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BRIEF REPORT

Proposed Specifiers for Conduct Disorder (PSCD): Factor Structure and Psychometric Properties in a Residential School Facility

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The Proposed Specifiers for Conduct Disorder scale (PSCD; Salekin & Hare, 2016) is a new scale for the assessment of psychopathic characteristic domains in children and adolescents. The four domains are Grandiose-manipulative (GM), Callous-unemotional (CU), Daring-impulsive (DI), and Conduct Disorder (CD). We examined the properties of the self-report version of the PSCD in a large sample of adolescents ($n = 409$; age = 16–19; 80.6% male) in a military-style residential facility. Factor analytic results supported a four-factor model consistent with other PSCD research (e.g., López-Romero et al., 2019; Luo et al., 2021). Structural equation model (SEM) indicated a superordinate PSCD factor accounted for significant variance in self-reported delinquency history. The PSCD had good internal consistency and strong convergent and discriminant validity with measures of externalizing and internalizing disorders. The present study provides encouraging data that the PSCD may provide a sound measure of psychopathic propensities in youth. However, additional data are needed to test the stability of the PSCD.

Public Significance Statement

It has been recognized that psychopathic personality characteristics may be helpful in specifying Conduct Disorder (American Psychiatric Association, 2013). The PSCD is a newly developed measure that offers the full range of psychopathic personality characteristics plus Conduct Disorder to assist with examination of personality and CD. The present study indicates that the PSCD may be helpful in understanding the etiology and treatment of conduct problem youth especially if tailored to their specific personality profile.

Keywords: psychopathy, GM characteristics, CU characteristics, DI characteristics, conduct disorder

Cleckley (1941/1976), in his seminal monograph *Mask of Sanity,* proposed a set of characteristics for psychopathy that offered a focused understanding for what had otherwise been a poorly defined and heterogeneous condition (Lilienfeld, 2018). He presented psychopathy as a severe disorder that at times could be "masked" by an appearance of robust mental health. His list of psychopathic features highlighted superficiality, unreliability, deceptiveness, absence of nervousness, lack of emotional depth, lack of remorse, and antisocial behavior. Cleckley's (1941/1976) structured definition helped to initiate efforts to further standardize the measurement of psychopathy (Forth et al., 2003; Hare et al., 2018) as well as efforts to better understand the external correlates and causes of antisocial behavior and conduct problems (Hare et al., 2018; Newman et al., 2010; Quay, 1965).

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Factor analytic studies at the child and adult level have repeatedly shown the condition to be multifactorial, comprising four factors that measure interpersonal, affective, behavioral, and antisocial characteristics (e.g., Forth et al., 2003; Neumann et al., 2015). Despite strong evidence of a multifactorial model, the literature on children and adolescents has increasingly focused on a single factor of psychopathy labeled Callous-unemotional characteristics. This emphasis on a single domain limits our understanding of the broader construct of psychopathy and its underpinning subcomponents. The multifactorial model for psychopathy has substantial research support and holds promise for a better understanding of the etiology and treatment of Conduct Disorder and its affiliated personality characteristics. This may be especially true given that the components of psychopathy can have distinct correlates (e.g., Salekin, 2017; Waller & Hyde, 2018).

In response to a gap in measurement technology, Salekin and Hare (2016) developed the Proposed Specifiers for Conduct Disorder (PSCD). The PSCD is based on the multidimensional framework of psychopathy as well as theoretical models regarding potential ways to specify Conduct Disorder proposed by Salekin (2016a, 2016b). The PSCD assesses the psychopathy domains of Grandiose-manipulative (GM), Callous-unemotional (CU), Daring-impulsive (DI), plus Conduct Disorder (CD). Moreover, the CD subscale includes the four subtypes of CD including (a) aggression to people and animals, (b) destruction of property, (c) deceitfulness and theft, and (d) serious violation of rules. The inclusion of a Conduct Disorder scale may allow for additional research on the relationships between psychopathic personality constructs and CD (Larsson et al., 2007).

The examination of the psychopathic personality in relation to CD could substantially advance knowledge. Although many children with psychopathic characteristics do not manifest psychopathy as adults, it is known from clinical case work that most adults with psychopathy have manifested psychopathic features in childhood. Therefore, a measure of psychopathic characteristics in adolescence is of import even if the condition is only moderately stable from childhood to adulthood. This is because it can, for example, facilitate a better knowledge of the relation of psychopathic characteristics to delinquency, and other mental health problems, during adolescence. Further, and equally importantly, such a measure could lead to research to facilitate our understanding of the risk and protective factors for CD, the stability of the condition, as well as the etiological processes or mechanisms for the condition. Such efforts could facilitate treatment innovations.

