



## Factor structure of the Self-Report Psychopathy scale (SRP-II) in non-forensic samples

Kevin M. Williams \*, Delroy L. Paulhus \*

*Department of Psychology, University of British Columbia, Vancouver, Canada V6T 1Z4*

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### Abstract

Two studies were conducted to uncover the factor structure of the Self-Report Psychopathy (SRP-II) scale in non-forensic samples. In Study 1 ( $N = 289$  students), the full 60 items yielded two large factors explaining 21% of the variance. The first factor was a combination of anti-social behavior, impulsivity, and interpersonal manipulation. The second factor resembled the Big Five factor of emotional stability. These factors do not correspond well with the traditional Behavior and Personality factors found in forensic work. Study 2 ( $N = 356$  students) examined the 31 items conceptually assigned to the Personality and Behavior factors by Hare, Harpur, and Hemphill (1989). Correlations with a comprehensive battery of delinquent behaviors indicated that only the Behavioral factor was predictive. The SRP-II total score (either 60 or 31 items) remains valid but its factor structure in non-forensic samples does not parallel that of the standard forensic instrument, the PCL-R.

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### 1. Introduction

Recently, researchers have taken up the task of applying the forensic concept of psychopathy to non-forensic, non-clinical populations (e.g., Forth, Brown, Hart, & Hare, 1996; Lilienfeld & Andrews, 1996; Lynam, Whiteside, & Jones, 1999; Reise & Oliver, 1994; Salekin, Trobst, & Krioukova, 2001; Widiger, 1998). Long before the advent of these scales, the necessity for identifying psychopaths whose behavior may not be extreme enough to warrant legal or clinical

\* Corresponding author. Fax: 1-604-822-6923.

E-mail addresses: [kwilliams@psych.ubc.ca](mailto:kwilliams@psych.ubc.ca) (K.M. Williams), [dpaulhus@psych.ubc.ca](mailto:dpaulhus@psych.ubc.ca) (D.L. Paulhus).



action had been noted (e.g., Millon, 1981). In fact, this conceptualization was implied in Cleckley's (1941/1982) notion of the "successful psychopath". Until recently, however, the topic has taken a back seat to the study of criminal psychopathy. The transported concept seems increasingly credible given the development of several self-report measures and evidence that they show substantial empirical convergence (Salekin et al., 2001).

Arguably the most important of these is Hare's (1985) Self-Report Psychopathy scale (SRP-II). Although the total score of the SRP-II has proved to be a valid predictor in a variety of settings (e.g., Forth et al., 1996; Paulhus & Williams, 2002; Zagon & Jackson, 1994), there is no published information on the factor structure of the instrument.

## 2. Hare's Psychopathy Checklist-Revised (PCL-R)

The PCL-R (Hare, 1991) is considered the "gold standard" for measuring psychopathy (Cooke, Kosson, & Michie, 2001). The choice of interview format rested on the assumption that psychopathy is best measured via face-to-face questions in conjunction with file information (Hare, 1991). The instrument has been well-validated in a large body of forensic research conducted by Hare and his associates as well as a variety of independent research teams (for a review, see Harpur, Hart, & Hare, 2002).

Much less research has been conducted with the PCL-R in normal populations. Among the reasons are that: (1) norms are not standardized for non-forensic samples, (2) many of the items are rarely applicable to normal samples (e.g. items assessing criminal activity), and (3) training raters is an expensive and time-consuming process. Given that structured interview methods are not necessary in non-criminal or non-hospitalized individuals, then other more practical methods of measurement are worth considering.

## 3. Advent of the Self-Report Psychopathy (SRP-II) scale

The potential advantages of a self-report measure motivated Hare (1985) to assemble the 29-item Self-Report Psychopathy (SRP) scale. Other self-report measures subsequently became available (Levenson, Kiehl, & Fitzpatrick, 1995; Lilienfeld & Andrews, 1996).<sup>1</sup> In addition, psychopathy has been scored from the NEO-PI-R and the California Q-set using prototype templates (Widiger & Lynam, 1998; Reise & Oliver, 1994, respectively). Others became available in batteries of measures of personality disorders but they target the construct of anti-social personality disorder. Nonetheless, only the SRP has the advantage of a close theoretical and historical association with the PCL-R.

