don't seem to react emotionally to them speaks to the "emotion paradox" described by Lorenz and Newman (2002). Many researchers have suggested that it is emotional poverty that is at the heart of the lack of empathy observed in psychopaths (Hare, 1993; Mealey, 1995; Patrick et al., 1994). Lack of empathy, in fact, is one of the key symptoms of psychopathy, as defined by the PCL-R (Hare, 1991).

However, individuals with psychopathic traits appear to lack only the feeling that is usually associated with empathy for others. To say that there is a complete lack of empathy may be misleading and simplistic. We would propose a new concept, "callous empathy," to account for the lack of feeling for others while exhibiting definite understanding of their mental states by using the information to their own ends. Callous empathy may be central to the success of psychopaths as interpersonal cheaters (Mealey, 1995) and social predators (Hare, 1993). The ability to read others in terms of affect and vulnerability would give psychopaths a definite advantage in manipulating, using, and otherwise deceiving other people. Although callous empathy may seem intuitively appropriate given the combined findings of the present study and previous research finding a fear deficit in psychopaths, the present study did not include a measure of this affective deficit. We assumed (because of prior research; e.g., R. Blair et al., 1997) that individuals scoring high on the PCL-R and the LSRP did not have the normal physiological reaction to the emotional stimuli. Future research investigating callous empathy should include the collection of physiological measures, such as heart rate and skin conductance responses, during the tasks. One would expect an attenuated distress response and no deficit in defining the feelings expressed by others.

## LIMITATIONS

The present study had several limitations. First, there is the issue of explaining why psychopathy was associated with more accurate perception of vulnerability/victimizability and intensity of emotion

but not with more accurate categorization of facial expressions. It is not only possible but probable that there was a floor effect for the categorization task, especially for fear faces alone. There were only four photographs in each emotional category. Therefore, the range of possible mistakes in categorization was limited. Moreover, most people made very few mistakes. For example, in the fear category, the average number of mistakes was .50. In fact, the distribution was L shaped, with most people making no mistakes at all. The floor effect would have attenuated any relationship that may have existed between psychopathy and accuracy in categorizing facial expressions.

Another factor that may have affected the size of the relationship was that the average PCL-R score in this sample ( $M = 17.56$ ,  $SD = 7.74$ ) was lower than the typical Canadian federally sentenced sample ( $M = 22$ ,  $SD = 7.9$ ; Hare, 2003). The range, however, was similar (3 to 36) to those reported in the manual, and the distribution of scores was normal, implying that there would be enough variation in psychopathy scores to detect a correlation. If anything, restricted range would attenuate an existing relationship. However, the lower mean also suggests that relatively few of the participants were true psychopaths (scoring higher than 30 on the PCL-R; Hare, 2003). Findings will need to be replicated with a sample that scores higher on psychopathy.

Finally, it is important to deal with the discrepancy between findings with adult and children with psychopathic traits. The findings of the present study are in agreement with previous research showing that adult psychopaths are able to recognize emotions (Day & Wong, 1996) and that higher scores on the interpersonal and affective component of psychopathy is related to better emotional discrimination performance (Habel, Kuehn, Salloum, Devos, & Schneider, 2002). However, our results were inconsistent with the finding of a facial expression recognition deficit found in children with psychopathic tendencies (R. J. R. Blair & Coles, 2000). This age-related difference in affect recognition suggests that compensation during development may occur. If this possibility is correct, deficits in facial expression recognition should occur in younger but not older samples of psychopathic individuals. We have the ability to measure psychopathic traits in children as young as 6 (Frick & Hare, 2001), and it would be very interesting to see whether the ability develops in line with ToM (which develops around 4 or 5; Flavell, Green, & Flavell, 1995).

To conclude, the findings of the present study emphasize the importance of investigating “callous empathy” from a variety of standpoints. Psychopaths do appear to have some advantage in reading nonverbal cues that are related to victimization, and from previous research, they do not have the same physiological or emotional reaction to such cues (R. Blair et al., 1997). Because such a skill may aid in accurate victim selection, it is possible that it is important in successful social predation.