Recent research with the PSCD, which was designed for these purposes, has been encouraging. Specifically, López-Romero et al. (2019) examined 2,229 Spanish preschool children and obtained support for a four-factor structure for the parent version of the PSCD. The authors also found the measure to have good internal consistency, the expected convergent and discriminant associations with an alternative measure of psychopathic characteristics, symptoms of oppositional defiant disorder (ODD), attention deficit hyperactivity disorder (ADHD), fearlessness, conduct problems, reactive/proactive aggression, and social competence. Luo et al. (2021), in a study of 1,683 adolescents in Mainland China, showed that the self-report PSCD had good item homogeneity at the total scale and subscale levels. The study also found support for four-factor models based on the full 24-item set and a shorter 13-item version. The models were invariant across sex. The PSCD also displayed expected relations with other scales measuring psychopathy, anxiety, depression, and aggression (Luo et al., 2021). In a more recent study of 400 Italian children and adolescents, Muratori et al. (2021) confirmed the PSCD's four-factor structure and showed it to have good internal consistency and the expected associations with peer relations, prosocial behavior, and conduct problems.

Although the findings from these three studies provide preliminary support for the utility of the PSCD, research on its psychometric properties is limited. Thus far, we do not know how the PSCD might function among youth with behavior problems and other forms of psychopathology, including mental health, drug, and alcohol problems. Further, to date, no studies have examined the links between the PSCD and self-reported crime. Examining these associations may be particularly important among youth in residential facilities where behavior problems and other forms of psychopathology are more prevalent. To address these limitations, we examined the factor structure, internal consistency, and convergent and discriminant validity of the PSCD in a residential facility for young individuals experiencing problems in the community and in schools. In addition to providing further validation of the PSCD, we anticipated that the research would facilitate differential treatment planning for youth with a range of behavioral and mental health issues.

The Present Study

We aimed to test the psychometric properties of the self-report version of the PSCD using a sample of youth in a military-style residential facility. First, we tested the factor structure of the PSCD using confirmatory factor analyses (CFA). We expected to obtain a four-factor model (GM, CU, DI, and CD characteristics) for the standard 24-item version of the PSCD. Second, we tested a 13-item PSCD model and expected good fit for a four-factor model (Luo et al., 2021). We also compared the four-factor model with one-, two-, and three-factor models. The latter model omits the CD factor and thus approximates a model proposed by some investigators. However, based on previous PSCD research, we expected the four-factor model to be the superior model (López-Romero et al., 2019; Luo et al., 2021; Neumann et al., 2015). In addition, we examined the internal reliability of the PSCD scales at the total score and subscale levels.

We assessed the convergent and discriminant validity of the PSCD with composites and mental health variables not previously used in a PSCD study. Specifically, we determined convergent and discriminant validity by, respectively, comparing the PSCD with Personality Assessment Inventory–Adolescent (PAI-A) externalizing and internalizing composites (Morey, 2007).

Following examination of broad band psychopathology correlates, we focused on additional theoretically meaningful correlates within the externalizing and internalizing frameworks. We expected the antisocial personality disorder (antisocial features [ANT]) scale from the externalizing framework to provide the strongest convergent validity given that the PAI-ANT scale is an alternate psychopathy measure. Although not strictly parallel constructs, we expected to obtain positive correlations between the PSCD and dominance, aggression, alcohol, and substance use problems. These correlates are reported to be theoretically and empirically relevant to psychopathy (Hare et al., 2018). From the internalizing pathology framework, we expected anxiety and depression to show negligible associations with the PSCD (Luo et al., 2021). At the component level, we expected GM characteristics to exhibit the lowest

correlations with anxiety and depression, and DI and CD to exhibit the largest correlations with drug and alcohol problems (Forth et al., 2003). We made no other component level predictions.

To check for PSCD scale differences between males and females, we ran one-way multivariate analysis of variances (MANOVAs; 24- & 13-item models). A multiple group structural equation model (SEM) was conducted to examine how a super-ordinate PSCD factor accounted for arrest data for males versus females using a strict invariance approach (constrained means and intercepts). Assuming good fit, we report the latent PSCD mean for females relative to males.