To refine the original SRP, Hare and his colleagues assembled the 60 items of the second version (SRP-II) with comprehensiveness in mind (Hare, Harpur, & Hemphill, 1989). Special emphasis was placed on 31 of these items, because they were theoretically aligned with the two

<sup>1</sup> Of course, the MMPI Pd scale has been available for some time, but it shows minimal association with the PCL-R (Hare, 1991).



factors of the PCL-R. These 31 items are often used as an abridged version of the SRP-II (e.g. Paulhus & Williams, 2002; Salekin et al., 2001).

Much of the validation work has involved clinical or forensic samples. Hare (1991) reported a correlation of 0.54 between the SRP-II and the PCL-R in a sample of 100 prison inmates. In the DSM-IV field trial, the SRP-II performed at least as well as any other self-report instrument (Widiger et al., 1996). In other work, SRP-II scores correlated positively with the PCL-R in samples of male and female methadone patients (see Rutherford, Alterman, Cacciola, & McKay, 1998). These clinical/forensic studies paved the way for the more recent examination of psychopathy in normal populations.

Unfortunately, outside research was limited by the fact that the SRP-II items were never published. They were distributed informally along with some psychometric information in the form of a 3-page pamphlet (Hare et al., 1989). The few available studies do show promise that the SRP-II can be applied to normal populations. For example, Salekin et al. (2001) provided evidence for both convergent and discriminant validity. Zagon and Jackson (1994) reported negative associations between SRP-II scores and standard measures of empathy and anxiety. SRP-II scores were also shown to correlate with self-report measures of social deviance (Rogers et al., 2002).

A series of studies conducted by our research team have linked both the full 60 item and the abridged (31 item) SRP-II to a wide variety of variables that substantiate its construct validity. Total scores correlate positively with measures of disagreeableness (Paulhus & Williams, 2002), promiscuous sexual attitudes (Harms, Williams, & Paulhus, 2001), violent and anti-social entertainment preferences (Williams, McAndrew, Learn, Harms, & Paulhus, 2001), tattoos and piercings (Nathanson, Williams, & Paulhus, 2003), and self-reported delinquent behavior (Williams et al., 2001; see also Andershed, Gustafson, Kerr, & Stattin, 2002). Of particular importance is our demonstration that the SRP-II predicts *objective* indicators of misbehavior such as cheating on exams and attempts to defraud a departmental lottery (Paulhus, Williams, & Nathanson, 2002). Use of the SRP-II has helped discriminate subclinical psychopaths from other "dark" personalities such as narcissists and Machiavellians (Paulhus & Williams, 2002). In sum, fifteen years of research with the SRP-II has confirmed the notion that psychopathy, as measured by the SRP-II, is a unique and viable construct in normal populations.

#### 4. The factor structure of psychopathy

In the late 1980s, conceptual and empirical work by Hare and colleagues brought about an influential advance in research on psychopathy. They showed that it was necessary to distinguish two factors: one behavior-based and one personality-based. The first involves manipulation and deficient affect and is referred to variously as the Personality or interpersonal/affective factor. The second involves such tendencies as impulsivity, antagonism, and social deviance and is referred to as the Behavioral, anti-social, or social deviance factor. For some time, these two factors have been scored separately in the standard interview measure of psychopathy, the Psychopathy Checklist (PCL-R; Hare, 1991).

Recent attempts to further expand the factor structure of psychopathy have been the source of some debate. Some researchers have argued in favor of a three-factor solution (Cooke & Michie, 2001). Specifically, Cooke and Michie argued that the emotional factor of psychopathy should be



partitioned into the dimensions "Deceitful Interpersonal Style" and "Deficient Affective Experience". This model appeared to hold up in samples with European heritage as well other ethnic groups, such as African Americans (Cooke et al., 2001).

To date, analysis of the factor structure of the SRP-II has been limited to an informal theoretical assignment. Hare and colleagues evaluated the 60 items of the SRP-II and assigned them by conceptual relevance to the Behavior and Personality factors of the PCL-R (Hare, personal communication). That exercise culminated in the isolation of 31 items of particular import: They were seen to capture similar (although understandably less extreme) content to that of the two PCL-R factors. Thirteen items were selected for theoretical relevance to the Behavior factor; nine others were selected for relevance to the Personality factor. A further set of nine were judged to represent both factors (Hare et al., 1989). Empirical confirmation of these factors is a pressing need.<sup>2</sup>

## 5. Overview of the present studies

The present research investigated the SRP-II factor structure using two large student samples. Exploratory factor analyses were conducted to determine whether the two-factor structure could be uncovered using (a) non-forensic samples, and (b) a self-report method as opposed to a structured interview method.