## REFERENCES

- 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.
- Blair, J., Sellars, C., Strickland, I., Clark, F., Williams, A., Smith, M., et al. (1996). Theory of mind in they psychopath. *Journal of Forensic Psychiatry, 7*, 15-25.
- Blair, R. J. R., & Coles, M. (2000). Expressive recognition and behavioural problems in early adolescence. *Cognitive Development, 15*, 421-434.
- Blair, R., Jones, L., Clark, F., & Smith, M. (1997). The psychopathic individual: A lack of responsiveness to distress cues? *Psychophysiology, 34*, 192-198.
- Byrne, R. W., & Whiten, A. (1997). Machiavellian intelligence. In A. Whiten & R. W. Byrne (Eds.), *Machiavellian intelligence II: Extensions and evaluations* (pp. 1-23). Cambridge, UK: Cambridge University Press.
- Cleckley, H. (1941). *The mask of sanity: An attempt to clarify some issues about the so called psychopathic personality*. St. Louis, MO: Mosby.
- Cooke, D., & Michie, C. (2001). Refining the construct of psychopathy: Towards a hierarchical model. *Psychological Assessment, 13*, 171-188.
- Corbin, W., Bernat, J., & Calhoun, K. (2001). The role of alcohol expectancies and alcohol consumption among sexually victimized and nonvictimized college women. *Journal of Interpersonal Violence, 16*, 279-311.
- Day, R., & Wong, S. (1996). Anomalous perceptual asymmetries for negative emotional stimuli in the psychopath. *Journal of Abnormal Psychology, 105*, 648-652.
- Del Greco, L., Breitbach, L., Rumer, S., McCarthy, R. H., & Suissa, S. (1986). Four-year results of a youth smoking prevention program using assertiveness training. *Adolescence, 21*, 631-640.
- Ekman, P., & Friesen, W. V. (1978). *Facial action coding system: A technique for the measurement of facial movement*. Palo Alto, CA: Consulting Psychologists Press.
- Feyereisen, P., Malet, C., & Martin, Y. (1986). Is the faster processing of expressions of happiness modality-specific? In H. Ellis, M. Jeeves, F. Newcombe, & A. Young (Eds.), *Aspects of face processing: NATO ASI Series (D)* (pp. 349-355). Boston: Martinus Nijhoff.
- Flavell, J. H., Green, F. L., & Flavell, E. R. (1995). Young children's knowledge about thinking. *Monograph of the Society for Research in Child Development, 60*(24), 706-712.
- Frick, P. J., & Hare, R. D. (2001). *The Antisocial Process Screening Device (APSD)*. Toronto, Ontario, Canada: Multi-Health Systems.
- Grayson, B., & Stein, M. I. (1981). Attracting assault: Victims' nonverbal cues. *Journal of Communication, 31*, 68-75.

