

## Psychopathy, Risk of Violence, and Protective Factors in a Noninstitutionalized and Noncriminal Sample

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*The relationship between psychopathy and violence among incarcerated and institutionalized samples has received considerable attention, but less is known about the risk of violence posed by psychopaths in the community, particularly those with no prior contact with the criminal justice system. Moreover, little is known about why some psychopaths have avoided being arrested. This study considered the role of specific protective factors in relation to Psychopathy Checklist-Revised (PCL-R) scores and three measures of antisocial behavior among 54 community participants with and without criminal histories. The methodology effectively recruited individuals with moderately elevated PCL-R scores. Roughly 40% of the sample reported no history of arrests, and a sizeable portion of both criminal and noncriminal participants reported a history of violent behavior. Results revealed no significant relationship between protective factors and participants' PCL-R scores and involvement in antisocial behavior. Secondary analyses found a significant negative correlation between protective factors and PCL-R scores for participants with higher levels of psychopathic characteristics. Finally, noncriminal participants endorsed considerably more protective factors than criminal participants. Findings suggest that protective factors may hold promise for explaining why some high-risk individuals can avoid contact with the criminal justice system.*

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A considerable body of research suggests that psychopathy is related to several risk-relevant outcome variables that are of significant interest to clinicians, legal decision-makers, policymakers, and institutional administrators. For example, research suggests psychopathy is related to violent and aggressive behavior (e.g., Hare, Clark, Grann, & Thornton, 2000; Skeem & Mulvey, 2001), general and violent recidivism (e.g., Douglas, Vincent, & Edens, in press; Hemphill, Hare, & Wong, 1998), and non-violent institutional misconduct (e.g., Guy, Edens, Anthony, & Douglas, in press; Walters, 2003). Accordingly, the accurate identification of psychopaths has become an important concern in a variety of clinical and institutional contexts.

The development of the Psychopathy Checklist-Revised (PCL-R; Hare, 1991, 2003) provided researchers and clinicians with a valid and reliable tool for measuring psychopathy in correctional and forensic psychiatric populations. The PCL-R yields a Total score that represents the extent to which an individual matches the "prototypical psychopath"

conceptualized by Cleckley (1941), and scores on two factor-analytically derived dimensions representing the interpersonal/affective features (Factor 1) and behavioral features (Factor 2) of psychopathy (Hare, 1991, 2003). During the past 20 to 25 years, extensive empirical research with the PCL-R (and its predecessor, the PCL) has supported its predictive utility with incarcerated and institutionalized samples, and the PCL-R is widely regarded as the "gold standard" for measuring psychopathy in correctional and forensic psychiatric populations (Hare, 2003; Rice, 1997).

Although the PCL-R has been studied extensively, the majority of studies involved incarcerated or institutionalized samples in correctional, forensic, and psychiatric facilities. As such, we know comparatively little about the "successful" psychopaths in the general population who have avoided contact with the criminal justice system. Several researchers have studied psychopathy among noninstitutionalized samples, but these studies drew their participants from student or adolescent

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populations in which the base rate of psychopathy is expected to be low (e.g., Forth, Brown, Hart, & Hare, 1996; Levenson, Kiehl, & Fitzpatrick, 1995; Ross & Rausch, 2001; Skilling, Quinsey, & Craig, 2001; Trevethan & Walker, 1989). As such, we still know relatively little about psychopathy among adults in the community. Given the relationship between psychopathy and violence, it is reasonable to conclude that “successful” psychopaths pose a considerable risk, yet virtually nothing is known about these individuals.

If, indeed, psychopaths can be found in the general population, a particularly intriguing question is why some of these individuals have been able to avoid contact with the criminal justice system (see Kirkman, 2002). As noted previously, research suggests that psychopathy is associated with criminal and sometimes violent behavior, yet some individuals with psychopathic characteristics have either avoided engaging in criminal behavior, or avoided being apprehended for their criminal behavior. Although the mechanism of action is still unknown, one promising line of inquiry concerns “protective factors” – i.e., influences that may keep some individuals who are otherwise at high risk for engaging in antisocial behavior from coming into contact with the criminal justice system. Although protective factors have been studied in relation to criminality in general (e.g., Grisso, 1998; Hoge & Andrews, 1996; Levenson et al., 1995), we were unable to uncover any research regarding protective factors as they relate to psychopathy.