In Study 1, an exploratory factor analysis was conducted on the full 60-item version to determine whether or not Hare's two factors could be reproduced. Personality correlates of the SRP-II and its subscales were also examined in order to validate the subscales. In conjunction with a self-report measure of delinquency, Study 2 used the abridged 31-item version to further assess the validity of the scale and its factors.

### 5.1. Study 1: Exploratory factor analysis and personality correlates of the SRP-II

Study 1 had two primary goals. The first was to examine the factor structure of the SRP-II using an exploratory factor analysis procedure. Of particular interest is the degree to which the SRP-II conforms empirically to the factor structure established by Hare (1991). Our choice of factor analytic procedure was principal components followed by oblimin rotation (SPSS). Principal components was chosen to permit easy recognition of the proportion of variance accounted for by each factor.<sup>3</sup> The choice of an oblimin rotation rested on our desire to examine factor overlap.

Note that the factor structure of the original 60 items is difficult to anticipate. After all, those items were selected before the factor structure of psychopathy was clarified by Harpur, Hare, and Hakstian (1989). Instead, the selection was maximally inclusive (Hare, personal communication).

<sup>2</sup> For further information regarding the item assignment or for a copy of the scoring pamphlet, please contact Dr. James Hemphill, Dept. of Psychology, Simon Fraser University, Burnaby, British Columbia, Canada.

<sup>3</sup> Use of principal factors extraction yielded largely the same pattern.



Only later were the items theoretically assigned to the two factors of the PCL-R, and only 31 of the 60 items were placed on the two factors (Hare et al., 1989).

Our second goal was to evaluate the external correlates of the subscales. Associations with known constructs should help to validate (or invalidate) our interpretation of the factors. To examine the validity of the subscales, we included some of the same variables used to clarify the total SRP-II in previous studies. In an earlier article (Paulhus & Williams, 2002), we examined associations with the Big Five super-traits. We found that SRP-II total scores correlated positively with the Openness, Stability, and Extraversion scales of the Big Five Inventory (BFI; John & Srivastava, 1999) and negatively with the Agreeableness and Conscientiousness scales. Accordingly, we predict the same pattern of correlates.

Paulhus and Williams (2002) also found that the SRP-II correlated 0.50 and 0.31, respectively, with the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979) and the Mach-IV measure of Machiavellianism (Christie & Geis, 1970). Similar correlations have been reported in other studies (e.g. Andershed et al., 2002; Williams et al., 2001) and reflect an understandable degree of overlap among the "Dark Triad" (Paulhus & Williams, 2002). Replications of these correlations would be reassuring.

The Psychopathic Personality Index (PPI; Lilienfeld & Andrews, 1996) is a credible criterion for convergent validity. Given previous work (Poythress, Edens, & Lilienfeld, 1988), we expect that the PPI will correlate substantially with the total SRP-II score. However, its correlations with the SRP-II subscales are difficult to predict. Predictions involving the Interpersonal Reactivity Index (IRI; Davis, 1980) can also be made on the basis of the affective profile of psychopaths and earlier work by Zagon and Jackson (1994). The SRP-II should correlate negatively with the Personal Distress subscale of the IRI. Conceptually-driven predictions are more difficult with the IRI's other three subscales (Perspective Taking, Fantasy, and Empathic Concern). Therefore, we predict null findings on the basis that Zagon and Jackson (1994) found non-significant correlations.

#### 5.1.1. Method

**5.1.1.1. Participants.** 289 students (111 male, 178 female) attending a second-year undergraduate psychology course at a major Canadian university participated for bonus course credit points. The sample composition was broad in terms of gender, ethnicity, and major, and was representative of the student body as a whole. They were asked to complete a take-home questionnaire package on their own time and return it to class within a week.