Method

Participants

Participants were 409 adolescents (80.6% males) living in a military-style residential facility in the southeastern United States.[1] Age was coded as an ordinal variable. The percentage of participants at ages 16, 17, 18, and 19 was 39.2, 46.6, 13.4, and 0.9, respectively. The racial composition of the sample was 70.9% Caucasian, 20.1% Black, 3.6% Hispanic, and 5.4% other. Approximately 29% of the participants were missing data, but there was no difference in PSCD scores for those with and without PAI-A (p's > .05, η^2 = .00–.01) or arrest data, $x(1)^2 = 0.98$, $p > .05$.

Measures

Proposed Specifiers for Conduct Disorder (Salekin & Hare, 2016)

The PSCD (Salekin & Hare, 2016) is a 24-item psychopathic characteristics measure designed for administration to youth. The PSCD has been validated on a number of indicators in a number of child and adolescent samples ranging in age from 3 to 19 years (López-Romero et al., 2019; Luo et al., 2021). Its four subscales are GM (6 items), CU (6 items), DI (6 items), and CD (5 items). There is one item for ODD. Each item is rated on a 3-point Likert scale (0 = *not true*, 1 = *sometimes true*, and 2 = *true*). The full and shortened PSCD item sets have adequate fit to a four-factor model, and the manifest variable scale scores were shown to be reliable and valid on a number of indicators in three preliminary studies (López-Romero et al., 2019; Luo et al., 2021; Muratori et al., 2021). The 24 items are summed to create the total score (0–48). PSCD scale (GM, CU, DI) scores vary from 0 to 12 and 0 to 10 for CD, with higher scores indicative of increased levels of psychopathic characteristics.

Personality Assessment Inventory–Adolescent (Morey, 2007)

The PAI-A (Morey, 2007) is a 264-item self-report measure designed to assess general psychopathology, personality, and treatment-relevant variables in adolescents 12–18 years old. The PAI-A consists of 22 nonoverlapping scales (4 validity scales, 11 clinical scales, 5 treatment consideration scales, and 2 interpersonal scales) which have been validated in clinical (N = 707) and community (N = 1,160) adolescent samples. The items are rated on a 4-point Likert scale (0 = *very false*, 1 = *false*, 2 = *true*, 3 = *very true*). The clinical scales used in the present study include somatic complaints (SOM), anxiety (ANX), anxiety-related disorders (ARD), depression (DEP), antisocial features (ANT), alcohol problems (ALC), and drug problems (DRG). Dominance (DOM) and aggression (AGG) were also examined as well as treatment rejection (RXR). Scale and subscale sores are converted to linear T scores with a mean of 50 (SD = 10). Internal consistency (α) is 0.79 in community samples and 0.80 in clinical samples (α = .80). Test–retest reliability is relatively strong (r = .78; M = 18 days; r = .85 for ANT). For the present study, we computed externalizing (ANT, ALC, DRG, AGG) and internalizing (SOM, ANX, ARD, DEP) composites, with each showing good internal consistency (EXT-α = .78; INT-α = .85) and homogeneity (EXT-Mean-item-correlation [MIC] = .51; INT-MIC = .58).

Arrest History. Participants were asked if they had ever committed a crime (dichotomous variable) and if so, the number of times they had committed crimes in the past (count variable), and the age at which they started to break the law. Crimes were only counted if the charges could be considered a crime in adulthood (status offenses were not reported). Crimes ranged from shoplifting, drug offenses, and trespassing to carrying a weapon, assault, and robbery.

Procedure. The institutional review board of the University of Southern Mississippi approved all procedures used in this study. The director of the program, who serves as the guardian *ad litem* for the adolescents during the enrollment period, provided informed consent to invite youths to participate in the study. All participants subsequently had an opportunity to assent or dissent to participate in the study. Youth were assured that participation would not affect any facility services. Four percent of the invited youth declined to take part in the study. Youth completed self-report measures in groups of 10 in classrooms on the program's campus. Trained researchers oversaw the data collection and were available to answer questions. The collected data were part of a larger 2-year study of four consecutive cohorts. The study was not preregistered and the data are not publicly available.