This study examined psychopathy, risk of violence, and protective factors in a sample of noninstitutionalized participants with and without criminal histories. The PCL-R scores for the present sample have been reported elsewhere (DeMatteo, Heilbrun, & Marczyk, in press), but an important and unanswered question is why many of these individuals have avoided contact with the criminal justice system. Therefore, this study was designed to examine the role of protective factors in relation to PCL-R scores and three measures of antisocial behavior. We believed that examining protective factors among community participants who were recruited based on the presence of psychopathic characteristics would yield important risk-relevant information and perhaps provide some explanation regarding why these individuals can often avoid

being incarcerated or institutionalized. Given the risk-reducing influence of protective factors, we hypothesized that there would be a negative correlation between (a) participants’ total number of protective factors and (b) their PCL-R scores (Total, Factor 1, and Factor 2) and involvement in antisocial behavior. In particular, we believed that the strongest negative correlation would be between protective factors and the behavioral aspects of psychopathy (i.e., Factor 2).

## METHOD

### Participants

The participants were 54 adult males recruited from the general population of the greater Philadelphia metropolitan area. With a moderate effect size (.5) and an alpha level of .05, a minimum of 50 participants were needed to obtain adequate power (.80) for detecting statistically significant differences (using t-tests) between group means (Cohen, 1977). Participants were recruited for a “personality study” by newspaper advertisements and fliers that incorporated the characteristics of psychopathy in a nonpejorative manner (Widom, 1977). The advertisement was run in a Philadelphia newspaper for eight weeks, and the fliers were posted concurrently at a major Philadelphia university. The advertisement and fliers read as follows:

#### *PAID PERSONALITY STUDY*

Are you charming, intelligent, adventurous, aggressive, and impulsive? Do you get bored easily and like to live life on the edge? If you would like to make some easy money (\$25) by participating in a confidential 2-hour interview at XXX University, please call xxx-xxx-xxxx to set up an appointment. You must be male and at least 18 years of age to participate.

We received 207 responses during 8 weeks of recruitment and scheduled appointments with 104 responders who met inclusion criteria (i.e., male,  $\geq$  18 years old, capable of providing informed consent, able to provide a collateral contact). Of the 103

responders who did not meet inclusion criteria, 65 were ineligible because they refused to provide a collateral contact, 29 were ineligible because they were female, 7 were ineligible because they were unable to provide a collateral contact, and 2 were ineligible because they were under age 18. We completed 73 of the 104 scheduled interviews (with 31 no-shows). Nineteen participants were subsequently excluded because multiple attempts to interview the collateral were unsuccessful, and we were therefore unable to score the PCL-R. The final sample consisted of 54 participants – 41 (76%) recruited by newspaper advertisements, 8 (15%) by “word of mouth,” and 5 (9%) by fliers.

Of the 54 participants, 33 (61%) were African-American, 19 (35%) were Caucasian, 1 (2%) was Hispanic, and 1 (2%) was biracial. No efforts were made to control for the effects of race when analyzing the data. Although some research has questioned the validity of using the PCL-R with African-Americans (e.g., Lorenz & Newman, 2002), the weight of the evidence appears to suggest that PCL-R scores are not unduly influenced by race (with respect to Caucasian and African-American individuals) (McDermott et al., 2000; see Hare, 2003). Although more research is needed, several large-scale studies have concluded that the psychometric characteristics of the PCL-R are similar for Caucasian and African-American offenders (see Hare, 2003, for a description of the research). The mean age was 34.1 years ( $SD = 8.9$ ; range = 19-52). Thirty-nine participants (72%) were employed part-time or full-time. With respect to education, 3 (6%) did not finish high school, 29 (54%) completed high school (or GED), 10 (18%) completed some college, 6 (11%) finished college, 2 (4%) were in graduate school, and 4 (7%) completed graduate school (3 MA and 1 MBA).

We asked participants about three measures of antisocial behavior: (1) total number of arrests, (2) number of arrests for crimes that satisfy the MacArthur Violence Risk Assessment Study’s definition of “violence and other aggressive acts” (“serious violence”), and (3) number of sub-arrest serious violence offenses (i.e., behavior satisfying the definition of “serious violence” that did *not* result in an arrest). The MacArthur Study (Monahan et al., 2001) defined “violence” as “battery that resulted in physical injury; sexual assaults; assaultive acts that involved the use of a weapon; or threats made with

a weapon in hand,” and it defined “other aggressive acts” as “battery that did not result in physical injury” (p. 40). Participants were first asked to describe each offense that led to an arrest so it could be determined whether the arrest was for “serious violence.” Participants were then asked about other instances in which they engaged in “serious violence” without being arrested. The number of arrests ranged from 0 to 24, with a mean of 2.4 ( $SD = 4.4$ ), the number of serious violence arrests ranged from 0 to 3, with a mean of .3 ( $SD = .6$ ), and the number of sub-arrest serious violence offenses ranged from 0 to 100, with a mean of 4.3 ( $SD = 14.3$ ).