**5.1.1.2. Materials.** The full 60-item SRP-II was included in a questionnaire package. Participants responded to items on a five-point scale (1 = disagree strongly, 5 = agree strongly). Each of the other personality scales included in the take-home package was selected on the basis of its conceptual relevance and reputable psychometric properties. Unless otherwise noted, the item format for each instrument is a 5-point Likert (strongly disagree to strongly agree).

The BFI is a 44-item instrument that assesses the Big Five traits (John & Srivastava, 1999). The IRI (Davis, 1980) is a 28-item self-report scale that assesses four aspects of empathy: Perspective Taking subscale, Fantasy Seeking, Empathic Concern, and Personal Distress. Because these four scales are meant to be used separately, there is typically no overall IRI score.

The 40-item Narcissistic Personality Inventory (NPI) (Raskin & Hall, 1979) measures the grandiose and self-absorbed character of narcissists. Participants are asked to choose from a pair



of statements the one that they agree with the most (i.e. forced-choice format). Overall NPI scores range between 0 and 40. An abbreviated 20-item version of the Mach-IV Scale (Christie & Geis, 1970) was used to measure Machiavellianism. It remains widely used with well-documented reliability and validity. Items tap the manipulative and cynical nature of Machiavellians.

The PPI (Lilienfeld & Andrews, 1996) is also well-validated, although its factor structure is more complex than that of the SRP-II. Specifically, the PPI is separated into eight subscales: Machiavellian Egocentricity, Social Potency, Coldheartedness, Carefree Nonplanfulness, Fearlessness, Blame Externalization, Impulsive Nonconformity, and Stress Immunity. We used a short version comprising 56 items presented on a 1 (False) to 4 (True) point scale. Among other sources of evidence, the validity of the PPI has been established via correlations with the PCL-R (e.g. Poythress et al., 1988) and with objective indicators of aggression (Edens, Poythress, & Lilienfeld, 1999).

### 5.1.2. Results

**5.1.2.1. Total score.** The alpha reliability for the total 60-item SRP-II was 0.84. Item means were significantly higher in males ( $M = 2.81$ ) than in females ( $M = 2.53$ ,  $t(288) = 6.22$ ,  $p < 0.01$ ).

**5.1.2.2. Factor analyses.** The 60 items were factored with principal components extraction followed by an oblimin rotation. An examination of the scree plot (Fig. 1) appears to show elbows at two factors (supporting Hare's two-factor model) and at five factors. The lack of an elbow at three factors is inconsistent with the three PCL-R factors isolated by Cooke and Michie (2001). In neither solution were there any notable gender or ethnic differences in the factor structure. Therefore, the analyses were conducted on pooled samples.

Both of the solutions proved to be disappointing. The two-factor solution explained 21.4% of the total variance, with the two-factors explaining 13.8% and 7.6% of the variance, respectively. The seven highest loading items for each factor are displayed in Table 1. The first factor appears to include the Behavior factor of the PCL-R, with items that tap impulsive and anti-social behaviors. However, many items reflecting the Personality factor of psychopathy, specifically interpersonal manipulation, also loaded strongly onto this factor. We named this factor Manipulative Trouble-Making. The second factor was composed mainly of items referring to low

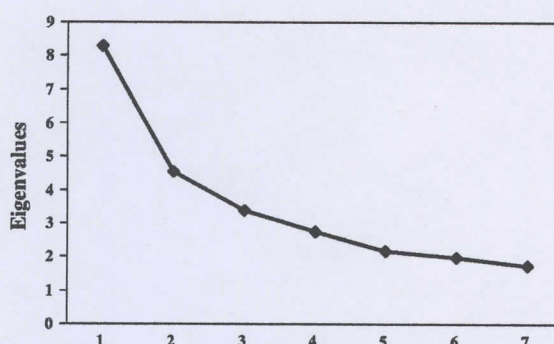


Fig. 1. Scree plot of eigenvalues from factor analysis of 60-item SRP-II in Study 1.