Results

Mean PSCD scale scores (SDs, MICs) for the full 24-item version were as follows: GM 5.80 (2.76, .28), CU 3.58 (3.12, .42), DI 6.62 (3.31, .44), and CD 5.75 (3.85, .52); and for the 13-item version (3/4 items/scale): GM 2.31 (1.68, .38), CU 1.73 (1.69, .44), DI 3.23 (1.74, .39), and CD 3.80 (2.70, .53). The scale scores were significantly correlated (r's range .43–.61, p's < .001). Also, the 24- and 13-item PSCD total scores were highly correlated (r = .95, p < .001). One-way MANOVAs (24- & 13-item models) indicated nonsignificant effects for gender, $F(4, 368) = 1.74$, $p > .05$; $F(4, 368) = 1.88$, $p > .05$. Males had consistently higher scores than females, but effect sizes were small (partial η^2's = .01–.02). Internal consistency and omega were good for both 24- and 13-item

[1] The data for this study were from volunteer participants at a government-funded residential program for troubled youth. The program is part of a broader network of programs for such youth in the United States (40 sites in 29 states, the District of Columbia, and Puerto Rico) designed to promote prosocial and academic development. Although the program is voluntary, participants are often encouraged to attend through juvenile justice, foster care, or parental guidance because they are performing poorly in the traditional school environment. Similar to other youth with school/home problems, they are expected to have mental health difficulties (externalizing and internalizing difficulties) including some substance use, although, at the time of entrance into the program, the mental health problems cannot be reported as severe.

PSCD total scores, respectively (α = .90, .85, ω = .97, .95). A substantial portion of individuals had arrest histories, with some having multiple arrests (36% of the sample had been arrested once, 34% arrested more than once; $M = 1.45$; $SD = 1.93$). However, PSCD scores were unrelated to onset of first arrest ($r = -.11$, $p > .05$).

CFA Results

Table 1 provides fit results for the models tested. We used traditional criteria to gauge fit (comparative fit index [CFI] ≥ .90; root mean square error of approximation [RMSEA] ≤ .08). The 24-item four-factor model had adequate fit (CFI = .90; RMSEA = .08), and the 13-item four-model had good fit (CFI = .95, RMSEA = .07).[2] All PSCD factor loadings and correlations were significant (p's < .01–.001). Table 1 also shows the four-factor model reproduced the data with little residual error remaining standardized root mean square residual (SRMR). Standard errors for the PSCD items for both models were small ($M = .03$) consistent with previous research (Luo et al., 2021) and provides further evidence for the model. Table 2 displays standardized parameters for the four-factor model.

Convergent–Discriminant Analysis

We used the PAI externalizing (EXT) and internalizing (INT) composites to examine broad band convergent–discriminant validity for the PSCD (see Table 3).[3] As expected, the PSCD showed a significant positive correlation with the externalizing composite ($r = .47$) and a much smaller correlation with the internalizing composite ($r = .13$). Finer grained convergent validity analyses showed positive correlations with antisocial personality features ($r = .59$), aggression ($r = .46$), dominance ($r = .32$), alcohol problems ($r = .30$), and drug problems ($r = .31$). As expected, the correlations with anxiety ($r = .01$) and depression ($r = .13$) were smaller. Unexpectedly, the PSCD was related to treatment acceptance ($r = -.23$).

At the dimensional level, the GM component showed significant negative correlations with anxiety and depression. Similarly, the DI component exhibited negligible relations with depression and anxiety, whereas CU and CD exhibited positive associations with depression (see Table 4). In addition, DI, and especially CD, showed the strongest correlation coefficients with alcohol and drug problems. In tests of discriminant validity, convergent validity coefficients must be higher than any other value in its row or column of the hetero-method block, indicating that there are no comparison violations. Table 4 reveals that the PSCD met this criterion. We further quantified these relations by conducting significance tests using the Williams modification of the Hotelling's test for two correlations involving a common variable. This yielded a total of nine comparisons, and all comparisons were significant ($p < .01$) offering clear evidence of discriminant validity.[4]

Table 1
CFA Model Fit Results for the PSCD Scale

	Standard version			Short version		
PSCD model fit	CFI	RMSEA	SRMR	CFI	RMSEA	SRMR
1-factor model	.76	.12	.11	.84	.13	.10
2-factor model	.84	.10	.10	.90	.10	.06
3-factor model (without CD)	.86	.10	.06	.93	.09	.08
4-factor model	.90	.08	.07	.95	.07	.05

Note. CFA = confirmatory factor analyses; PSCD = Proposed Specifiers for Conduct Disorder; CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual; CD = Conduct Disorder.

Multiple Group SEM Results

Model fit was excellent for both 24- and 13-item SEMs (CFI's = .98; REMSEA = .03). The results showed a hierarchical psychopathy construct based on the 24-item PSCD significantly accounted for arrest history (see Figure 1). The parameters for the standard version of the PSCD were .38 for males and .53 for females. The 13-item PSCD factor had slightly larger parameters (.41 males, .60 females). The multi group-structural equation model (MG-SEM) approach provides latent PSCD means with the reference group mean (males) set to zero. Results indicated that females had significantly lower levels of the latent PSCD trait for both the 24-item ($-.31$, $p < .001$) and 13-item ($-.38$, $p < .001$) model.