To isolate a noninstitutionalized and noncriminal subset of our sample, we identified participants who reported no history of arrests. Twenty-two participants (41% of the sample) reported no history of arrests, and were thus referred to as the “noncriminal subset”; the remaining 32 participants (59% of the sample) reported a history of at least one arrest, and were thus referred to as the “criminal subset.” Of the 22 noncriminal participants, 14 (64%) were African-American, 7 (32%) were Caucasian, and 1 (4%) was bi-racial, and the mean age was 34.6 years ( $SD = 9.9$ ; range = 19-52). Of the 32 criminal participants, 19 (59%) were African-American, 12 (38%) were Caucasian, and 1 (3%) was Hispanic, and the mean age was 33.8 years ( $SD = 8.3$ ; range = 19-51). There were no significant differences in age or race between the criminal and noncriminal subsets.

## Procedure

Participants were assessed for psychopathy with the Psychopathy Checklist-Revised (PCL-R; Hare, 1991) by graduate-level research assistants trained on the PCL-R by a Ph.D.-level psychologist [following Hare’s (1991) recommended training protocol]. Each of the 20 PCL-R items is scored on a 3-point ordinal scale (0, 1, or 2) based on the degree to which the characteristics of the individual match the description of each item provided in the PCL-R manual. The PCL-R yields a Total score and scores on two factors – Factor 1 (interpersonal/affective features) and Factor 2 (behavioral features). The factor structure of the PCL-R has been the subject of considerable debate in recent years, with some research questioning the validity of the two-factor model and proposing three- and four-factor models

of psychopathy (e.g., Cooke & Michie, 2001; Hall, Benning, & Patrick, 2004). However, most research has examined two factors, and the most recent edition of the PCL-R maintains a two-factor structure (Hare, 2003). Therefore, this study only examined Factors 1 and 2 of the PCL-R.

Because a PCL-R can not be scored without collateral information, each participant provided contact information for a collateral contact who knew the participant well. Collateral contacts were friends (41%), relatives (26%), significant others (26%), or co-workers (7%) of the participants. Contact information for collaterals was obtained when participants made their initial appointments. Collaterals were interviewed after participant interviews were completed using the semi-structured interview approach recommended by Hare (1991, 2003), which obtains information across multiple psychosocial domains. Fifty of the 54 collateral interviews took place over the phone; in the other four cases, the collateral attended the interview with the participant and was interviewed separately.

The PCL-R data were examined using a conservative approach and a liberal approach. The conservative approach involved examining PCL-R scores for the entire sample. Given the small sample size, we believed this approach would provide the most reliable results. However, because this is an exploratory study, we also used a more liberal approach to examine PCL-R data. The liberal approach involved performing a median split on PCL-R Total scores, which formed a Low Psychopathic Group ( $n = 27$ ) and a High Psychopathic Group ( $n = 27$ ). This approach has been used in prior studies to facilitate within-group and between-group analyses (e.g., Hare, 1985; Rutherford, Cacciola, Alterman, & McKay, 1996). Moreover, the relevant literature provides little guidance on best-practices for dividing up PCL-R data from community participants, so we hoped this study would provide some information about potential ways of dividing up this type of data.

*Protective Factors.* We reviewed the relevant literature regarding protective factors and criminal involvement, and identified seven factors associated with a reduced risk for criminal behavior: (1) strong family relations, (2) involvement in organized religion, (3) participation in structured activities, (4) exposure to positive role models, (5) social support,

(6) steady employment, and (7) reading ability (Carson & Butcher, 1992; Grisso, 1998; Hoge & Andrews, 1996; Hoge, Andrews, & Leschied, 1996). Each protective factor (except reading ability) was assessed using a “decision tree” that measured the protective factor’s *presence* (whether the protective factor is present) and *perceived impact* (participant’s perceived impact of the protective factor in terms of its relationship with the participant’s involvement in antisocial behavior). The decision tree yielded a dichotomous outcome: *yes* (the protective factor is present and was perceived as reducing the participant’s involvement in antisocial behavior), or *no* (the protective factor is not present; or the protective factor is present, but was not perceived as reducing the participant’s involvement in antisocial behavior). The last protective factor, reading ability, was assessed using the reading subtest of the *Wide Range Achievement Test* (WRAT-3; Wilkinson, 1993), which provided a standardized measure of reading ability. A dichotomous outcome was used: *yes* (adequate reading ability; i.e., WRAT-3 standard score in the Low Average range or above) or *no* (inadequate reading ability; i.e., WRAT-3 standard score below the Low Average range).