Table 1  
Item loadings for the two-factor solution of the 60-item SRP-II (Study 1)

Item	F1	F2
<i>Factor 1: Manipulative Trouble-Making</i>		
I don't think of myself as tricky or sly. (R)	<b>-0.591</b>	0.000
I get a kick out of "conning" someone.	<b>0.589</b>	-0.151
I got in a lot of trouble at school.	<b>0.559</b>	-0.002
I didn't get into much trouble at school. (R)	<b>-0.546</b>	-0.002
I enjoy gambling for large stakes.	<b>0.545</b>	0.254
It's sometimes fun to see how far you can push someone before they catch on.	<b>0.530</b>	-0.006
I can be fairly cunning if I have to be.	<b>0.520</b>	0.179
<i>Factor 2: Emotional Stability</i>		
I think of myself as self-assured and confident.	-0.010	<b>0.788</b>
I usually feel quite confident when meeting new people.	-0.156	<b>0.701</b>
I wouldn't describe myself as shy or timid.	0.004	<b>0.692</b>
I wish I were more assertive. (R)	-0.007	<b>-0.616</b>
I often worry unnecessarily. (R)	-0.006	<b>-0.578</b>
I am very good at most things I try to do.	-0.177	<b>0.535</b>
I worry a lot about possible misfortunes (R).	-0.129	<b>-0.498</b>

Note:  $N = 289$ . Two principal components were extracted and oblimin-rotated. Only the seven highest loadings for each factor are displayed.

anxiety and self-confidence. It was interpreted as Emotional Stability. The two factors correlated 0.15.

The five-factor solution explained 35.2% of the total variance, with the five unrotated factors explaining 13.8%, 7.6%, 5.6%, 4.6%, and 3.6% of the variance respectively. The first factor was similar to the first factor of the two-factor solution, except that the manipulation items did not load highly. In other words, this factor could be interpreted as the Behavioral factor of the PCL-R. The second factor again appeared to represent Big Five Emotional Stability. The third factor was mainly composed of items involving grandiosity and entitlement, and the fourth factor was characterized by items tapping levels of guilt and empathy. Finally, the fifth factor was made up of items tapping interpersonal manipulation. The intercorrelations among the five factors were generally weak, ranging from -0.08 to 0.22.

*5.1.2.3. Analyses of 31-item SRP-II.* Because of the uncertain results provided by the factor analysis, we reverted to the theoretical subscales recommended by Hare et al. (1989). In our sample, the alpha reliabilities were 0.56, 0.78, and 0.80 for the Personality factor, the Behavioral factor, and the overall scale, respectively. The two subscales showed a small correlation of 0.16. Mean scores on the overall scale were significantly higher in males ( $M = 2.66$ ) than in females ( $M = 2.30$ ,  $t(288) = 6.56$ ,  $p < 0.01$ ).

*5.1.2.4. Correlations with external criteria.* Correlations with a variety of standard personality measures are displayed in Table 2. The total score correlations with the NPI ( $r = 0.60$ ,  $p < 0.01$ ) and Mach-IV ( $r = 0.34$ ,  $p < 0.01$ ) are similar to those reported by Paulhus and Williams (2002). The correlational pattern with Big Five Inventory scales was also replicated. The total SRP-II



Table 2  
Correlations between the SRP-II factors and personality measures

	Theoretically-assigned factors		Total SRP-II
	Personality factor	Behavioral factor	
Narcissism (NPI)	0.37	0.35	0.60
Machiavellianism (Mach-IV)	-0.02	0.32	0.34
PPI	0.54	0.71	0.77
Big Five			
Extraversion	0.40	0.23	0.38
Agreeableness	-0.09	-0.31	-0.30
Conscientiousness	0.11	-0.31	-0.15
Emotional Stability	0.59	0.06	0.34
Openness	0.13	0.23	0.25
Interpersonal Reactivity Index (IRI)			
Perspective Taking	0.02	-0.09	-0.09
Fantasy Seeking	-0.21	0.09	-0.04
Empathic Concern	0.00	0.13	0.10
Personal Distress	-0.39	0.04	-0.17

Note:  $N = 289$ . Correlations higher than 0.14 are significant at  $p < 0.05$ , two-tailed; correlations higher than 0.17 are significant at  $p < 0.01$ , two-tailed.

NPI = Narcissistic Personality Inventory, PPI = Psychopathic Personality Inventory.

correlated strongly with the PPI ( $r = 0.77$ ,  $p < 0.01$ ). As predicted, IRI-Personal Distress scores correlated negatively with total scores ( $r = -0.17$ ,  $p < 0.01$ ), replicating previous results (Zagon & Jackson, 1994). As before, no other IRI correlations were significant.