Discussion

The PSCD is a new instrument that stands apart from other measures by assessing both psychopathic personality features and CD symptoms in young individuals (Salekin & Hare, 2016). Available research demonstrates that both the parent-report and the self-report versions generally have good psychometric properties in children and adolescents (López-Romero et al., 2019; Luo et al., 2021; Muratori et al., 2021). The present investigation found that the four-factor model was the best fitting model for the PSCD. We also found evidence for good internal consistency, omega, and item homogeneity of the 24- and 13-item PSCD scales, as well as strong supportive evidence from the convergent–discriminant validity analyses. Previous PSCD studies help facilitate an understanding of psychopathic characteristics and CD in less severe populations and the present study extended support for the PSCD in adolescents in a military-style treatment facility where mental health problems are more substantial.

[2] The CFAs were also run with males only, and there were no meaningful differences in fit (24-item: CFI = .90, RMSEA = .08; 13-item model: CFI = .95, RMSEA = .06).

[3] Given space limitations, we are presenting results for the 24-item PSCD total and scale scores, though note that the substantive pattern of associations was the same for the PSCD 13-item total and scale scores.

[4] To check whether our findings might be affected by problematic reporting, we conducted manifest variable analyses, examining how the 24- and 13-item PSCD total scores correlated with the PAI validity scales. There was little meaningful association between the inconsistency (ICN) and infrequency (INF) PAI scales and the (24- and13-item) PSCD total scores: ICN (r's = .10, .11) and INF (r's = .01, .01), and relatively modest associations with the positive (PIM: r's = −.30, −.28) and negative (NIM: r's = .24, .26) impression scales. PIM and NIM correlated mostly with the CD scale (r's = |.28–.31|). We also ran two latent variable SEMs (13- & 24-item models) to see how the four PAI validity scales predicted the PSCD factors. Overall, the SEM analyses indicated modest associations between the PAI validity scales and the four PSCD factors and accounted for a small amount of the variance. Average associations across PAI scales and PSCD factors were GM (mean $r = .09$), CU (.10), DI (.11), and CD (.15). It should be noted that the items that make up the NIM and PIM can overlap with psychopathy (e.g., "I don't have any good memories from my childhood").

Table 2
Factor Loadings for the Proposed Specifiers for Conduct Disorder Four-Factor Model

PSCD items	Standard version				Short version			
	GM	CU	DI	CD	GM	CU	DI	CD
1. Turn on the charm in any situation	.63							
2. A very important person	.37							
3. Very good at most things I do	.47							
4. Lying is easy for me	.78				.80			
5. Take advantage of others	.72				.73			
6. Am a natural storyteller	.66				.62			
7. Don't think about how I hurt others		.69				.70		
8. Walk away from someone who is hurt		.87						
9. Do not care if people are happy or upset		.82				.84		
10. Like it when others are afraid of me		.70				.75		
11. People consider me to be a mean person		.70						
12. Rarely feel guilt or remorse		.77						
13. Am daring			.80					
14. Like a lot of change and adventure			.64				.62	
15. Get a thrill out of doing risky things			.83				.85	
16. Need a lot of stimulation			.65				.69	
17. Like to live in the moment			.77					
18. People think I am reckless			.79					
19. Have stolen things				.79				.81
20. Physical aggression animals or people				.75				.77
21. Destroyed property				.84				.86
22. Break (violate) a lot of rules				.87				.82
23. Started breaking rules before age 10				.82				
24. Argumentative and defiant (oppositional)				.76				
Average loading	.73				.76			

Note. PSCD = Proposed Specifiers for Conduct Disorder; GM = Grandiose-manipulative; CU = Callous-unemotional; DI = Daring-impulsive; CD = Conduct Disorder.

The PSCD and the Four-Factor Model

The four-factor PSCD model outperformed models consisting of 1–3 factors supporting the multifaceted nature of psychopathic personality in adolescents. At the same time, the SEM results provide support for a multifactor model represented by a hierarchical (syndromal) factor underpinned by four correlated factors, in accordance with the manifold syndrome of psychopathy recommended for adolescents (Salekin, 2017). From a conceptual standpoint, the findings indicate that arguments to exclude, for example, overt antisocial behavior because of the assumption that it is not central, may eliminate key criteria given that the four-factor PSCD model better fit the data compared to a three-factor model (Hare et al., 2018). Similarly, we propose that research focused on CU characteristics alone omits three interlinked psychopathy dimensions that are key to an appreciation of the overall construct and its external correlates, including mental health problems. Moreover, the factor models achieved in the present study are consistent with past structural, behavioral genetic, and longitudinal research highlighting that psychopathic personality reflects a constellation of personality characteristics (Hare et al., 2018; Larsson et al., 2007).