For each protective factor, a “yes” received 1 point and a “no” was scored 0 (range 0 to 7). To corroborate information obtained from participants, the protective-factors measure was administered to each collateral, with slight modification of the wording to elicit information about the participant (range = 0 to 6; participant’s reading ability was not assessed during collateral interviews). We analyzed the protective factors using two approaches. First, we simply compared participant-reported and collateral-reported protective factors. However, because we anticipated there would be discrepancies between the protective factors reported by participants and collaterals, we also used a more conservative approach in which a protective factor was considered present only if both the participant and collateral endorsed its presence (i.e., when there were convergent data).

## RESULTS

Table 1 summarizes the PCL-R scores and data on the three measures of antisocial behavior for the

entire sample, High Psychopathic Group, Low Psychopathic Group, criminal subset, and non-criminal subset. To examine the inter-rater reliability of PCL-R Total, Factor 1, and Factor 2 scores, 10

randomly selected participants (roughly 20% of the sample) were jointly scored by two raters. Intraclass correlation coefficients of .88 for Total scores, .84 for Factor 1 scores, and .90 for Factor 2 scores were obtained, indicating adequate inter-rater reliability.

Table 1  
*PCL-R Scores and Measures of Antisocial Behavior*

	Mean	Standard Deviation	Range
<u>Entire Sample (N = 54):</u>			
PCL-R Total:	14.0	6.6	4-27
PCL-R Factor 1:	5.2	3.3	0-12
PCL-R Factor 2:	7.1	3.7	1-16
Arrests:	2.4	4.4	0-24
Serious Violence Arrests:	.3	.6	0-3
Sub-arrest Serious Violence:	4.3	14.3	0-100
<u>High Psychopathic Group (n = 27):</u>			
PCL-R Total:	19.6	4.2	15-27
PCL-R Factor 1:	7.6	2.2	2-12
PCL-R Factor 2:	9.4	3.2	4-16
Arrests:	4.2	5.7	0-24
Serious Violence Arrests:	.3	.6	0-2
Sub-arrest Serious Violence:	2.3	3.3	0-15
<u>Low Psychopathic Group (n = 27):</u>			
PCL-R Total:	8.5	3.0	4-14
PCL-R Factor 1:	2.7	2.1	0-7
PCL-R Factor 2:	4.7	2.4	1-9
Arrests:	.7	1.2	0-5
Serious Violence Arrests:	.2	.6	0-3
Sub-arrest Serious Violence:	6.3	20.0	0-100
<u>Criminal Subset (n = 32):</u>			
PCL-R Total:	17.0	6.2	4.2-27
PCL-R Factor 1:	6.2	3.1	0-12
PCL-R Factor 2:	8.6	3.6	3-16
Arrests:	4.1	5.2	1-24
Serious Violence Arrests:	.4	.7	0-3
Sub-arrest Serious Violence:	3.1	4.5	0-20
<u>Noncriminal Subset (n = 22):</u>			
PCL-R Total:	9.7	4.6	4-19
PCL-R Factor 1:	3.6	3.0	0-9
PCL-R Factor 2:	4.8	2.6	1-9
Arrests:	0	—	—
Serious Violence Arrests:	0	—	—
Sub-arrest Serious Violence:	6.2	21.9	0-100