- Habel, U., Kuehn, E., Salloum, J. B., Devos, H., & Schneider, F. (2002). Emotional processing in psychopathic personality. *Aggressive Behavior*, 28, 394-400.
- Hare, R. D. (1991). *The Hare Psychopathy Checklist-Revised*. Toronto, Ontario, Canada: Multi-Health Systems.
- Hare, R. D. (1993). *Without conscience: The disturbing world of the psychopaths among us*. New York: Pocketbooks.
- Hare, R. D. (2001). Psychopaths and their nature: Some implications for understanding human predatory violence. In A. Raine & J. Sanmartín (Eds.), *Violence and psychopathy* (pp. 5-34). New York: Kluwer Academic/Plenum.
- Hare, R. D. (2003). *The Hare Psychopathy Checklist-Revised* (2nd ed.). Toronto, Ontario, Canada: Multi-Health Systems.
- Izard, C. E., Libero, D. Z., Putnam, P., & Haynes, O. M. (1993). Stability of emotion experiences and their relations to traits of personality. *Journal of Personality and Social Psychology*, 64, 847-860.
- Kaufman, A. S., & Kaufman, N. L. (1990). *Kaufman Brief Intelligence Test manual*. Circle Pines, MN: American Guidance Service.
- Kuther, T. L., & Fisher, C. B. (1998). Victimization by community violence in young adolescents from a suburban city. *Journal of Early Adolescence*, 18, 53-76.
- Landau, T. (1989). *About faces*. New York: Bantam Doubleday.
- Leslie, A. M., & German, T. P. (1995). Knowledge and ability in "Theory of Mind": One-eyed overview of a debate. In M. Davies & T. Stone (Eds.), *Mental stimulation: Evaluations and applications* (pp. 123-150). Oxford, UK: Blackwell.
- Levenson, M. R. (1990). Risk taking and personality. *Journal of Personality and Social Psychology*, 58, 1073-1080.
- Levenson, M. R., Kiehl, K. A., & Fitzpatrick, C. M. (1995). Assessing psychopathic attributes in a noninstitutionalized population. *Journal of Personality and Social Psychology*, 68, 151-158.
- Lilienfeld, S. O., & Andrews, B. P. (1996). Development and preliminary validation of a self report measure of psychopathic personality traits in noncriminal populations. *Journal of Personality Assessment*, 66, 488-524.
- Lorenz, A. R., & Newman, J. P. (2002). Deficient response modulation and emotion processing in low-anxious Caucasian psychopathic offenders: Results from a lexical decision task. *Emotion*, 2, 91-104.
- Lynam, D. R., Whiteside, S., & Jones, S. (1999). Self-reported psychopathy: A validation study. *Journal of Personality Assessment*, 73, 110-132.
- Matsumoto, D., & Ekman, P. (1988). *Japanese and Caucasian facial expressions of emotion (JACFEE) and neutral faces (JACNeuF)*. San Francisco: San Francisco State University.
- Mealey, L. (1995). The sociobiology of sociopathy: An integrated evolutionary model. *Behavioral and Brain Sciences*, 18, 523-599.
- Moran, M. D. (2003). Arguments for rejecting the sequential Bonferroni in ecological studies. *OIKOS*, 100, 403-405.
- Murzynski, J., & Degelman, D. (1996). Body language of women and judgements of vulnerability to sexual assault. *Journal of Applied Social Psychology*, 26, 1617-1626.
- Naugle, R. I., Chelune, G. J., & Tucker, G. D. (1993). The validity of the Kaufman Brief Intelligence Test. *Psychological Assessment*, 5, 182-186.
- Neurobehavioral Systems. (2001). *Presentation*. Albany, CA: Author.
- Newman, J. P., Patterson, C. M., & Kosson, D. S. (1987). Response perseveration in psychopaths. *Journal of Abnormal Psychology*, 96, 145-148.
- Newman, J. P., Schmitt, W. A., & Voss, W. D. (1997). The impact of motivationally neutral cues on psychopathic individuals: Assessing the generality of the Response Modulation Hypothesis. *Journal of Abnormal Psychology*, 106, 563-575.

- Patrick, C. (1994). Emotion and psychopathy: Startling new insights. *Psychophysiology*, *31*, 319-330.
- Patrick, C., Bradley, M. M., & Lang, P. J. (1993). Emotion in the criminal psychopath: Startle reflex modulation. *Journal of Abnormal Psychology*, *102*, 82-92.
- Patrick, C., Cuthbert, B., & Lang, P. (1994). Emotion in the criminal psychopath: Fear image processing. *Journal of Abnormal Psychology*, *103*, 523-534.
- Pearson, J. C. (1979). A factor analytic study of the items in the Rathus Assertiveness Schedule and the Personal Report of Communication Apprehension. *Psychological Reports*, *45*, 491-497.
- Perneger, T. V. (1998). What's wrong with Bonferroni adjustments? *British Medical Journal*, *316*, 1236-1238.
- Pietromonaco, P. R., Rook, K. S., & Lewis, M. A. (1992). Accuracy in perceptions of interpersonal interactions: Effects of dysphoria, friendship, and similarity. *Journal of Personality and Social Psychology*, *63*, 247-259.
- Plutchik, R. (1995). Emotions and sociopathy. *Behavioral and Brain Sciences*, *18*, 570-571.
- 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.
- Premack, D., & Woodruff, G. (1978). Does the chimpanzee have a theory of mind? *The Behavioral and Brain Sciences*, *4*, 515-526.
- Rathus, S. A. (1973). A 30-item schedule for assessing assertive behavior. *Behavior Therapy*, *4*, 398-406.
- Richards, L., Rollerson, B., & Phillips, J. (1991). Perceptions of submissiveness: Implications for victimization. *The Journal of Psychology*, *125*, 407-411.
- Richell, R., Mitchell, D., Newman, C., Leonard, A., Baron-Cohen, S., & Blair, R. (2003). Theory of Mind and psychopathy: Can psychopathic individuals read the "language of the eyes"? *Neuropsychologia*, *41*, 523-526.
- Seto, M. C., Khattar, N. A., Lalumière, M. L., & Quinsey, V. L. (1997). Deception and sexual strategy in psychopathy. *Personality and Individual Differences*, *22*, 301-307.
- Tabachnick, B. G., & Fidell, L. S. (1996). *Using multivariate statistics* (3rd ed.). New York: HarperCollins.