Table 3
Correlation Coefficients Between the PSCD Scores and Personality Assessment Inventory–Adolescent (PAI-A) Scales: Total Sample

Measure/scale	GM	CU	DI	CD	PSCD
Externalizing	.24	.32	.39	.57	.47
Internalizing	−.06 *ns*	.18	.07 *ns*	.18	.13
TANT	.38	.37	.48	.64	.59
TAGG	.22	.37	.37	.50	.46
TDOM	.39	.17	.28	.21	.32
TALC	.14	.19	.27	.36	.30
TDRG	.14	.16	.26	.42	.31
TANX	−.14	.07 *ns*	−.02 *ns*	.07 *ns*	.01 *ns*
TDEP	−.13	.20	.06 *ns*	.22	.13

Note. PSCD = Proposed Specifiers for Conduct Disorder; GM = Grandiose-manipulative; CU = Callous-unemotional; DI = Daring-impulsive; CD = Conduct Disorder; TANT = Antisocial features; TAGG = Aggression; TDOM = Dominance; TALC = Alcohol problems; TDRG = Drug problems; TANX = Anxiety; TDEP = Depression.

Convergent–Discriminant Findings

As expected, the PSCD correlated strongly and positively with externalizing disorders and negligibly with internalizing conditions. In addition, the PSCD had a strong correlation with the PAI-ANT scale, which shows the PSCD's convergence with an alternate measure of psychopathy. Likewise, the PSCD demonstrated the expected positive correlations with theoretically meaningful constructs from the externalizing framework and negligible correlations with relevant constructs from the internalizing framework. These correlates show that youth with elevated PSCD scores may be at risk for aggression toward others, dominating others, as well as for alcohol and drug problems. Additionally, the multicomponent model makes it clear that the mental health symptom profile may differ based on the set of psychopathic personality characteristics that are most elevated for individuals. For example, in the

Table 4
Correlation Coefficients Between the PSCD Scores and Personality Assessment Inventory–Adolescent (PAI-A) Scales: Males/Females

	GM		CU		DI		CD		PSCD	
Measure/scale	M	F	M	F	M	F	M	F	M	F
Externalizing	.25	.29	.32	.44	**.35**	**.57**	.60	.56	.47	.54
Internalizing	**.02** *ns*	**−.26**^{t}	.19	.08 *ns*	.08 *ns*	.15 *ns*	.22	.14 *ns*	.18	.05 *ns*
TANT	.40	.26^{t}	.37	.42	.44	.63	.63	.69	.58	.66
TAGG	.26	.27	.37	.53	**.32**	**.69**	**.49**	**.69**	**.45**	**.69**
TDOM	.38	.42	**.11**	**.38**	.24	.42	.19	.32	.27	.47
TALC	.16	.05 *ns*	.23	.14 *ns*	.25	.33	.39	.34	.32	.24^{t}
TDRG	.13	.22	.16	.23	.25	.36	.46	.38	.33	.36
TANX	**−.06** *ns*	**−.25**^{t}	.09 *ns*	.03 *ns*	.01 *ns*	.06 *ns*	.13	−.03 *ns*	.07 *ns*	−.05 *ns*
TDEP	**−.04** *ns*	**−.35**	**.24**	**.02** *ns*	.07 *ns*	.16 *ns*	.25	.26^{t}	.18	.05 *ns*