### Protective Factors for the Entire Sample

The mean number of participant-reported protective factors was 4.0 ( $SD = 1.9$ ; range = 0-6). The most commonly reported protective factors were “strong family relations” and “participation in structured activities,” with 38 participants endorsing each protective factor. The mean WRAT-3 reading score was 45.9 ( $SD = 7.0$ ; range = 15-54), and 47 participants (87% of the sample) achieved reading scores in the Low Average range or above. The mean number of collateral-reported protective factors was 2.7 ( $SD = 1.8$ ; range = 0-6). The most commonly reported protective factor was “strong family relations,” with 33 collaterals endorsing its presence. When comparing participant-reported and collateral-reported protective factors, the number of participant-reported protective factors did not include reading ability because collaterals were not asked about participants’ reading ability. There was a significant difference,  $t(53) = 4.5, p < .001$ , between the mean number of participant-reported and collateral-reported protective factors. The mean number of protective factors using the conservative approach (i.e., both the participant and collateral had to endorse a protective factor for it to be considered present) was 2.2 ( $SD = 1.7$ ; range = 0-6). There were no significant correlations between the number of protective factors (participant-reported, collateral-reported, or conservative) and the number of arrests, serious violence arrests, or sub-arrest serious violence offenses. Pearson correlation analyses revealed no significant correlations between PCL-R Total, Factor 1, or Factor 2 scores and the number of protective factors (participant-reported, collateral-reported, or conservative).

### Protective Factors for the High Psychopathic Group

The mean number of participant-reported protective factors for the 27 participants in the High Psychopathic Group was 4.3 ( $SD = 1.8$ ; range = 1-6). The most commonly reported protective factor was “steady employment,” with 22 participants endorsing its presence. The mean WRAT-3 reading score was 46.4 ( $SD = 5.4$ ; range = 32-53), and 23 participants (85% of High Psychopathic Group) achieved reading scores in the Low Average range

or above. The mean number of collateral-reported protective factors was 2.7 ( $SD = 1.8$ ; range = 0-6). The most commonly reported protective factor was “steady employment,” with 17 collaterals endorsing its presence. There was a significant difference between the mean number of participant-reported and collateral-reported protective factors,  $t(26) = 3.4, p < .05$ . The mean number of protective factors using the conservative approach was 2.2 ( $SD = 1.8$ ; range = 0-5).

There were no significant correlations between the number of participant-reported protective factors and the number of arrests, serious violence arrests, or sub-arrest serious violence offenses. There were no significant correlations between the number of collateral-reported protective factors and the number of arrests or serious violence arrests, but there was a significant negative correlation with the number of sub-arrest serious violence offenses,  $r = -.4, p < .05$ . There were no significant correlations between the number of protective factors using the conservative approach and the number of arrests or serious violence arrests, but there was a significant negative correlation with the number of sub-arrest serious violence offenses,  $r = -.4, p < .05$ . Pearson correlation analyses revealed no significant correlations between PCL-R Total, Factor 1, or Factor 2 scores and the number of participant-reported or collateral-reported protective factors, but there was a significant negative correlation between PCL-R Total scores and protective factors using the conservative approach,  $r = -.3, p < .05$ .

### Protective Factors for the Low Psychopathic Group

The mean number of participant-reported protective factors for the 27 participants in the Low Psychopathic Group was 3.7 ( $SD = 2.1$ ; range = 0-6). The most commonly reported protective factor was “strong family relations,” with 21 participants endorsing its presence. The mean WRAT-3 reading score was 45.4 ( $SD = 8.3$ ; range = 15-54), and 24 participants (89% of Low Psychopathic Group) achieved reading scores in the Low Average range or above. The mean number of collateral-reported protective factors was 2.7 ( $SD = 1.8$ ; range = 0-6). The most commonly reported protective factor was “strong family relations,” with 17 collaterals

endorsing its presence. There was a significant difference,  $t(26) = 2.9, p < .01$ , between the mean number of participant-reported and collateral-reported protective factors. The mean number of protective factors using the conservative approach was 2.1 ( $SD = 1.7$ ; range = 0-6).

There were no significant correlations between the number of participant-reported protective factors and the number of arrests or sub-arrest serious violence offenses, but there was a significant negative correlation with the number of serious violence arrests,  $r = -.4, p < .05$ . There were no significant correlations between the number of collateral-reported protective factors and the number of arrests or sub-arrest serious violence offenses, but there was a significant negative correlation with the number of serious violence arrests,  $r = -.4, p < .05$ . There were no significant correlations between the number of protective factors using the conservative approach and the number of arrests, serious violence arrests, or sub-arrest serious violence offenses. Pearson correlation analyses revealed no significant correlations between PCL-R Total, Factor 1, or Factor 2 scores and the number of protective factors (participant-reported, collateral-reported, or conservative). Using a more conservative significance criterion to account for experiment-wise error ( $p < .008$ ), there were no significant differences between the High and Low Psychopathic Groups in terms of the number of participant-reported or collateral-reported protective factors.