The PPI correlated with both the Behavioral factor ( $r = 0.71$ ,  $p < 0.01$ ) and the Personality factor ( $r = 0.54$ ,  $p < 0.01$ ). With respect to the personality correlates, most of the trends across the two SRP-II factors were similar. Exceptions were that: (a) Emotional Stability correlated significantly with only the Personality factor ( $r = 0.59$ ,  $p < 0.01$ ), (b) Conscientiousness correlated significantly with only the Behavioral factor ( $r = -0.31$ ,  $p < 0.01$ ), and (c) Fantasy Seeking ( $r = -0.21$ ,  $p < 0.01$ ) and Personal Distress ( $r = -0.39$ ) subscales of the IRI correlated significantly only with the Personality factor.

### 5.1.3. Discussion

Neither the two-factor nor five-factor results were entirely satisfactory. The first factor in the two-factor solution captured many of the core features of psychopathy, but traits from both the personality- and behavior-based factors of the PCL-R appeared on this factor. The second factor seemed to represent Emotional Stability, a common theme running through both of the factor analyses we conducted. Because a similar factor appears in virtually all factor analyses of personality, it is not surprising that it appeared in the wide-ranging 60-item set. Unfortunately, this excess of stability items may have impeded our attempt to isolate two psychopathy-related factors in the SRP-II. The implication that confident, stable individuals are psychopathic rules out its use as a subscale. A serious concern with the five-factor solution is the weak intercorrelations among the factors: They averaged only 0.106, with some actually negative. This finding is at odds with the



notion of an overarching construct (i.e. psychopathy). Furthermore, no five-factor conception of psychopathy appears in the literature. The five-factor solution does seem to include components isolated by Cooke and Michie (2001). The first factor is consistent with their Behavioral factor. Instead of two Personality subfactors, however, we found four. In sum, we could not find any empirical evidence that the factor structure of the full 60-item SRP-II conforms to either Hare's two-factor model or Cooke and Michie's three-factor model.

*5.1.3.1. Gender and ethnic differences.* The only significant group difference was a sex difference on the total scale, with males scoring higher than females. This trend has been noted in several other studies involving the SRP-II, the PCL-R, and other psychopathy scales (e.g. Lilienfeld & Hess, 2001; Rutherford et al., 1998; Zagon & Jackson, 1994). Nonetheless, correlational results involving psychopathy tend to remain comparable across the sexes, suggesting that the construct is identical in males and females (for a review, see Cale & Lilienfeld, 2002).

*5.1.3.2. Personality correlates of the total SRP-II score.* Correlations with external criteria provide support for the construct validity of the total SRP-II score. Convergent validity is illustrated by its high correlation (0.77) with the Psychopathic Personality Index (PPI) (Lilienfeld & Andrews, 1996). Although their intercorrelation is usually smaller, these two instruments appear to be measuring similar constructs. Preference for one over the other may rest on the researcher's need for the PPI's complex set of eight subscales vs. the simpler two-factor structure (and smaller size) of the SRP-II. We would argue that the SRP-II benefits greatly from its conceptual roots in and similarity to the PCL-R, still the gold standard in forensic assessment.

The moderate positive correlations with the NPI and Mach-IV replicate previous findings (Paulhus & Williams, 2002). They confirm some degree of overlap among the "Dark Triad" due to shared features such as shallow affect, a sense of entitlement, and disagreeableness. At the same time, these modest intercorrelations, along with previous evidence of differential correlates, confirms divergent validity: Subclinical psychopathy is identical neither to narcissism nor Machiavellianism.

The pattern of Big Five correlations also replicated previous research (Paulhus & Williams, 2002). Low agreeableness continues to be one of the defining features of psychopathy (Hare, 1991). In terms of the interpersonal circumplex, positive correlations with agentic traits (e.g. Extraversion, Openness) and negative correlations with communal traits (e.g. Conscientiousness, Agreeableness) place psychopathy in the circumplex quadrant labeled "unmitigated agency" (Paulhus & John, 1998). This dangerous combination highlights the potential for malevolent behavior—even in the non-criminal samples.