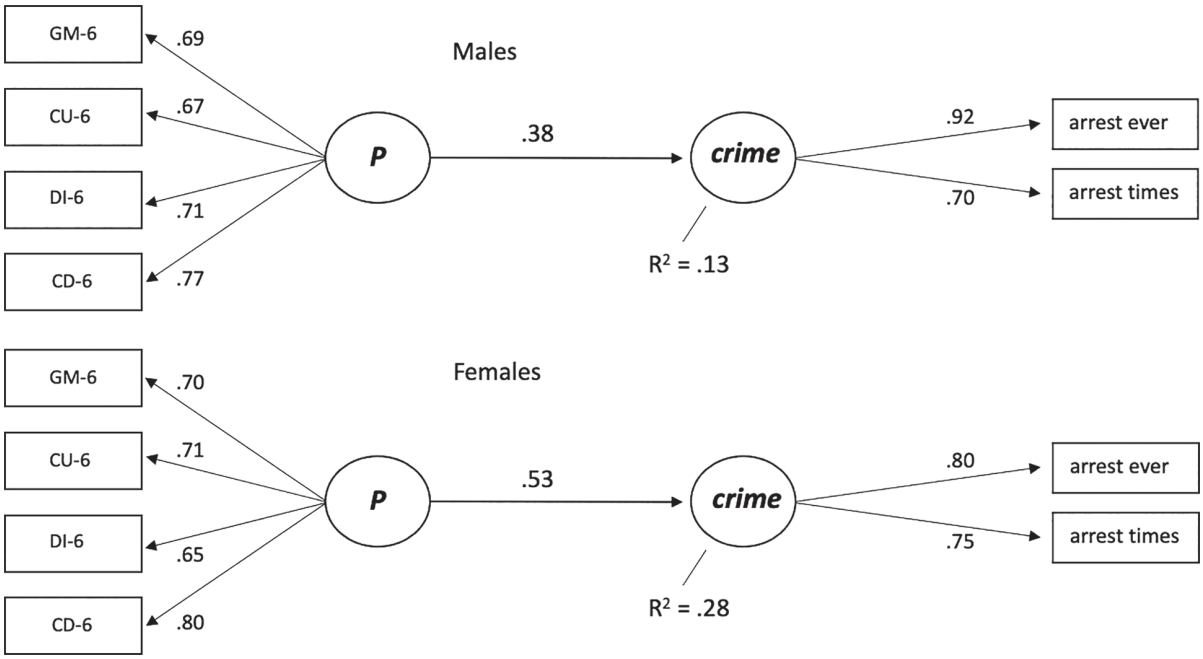
Note. *p*'s < .05–.001, except those designated *ns*. PSCD = Proposed Specifiers for Conduct Disorder; GM = Grandiose-manipulative; CU = Callous-unemotional; DI = Daring-impulsive; CD = Conduct Disorder; TANT = Antisocial features; TAGG = Aggression; TDOM = Dominance; TALC = Alcohol problems; TDRG = Drug problems; TANX = Anxiety; TDEP = Depression. *N*'s total sample 328–342; *N*'s for boys 262–272 and girls *N*'s = 52–56. Bold indicates that correlation differences ≥ .20 between male versus female correlation. *t* = trend significance.

present study, the GM component was negatively associated with anxiety and depression, but positively correlated with dominance. Alternately, while the CU component exhibited a negligible correlation with anxiety, it exhibited a positive correlation with depression (see Garofalo et al., 2020). As expected, the PSCD components of DI and CD exhibited the highest correlations with alcohol and drug use. These findings are consistent with what has been found in the adult psychopathy literature (Hare et al., 2018) signaling the need for potential concern of substance use in those individuals with elevated DI and CD characteristics. Taken together, these findings indicate that the PSCD may offer pertinent clinical information pertaining not only to psychopathy, but also regarding greater mental health problems and the potential for alcohol and drug use among youth in residential facilities.

Association with Arrest History

Our SEM results indicated that a broad hierarchical psychopathy factor predicted arrest history for both males and females. These findings align with the literature on adult psychopathy, where higher total scores are associated with institutional infractions, other behavioral problems, and recidivism (Leistico et al., 2008).

Figure 1
Structural Equation Models for PSCD and Arrest History (Males = 315, Females = 71)



Note. PSCD = Proposed Specifiers for Conduct Disorder; GM = Grandiose-manipulative; CU = Callous-unemotional; DI = Daring-impulsive; CD = Conduct Disorder.

The findings indicate that the PSCD total score may provide important information regarding overall risk for offending.