### Protective Factors for the Noncriminal and Criminal Subsets

The mean number of participant-reported protective factors for the 22 participants in the noncriminal subset was 4.5 ( $SD = 1.9$ ; range = 0-6). The mean WRAT-3 reading score was 45.0 ( $SD = 7.8$ ; range = 15-53), and 20 participants (91% of noncriminal subset) achieved reading scores in the Low Average range or above. The mean number of collateral-reported protective factors was 3.0 ( $SD = 1.8$ ; range = 0-6). There was no significant difference between the mean number of participant-reported and collateral-reported protective factors. The mean number of protective factors using the conservative approach was 2.6 ( $SD = 1.7$ ; range = 0-6). Pearson correlation analyses revealed no significant

correlations between PCL-R Total, Factor 1, or Factor 2 scores and the number of protective factors (participant-reported, collateral-reported, or conservative).

The mean number of participant-reported protective factors for the 32 participants in the criminal subset was 3.7 ( $SD = 1.9$ ; range = 0-6). The mean WRAT-3 reading score was 46.5 ( $SD = 6.4$ ; range = 27-54), and 27 participants (84% of criminal subset) achieved reading scores in the Low Average range or above. The number of collateral-reported protective factors was 2.5 ( $SD = 1.8$ ; range = 0-6). There was no significant difference between the mean number of participant-reported and collateral-reported protective factors. The mean number of protective factors using the conservative approach was 1.8 ( $SD = 1.7$ ; range = 0-5). Pearson correlation analyses revealed no significant correlations between PCL-R Total, Factor 1, or Factor 2 scores and the number of protective factors (participant-reported, collateral-reported, or conservative). A comparison of the criminal and noncriminal subsets revealed a difference that approached significance ( $p = .06$ ) between the mean number of protective factors (conservative approach).

Separate multiple linear regression analyses were conducted to examine the relationship between one independent variable (i.e., protective factors using the conservative approach) and three dependent variables (i.e., number of arrests, number of serious violence arrests, and number of sub-arrest serious violence offenses). For the noncriminal subset, the linear regression models were not significant in any of the three analyses, and the number of protective factors was not related to the number of arrests, number of serious violence arrests, or number of sub-arrest serious violence offenses. However, for the criminal subset, the regression model was significant when examining the relationship between protective factors and sub-arrest serious violence offenses,  $\chi^2(1) = 5.8, p < .05$ , accounting for 16% of the variance in the outcome measure.

## DISCUSSION

This study examined the role of protective factors with respect to psychopathy and three measures of antisocial behavior in a sample of

community participants with and without criminal histories. At a minimum, the results suggest that individuals with moderately elevated levels of psychopathic characteristics can be found outside of institutional settings (i.e., correctional facilities, psychiatric facilities, and forensic hospitals). Thus, these results provide some preliminary empirical support for the assertions of many researchers and clinicians that individuals with elevated levels of psychopathy can be found in the general population.

Although no participants would be classified as psychopaths using the PCL-R cut-off score of 30, this study only examined community participants, who would be expected to have considerably lower PCL-R scores. Nevertheless, 50% of the sample had PCL-R scores of 15 or higher, indicating that a sizeable portion of participants had elevated levels of psychopathic characteristics, even when compared to correctional and forensic psychiatric samples. Moreover, the mean PCL-R Total scores of 14.0 for the entire sample and 9.7 for the noncriminal subset are considerably higher than the mean scores reported in the handful of studies that used the PCL or PCL-R with noninstitutionalized samples. For example, Trevethan and Walker (1989) obtained a mean PCL Total score of 8.5 in a sample of 15 high school students, Forth et al. (1996) obtained mean PCL-R Total scores of 6.4 (males) and 2.7 (females) in a sample of 150 college students, and Auf Klinteberg, Schalling, and Humble (1990) obtained a mean PCL Total score of 5.4 in their control group of 66 Swedish males with no criminal history. It seems, therefore, that the present methodology was effective in locating and recruiting individuals from the community with moderately elevated levels of psychopathic characteristics.

Contrary to our hypothesis, there was no significant relationship between PCL-R scores (Total, Factor 1, and Factor 2) and protective factors among the sample. This appears to suggest that psychopathy may be unaffected by the presence or absence of protective factors (measured at one point in time). If accurate, this explanation would undercut the assertion that some individuals with psychopathic characteristics can avoid contact with the criminal justice system due to the presence of protective factors. Of course, it is not possible to draw definitive conclusions about the relationship between psycho-

pathy and protective factors based on the results of this one study, so more research is needed.