*5.1.3.3. Validity of the subscales.* Our findings support the validity of the SRP-II total score (either 31- or 60-item versions) as a measure of psychopathy in normal (i.e. non-forensic, non-clinical) samples. The validity of the factors, however, is less convincing. In the case of the empirical factors, the item content of the two factors does not match Hare's two-factor model. Nor does the five-factor solution match any proposed model of psychopathy, including that of Cooke and Michie (2001).



Neither are the theoretical factors assigned by Hare et al. (1989) entirely satisfactory. The pattern of correlations suggests that the content of the Personality factor is largely emotional stability. Recall that we had a similar concern about the Emotional Stability factor emerging from the factor analysis.

### *5.2. Study 2: Delinquency correlates of the SRP-II and its factors*

Study 1 helped clarify the meaning of the theoretically-assigned factors. Using these same factors, Study 2 turns to what is arguably the ultimate criterion for a measure of psychopathy—delinquent behavior. Both the Personality and Behavioral factors of the PCL-R are associated with delinquency (for a review, see Forth et al., 1996). To correspond to the PCL-R factors, both SRP-II factors should predict delinquency. To evaluate this hypothesis, we included a comprehensive self-report measure of delinquency in Study 2.

#### *5.2.1. Method*

*5.2.1.1. Participants.* 356 students (138 males, 218 females) in first and second year psychology courses at a large western Canadian university participated for bonus course credits.

*5.2.1.2. Materials.* We scored the theoretically assigned factors of the SRP-II in the same way as in Study 1. The Self-Report Delinquency scale (SRD; Elliott & Ageton, 1980) was used to assess delinquency. Our modified version comprises 43 self-report items referring to anti-social acts ranging from minor misbehaviors to felony crimes. Participants are asked to estimate how many times in the past five years they had committed each of the acts. Nine additional items ask subjects about personal information regarding various types of drug use (e.g. alcohol, ecstasy, marijuana, etc.). Based on previous factor analyses of the scale in college students (e.g. Williams et al., 2001), composite scores were created for five main categories of delinquency: Minor Crime (e.g. shoplifting, plagiarism), Serious Crime (auto theft, violent assault, sexual assault), Bullying (physical bullying, harassing, ridiculing), Anti-Authority misbehavior (verbally assaulting parents and other authority figures, parking illegally), and Drug Abuse (public drunkenness, abusing alcohol, cocaine, heroine, and other drugs).

An overall delinquency score was also calculated by weighting the five factors equally. Previous studies have linked SRD scores to psychopathy-related traits (e.g. Alexio & Norris, 2000; Frick, Cornell, Barry, Bodin, & Dane, 2003; Lynam, 1998). However, the characteristics of the samples in these studies (e.g., incarcerated, adolescents) were much different from the current sample, and none of those studies used the SRP-II to assess psychopathy. Because of the sensitive nature of the content, and the potential for under-reporting of crimes (i.e. impression management), the SRD was administered under anonymous conditions.

#### *5.2.2. Results*

*5.2.2.1. Group differences.* The overall item mean was significantly higher in males ( $M = 2.73$ ) than in females ( $M = 2.40$ ),  $t(348) = 7.84$ ,  $p < 0.01$ , two-tailed. The difference in item mean between European-heritage ( $M = 2.55$ ) and Asian-heritage students ( $M = 2.46$ ) was not significant ( $t[242] = 1.85$ ,  $p > 0.05$ ). For analyses involving psychopathy and delinquency, any items from the SRP-II that might overlap with the SRD to produce artifactual inflation of correlations were



Table 3  
Correlations between SRP-II and Self-Report Delinquency

Delinquency subscales	Theoretically-assigned factors		Total SRP-II
	Personality factor	Behavioral factor	
Bullying	0.11	0.35	0.35
Serious Crime	0.06	0.19	0.19
Drugs	0.21	0.35	0.35
Minor Crime	0.08	0.38	0.34
Anti-Authority	0.09	0.24	0.20
Total Delinquency	0.19	0.49	0.47

Note:  $N = 356$ . Correlations higher than 0.11 are significant at  $p < 0.05$ , two-tailed; correlations higher than 0.17 are significant at  $p < 0.01$ , two-tailed.

removed.<sup>4</sup> The alpha reliability was 0.79, 0.72, and 0.56, for the total scale (27 items), the Personality factor (9 items) and Behavior factor (10 items), respectively.