Clinical and Diagnostic Implications

An increasing number of studies on youth psychopathy have shown that individuals with elevated PSCD scores are at increased risk for elevated mental health problems as well as concurrent and future antisocial behavior (Andershed et al., 2018; Déry et al., 2019; Somma et al., 2018). The present findings add to this evidence by demonstrating that the PSCD is correlated with a number of mental health problems, aggression, alcohol and drug use, and increased levels of (self-reported) arrest. Our results suggest that the PSCD should prove useful for clinical evaluation and the selection of treatment options among residential youth. For example, the types of problems youth experience may depend on the exhibited pattern of personality characteristics (GM, CU, DI, and CD). It is also possible that the PSCD domains, and thus the exhibited clinical presentations, differ in their etiology and developmental trajectories. If so, diagnostic protocols for CD and its variants would benefit from inclusion of the dimensions indexed by the PSCD. For instance, the current edition of the *Diagnostic and Statistical Manual of Mental Disorder* (*DSM-5*; American Psychiatric Association, 2013) uses the limited prosocial emotion (LPE) specifier for CD. The use of this sole specifier may mischaracterize CD youth with having the most mental health problems and antisocial conduct, when the broader concept and other components (GM and DI) offer even greater resolution (Colins et al., 2018; Déry et al., 2019; Somma et al., 2018). There is a similar concern with the recent edition of the *International Classification of Diseases* manual (ICD-11; World Health Organization, 2018) where there is limited coverage of the broader set of psychopathic personality components. The PSCD item early-onset for antisocial behavior was not significantly correlated with arrest, suggesting that personality specifiers may be helpful. We believe that clinicians can benefit from making use of a broader set of psychopathic personality characteristics plus CD in their evaluation of youth in residential facilities. If research continues to show differential relations at the dimension level, such findings may indicate that the mechanisms for each domain may be distinct. If the symptoms and mechanisms differ based on what psychopathy components are elevated, then diagnostic classification systems (DSM, ICD) may be able to provide far richer clinical descriptions of conduct problem youth by including a wider set of psychopathic characteristic domains to better specify CD variants.[5]

Limitations. The study has several limitations. First, the sample size, although reasonable for boys, was small for girls. Second, the sample was for a specific age range (16–19 years) and therefore may not generalize to younger or older age groups. Similarly, the sample was primarily white and therefore may not generalize to other races/ethnicities. Third, we relied on self-report measures and future research should include other measurement formats (e.g., interview, parent, collateral reports). Fourth, the study did not include a long-term predictive component. Thus, those individuals who scored high on psychopathy may not score high at later points in time. This may be particularly true as the alternate psychopathy measure used in this study (PAI-ANT) did not have long-term stability data to support the notion that PAI ANT scores are affiliated with adult psychopathy (Morey, 2007). However, as noted in the introduction, it is not necessarily expected that those scoring high on psychopathy scales in youth will maintain those high scores through to adulthood. Instead, some youth will decrease in level pf psychopathy, some will maintain the same level of psychopathy, and others may increase. This level of stability (and change) is expected from a developmental psychopathology perspective (Caspi et al., 2005) and will fortunately allow for the examination of risk and protective factors for Conduct Disorder as well as facilitate a better understanding of the mechanisms for the condition. Additional studies will be valuable in determining the course of CD and psychopathic characteristics, and in understanding the properties of the PSCD and potential CD variants. Finally, our study was limited in terms of the gender-based analyses. Nevertheless, our results are in line with research on delinquent youth samples showing females tend to display lower, yet relatively small differences from males in CD and psychopathic characteristics (Pechorro et al., 2013). Similarly, meta-analytic research indicates gender plays a modest role in terms of the associations between psychopathic features and various external correlates (Waller et al., 2020). In this context, the correlation between all the correlations in Table 3 for males versus females is .83, suggesting a high degree of similarity in PSCD associations with the external correlates across gender. Nonetheless, there were also about 20% of correlations that were notably different across gender, suggesting future avenues of research. For example, girls with elevated GM showed the lowest anxiety, and boys with elevated CU characteristics exhibited elevated depression.

Conclusion

Psychopathy encompasses a set of co-occurring interpersonal, affective, behavioral lifestyle, and antisocial characteristics (Salekin, 2017; Salekin & Hare, 2016). The present study demonstrated that a correlated four-factor model is applicable to youth, paralleling research with adults (Hare, 2003; Neumann et al., 2015). Reliability analyses showed that the PSCD total and factor scores had good internal consistency. Further, convergent and discriminant validity analyses demonstrated that the PSCD correlated positively with externalizing conditions and negligibly with internalizing conditions with youth in a residential facility. At the dimensional level, the PSCD component scores exhibited differential relations with psychopathology, which could be important for treatment considerations. Taken together, the findings indicate that the PSCD scores offer a reliable and valid measure of psychopathic characteristics on thus far tested indicators in children and adolescents. However, additional steps are needed to test the long-term stability of the PSCD. The inclusion of these personality characteristics in diagnostic manuals would help researchers and clinicians in their efforts to understand the etiology and development of child and adolescent psychopathy, and to provide more optimal treatment strategies.

[5] While we advocate for use of the construct in better understanding the etiology and treatment of the condition, we do caution against using the construct for psycho-legal evaluations. Appropriate cautions would be needed including specific statistics regarding stability and research on amenability to treatment.

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