There are at least two other explanations for the failure to find a significant relationship between psychopathy and protective factors. First, this study may not have examined the appropriate protective factors. The protective factors examined in this study were selected based on a review of the empirical literature regarding protective factors and criminality in general, but it is possible that these protective factors have little relevance to psychopathy. An examination of more relevant protective factors may have revealed a significant relationship between protective factors and PCL-R scores. Second, it is possible that the participants and collaterals were not being completely forthright in reporting the presence of protective factors. Unfortunately, relying on self-report may be an unavoidable limitation when studying a noninstitutionalized sample.

Given the small sample size, analyzing the full sample provided the most conservative and reliable findings (i.e., no significant relationship between psychopathy and protective factors). However, we also used a more liberal approach to analyze the data. Specifically, we performed a median split of PCL-R Total scores to form a Low Psychopathic Group and High Psychopathic Group. Before proceeding, it is important to emphasize that any analyses involving the Low and High Psychopathic Groups must be interpreted with caution. We used this liberal approach because it was an exploratory study, and we were hoping to inform future research regarding potential ways of dividing up PCL-R data from a community sample. However, given the small sample sizes of the Low and High Psychopathic Groups, it is possible that any significant findings may be based on unstable correlation coefficients.

Using this liberal approach, we found a significant negative correlation between protective factors (conservative approach) and PCL-R scores for the High Psychopathic Group. Assuming this finding is reliable, it may begin to shed light on why some individuals with psychopathic characteristics have avoided contact with the criminal justice system. One potential explanation for these results is that the presence of protective factors lowers psychopathic characteristics (at least as measured by the PCL-R). This explanation makes intuitive sense. For example, if an individual is employed, involved

in organized religion, and has strong family relations, it is reasonable to believe that these things may influence psychopathic characteristics. This explanation also raises an important question regarding the etiology of psychopathy. Namely, are the protective factors *preventing* psychopathy from developing in the first place, or are they *eliminating, inhibiting, or suppressing* the expression of the underlying psychopathy? Unfortunately, the present results do not permit us to draw any causal inferences regarding the effects of the protective factors on the etiology or expression of psychopathy, and this is clearly an area for future research.

A second potential explanation for these results is based on the concept of measurement confounding. To the extent that PCL-R Factor 2 describes behaviors that are inconsistent with the simultaneous presence of the protective factors we examined, it is possible that the protective factors are not suppressing psychopathy in a broad sense, but instead are simply functioning to lower the Factor 2 scores. It is tempting to assert that if the presence of protective factors has the effect of lowering Factor 2 scores, it is tantamount to suppressing psychopathy, at least the psychopathic characteristics associated with Factor 2. However, if the negative correlation between protective factors and PCL-R scores is even partly attributable to the fact that high Factor 2 scores and protective factors cannot be present simultaneously, the possibility of measurement confounding must be considered as a potential explanation for the results.

Interestingly, the results of this study also revealed a difference in the mean number of protective factors for the criminal and noncriminal subsets. As might be expected, there was a statistical trend indicating that the noncriminal subset had considerably more protective factors than the criminal subset. Although the difference was not significant, it approached significance ( $p = .06$ ), and it is possible that a larger sample size would have yielded a significant result. This finding also makes intuitive sense, and it may begin to provide an explanation regarding why the noncriminal participants have avoided contact with the criminal justice system. Despite having moderately elevated PCL-R Total scores and a history of violent behavior (roughly one-third of the noncriminal participants reported engaging in serious violence), the non-

criminal participants have avoided criminal arrests. It is possible that the greater number of protective factors for these participants plays some role in their ability to avoid being arrested. Again, the results of this study do not permit any inferences of causation, but the results do suggest that the relationship among psychopathy, protective factors, and arrest status deserves more attention from researchers.

The hypothesis was not supported with respect to the relationship between protective factors and the number of arrests, serious violence arrests, and sub-arrest serious violence offenses. The results revealed no significant relationship between protective factors and these three measures of antisocial behavior. One potential explanation for these results is that the protective factors examined in this study may have limited relevance to the behavioral aspects of psychopathy, including the three measures of antisocial behavior. As noted previously, we were unable to find protective factors that relate specifically to psychopathy, as opposed to criminality in general. It is still possible, of course, that the presence of protective factors has some weak effect on the antisocial behavior of these participants, and this appears possible given that all of the correlations were negative, but not statistically significant. A related explanation is that the protective factors examined in this study may have little relationship with *violent* criminal behavior, which would account for the failure to find a relationship between protective factors and serious violence arrests and sub-arrest serious violence offenses.