**5.2.2.2. Delinquency correlations.** Results are displayed in Table 3. Correlations between the total SRP-II score and each of the five types of delinquency were all significant ( $p < 0.01$ , two-tailed), ranging from 0.19 (Serious Crime) to 0.35 (Bullying, Drugs). The correlation between the total SRP-II score and overall delinquency was particularly strong ( $r = 0.47$ ,  $p < 0.01$ ).

Each of the five types of delinquency correlated significantly ( $p < 0.01$ ) with the Behavioral factor of psychopathy, ranging from 0.19 (Serious Crime) to 0.38 (Minor Crime). Only Drug Abuse correlated significantly at the  $p < 0.01$  level with the Personality factor of the SRP-II ( $r = 0.21$ ). Both of the SRP-II factors correlated significantly with overall delinquency, but the value was significantly higher for the Behavioral factor ( $r = 0.49$ ) than the Personality factor ( $r = 0.19$ ),  $z = 2.63$ ,  $p < 0.01$ . Even after adjusting these correlations to account for the lower reliability of the Personality factor, correlations with the Behavioral factor are still substantially larger.

### 5.2.3. Discussion

The pattern of results supports the validity of the 31-item SRP-II total score. Even in non-forensic, non-clinical samples, the instrument predicts the ultimate behavioral measure—delinquency. This finding parallels results from studies involving incarcerated and hospitalized samples (e.g. Forth et al., 1996). In this way, it appears that the construct of psychopathy, and the SRP-II scale, are both viable in non-forensic populations.

Although both of the factors correlated significantly with overall delinquency, the bulk of the explanatory power lies in the Behavioral factor of psychopathy. In fact, the variance explained by the Behavioral factor (0.24) was eight times that of the Personality factor (0.03). The Behavioral factor also correlated significantly and strongly with each of the five types of delinquency, whereas the Personality factor correlated with only two.

<sup>4</sup> Three Behavioral factor items and one double-loading item were removed.



Note that this difference cannot be explained by overlap between the Behavioral factor and the delinquency items. Recall that we removed the overlap between the SRP-II and delinquency criterion items. In fact, the items that make up the Behavioral factor refer to more 'everyday' behaviors. Furthermore, the difference in correlations could not be explained by the lower reliability of the Personality factor.

## 6. General discussion

Our results further validate the SRP-II as a measure of subclinical psychopathy. However, our attempt to clarify the factor structure of the SRP-II was disappointing. It appears that the scale requires some updating to succeed in capturing the two factors of psychopathy as outlined by Hare and colleagues. The main impediment appears to be the predominance of a stability factor in the analyses. Other possible explanations for the discrepancy with PCL-R results include the difference in sample characteristics (i.e. undergraduate vs. forensic). Clearly, more research must be conducted before a useful two-factor structure can be gleaned from the SRP-II.

Nonetheless, both the 60- and 31-item versions of the SRP-II appear to be successful when used as aggregate measures. Associations involving the Big Five and measures of empathy highlight the interpersonally dark nature of psychopaths. SRP-II correlations with narcissism and Machiavellianism quantify the expected amount of overlap between the traits, but at the same time are not large enough to suggest that psychopathy is identical to either of these other dark personalities. Finally, the correlation between the SRP-II and the well-established PPI suggests that the SRP-II is capturing the essential features of psychopathy.

The findings involving self-reported delinquency are also strong evidence that the SRP-II is a viable tool for assessing psychopathy in normal populations. Particularly impressive is the fact that these associations could be detected despite the low frequency (and therefore low variance) of delinquency that occurs in an undergraduate sample compared to that of a forensic sample. Delinquency continues to be a fundamental criterion in assessing psychopathy in forensic populations, and it is reassuring to see the same linkage in normal samples as well.

There remain several avenues for future research involving the SRP-II. We do need to evaluate the SRP-II against other criteria. Correlations involving other objective measures of delinquency would build upon the extensive delinquency correlations reported in the current study, and further support the validity of the SRP-II in normal populations. The factor structure of the scale could also be assessed using confirmatory factor analysis procedures (CFA). The functioning of the SRP-II in other populations (e.g. high school, community, armed forces), as well as the scale's vulnerability to faking also warrant attention.

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