Another potential explanation for these results is that the presence of protective factors may be more related to the number of *criminal convictions* rather than the number of antisocial behaviors. Specifically, although there was a weak relationship between the number of protective factors and the three measures of antisocial behavior, it is possible that a greater number of protective factors may correlate with fewer *convictions* for these offenses. Under this explanation, the number of protective factors would be directly related to the participants' non-institutionalized status. This explanation would be consistent with the explanation offered by Widom (1977) in her study of noninstitutionalized psychopaths. Widom concluded that her sample of noninstitutionalized psychopaths were "successful" because they frequently *engaged* in antisocial

behavior, but were infrequently *convicted* for such behavior.

In terms of risk for violence, this study identified a group of individuals from the community with moderately elevated PCL-R scores and a history of violent behavior who have somehow managed to avoid being arrested. Although research suggests that psychopathy is associated with an increased risk for violence among offender populations, virtually nothing is known about the relationship between psychopathy and future violence among community samples. Unfortunately, the results of this study do not permit us to determine the likelihood that the study participants will engage in future acts of violence. Unless and until these individuals come into contact with the criminal justice or forensic mental health systems, it is unlikely that their potential for engaging in violent behavior will be identified.

This study's results must be considered in light of its limitations. There are three limitations relating to the PCL-R. First, the PCL-R was not designed for use with a noninstitutionalized sample. Hare (1991) has noted, however, that "there is no reason why [the PCL-R] cannot be used for research with noncriminals, providing that the investigator has access to enough information to score items with a reasonable degree of confidence" (p. 64). Second, we did not have two independent PCL-R ratings for every participant. It is likely, however, that this had little impact on the results because of the raters' demonstrated consistency in PCL-R scores. Third, obtaining collateral information was challenging, and it was difficult to judge the accuracy of the information. Given the sample being studied, we had to rely on information provided by family members, co-workers, or friends of the participants. This limitation is perhaps unavoidable with a community sample, particularly when many of the participants have had no contact with the criminal justice system. For these participants, there is no trail of records, so it is more difficult to obtain collateral information.

There are also several limitations related to the protective factors. One concern is the lack of empirical literature addressing protective factors specifically relevant to psychopathy. Examining psychopathy-relevant protective factors may have enhanced the results of this study. A second concern is the absence of an empirically validated measure

of protective factors for this sample. The protective-factors measure used in this study is a face-valid, self-report measure, but there are no psychometric data regarding its validity or reliability. Finally, without having access to an independent record, it was difficult to judge the accuracy of the information regarding protective factors provided by the participants and collaterals.

Several other limitations deserve comment. The small sample size limited the types of analyses we could conduct, and the even smaller sizes of the subsets may have yielded unstable correlation coefficients. A larger sample would help to determine if the findings we obtained with the subsets are reliable. Further, because the sample consisted of adult males from the Philadelphia area, this study's results may not generalize to other community samples. Importantly, the lack of a prospective design sharply limited the conclusions we could draw regarding the relationship between protective factors and psychopathy. The descriptive and correlational analyses do not permit inferences of causality, so it cannot be determined whether protective factors actually impact PCL-R scores. A prospective design would have permitted us to determine whether the presence of protective factors among individuals with psychopathic traits resulted in reduced psychopathy and criminality. Finally, because the PCL-R, protective factors measure, and indices of antisocial behavior were all completed based on information provided by the participants and collaterals, it is possible that the relationship among these measures may be inflated due to criterion contamination.

There are several areas for future research. Before we can reach firm conclusions regarding the construct of psychopathy in the general population, this study's results must be replicated with other community samples. Future researchers should conduct longitudinal studies with community samples to obtain information regarding the course and stability of psychopathy, risk of violence, and protective factors in this population. Moreover, epidemiological studies designed to determine the base rate of psychopathy in the general population would provide important information about the prevalence of the disorder. Future researchers should also examine more refined ways of measuring the presence and perceived impact of protective factors in this population. Finally, researchers should use

more rigorous methodological designs that permit inferences of causality regarding the relationship between psychopathy, protective factors, and criminality.

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