

# An Investigation of Psychopathic Features among Delinquent Girls

## Violence, Theft, and Drug Abuse

Michael G. Vaughn  
Christina E. Newhill  
*University of Pittsburgh*

Matt DeLisi  
*Iowa State University*

Kevin M. Beaver  
*Florida State University*

Matthew O. Howard  
*University of North Carolina*

Although there has been intense interest in the application of the construct of psychopathy among juveniles, few studies have investigated psychopathic traits among adolescent females. To redress this, this study examines psychopathic features and tests their utility in predicting violent behavior, theft, and drug abuse in a statewide survey of 94 female juvenile offenders. Results indicate that interpersonal and affective facets of psychopathy, specifically narcissism and carefree nonplanfulness were significantly associated with violence and theft. Psychopathy features were not significantly associated with drug abuse. Study limitations and implications for future research are delineated.

**Keywords:** *delinquent girls; drug abuse; female violence; psychopathic traits; psychopathy*

Is the construct of *psychopathy* applicable to delinquent girls? To date, research that investigates psychopathic traits in adolescent offenders has overwhelmingly focused on males. Although the psychopathy construct has shown utility in predicting a wide range of antisocial behaviors in adult (Harris, Rice, & Quinsey, 1993; Hart, Hare, & Forth, 1994; Serin & Amos, 1995) and in juvenile offender samples (Falkenbach, Polythress, & Heide, 2003; Murrie, Cornell, Kaplan, McConville, & Levy-Elkon, 2004; Skeem & Cauffman, 2003; Vaughn & Howard, 2005), few investigations have focused on females (Odgers, Moretti, & Repucci, 2005). However, studies that have incorporated females in samples of psychopathic offenders tend to indicate that the construct is applicable across gender groups. For instance, Cale and

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Lilienfeld (2002) reviewed the psychopathy literature and found that it applied to female offenders in ways that were similar and dissimilar to male offenders, suggesting that more research is needed to understand the universality of applying psychopathy to multiple social groups.

## Literature Review

Psychopathy is a syndrome characterized by a deficient affective experience, aggressive ego-centered interpersonal style, lack of remorse and shame, a sense that social rules do not apply to oneself, an inability to feel empathy toward the suffering of others, and participation in a wide range of deviant behaviors such as physical assault, substance abuse, and family irresponsibility (Cleckley, 1976; Hare, 1996; Lynam, 2002; McCord & McCord, 1964). As previously mentioned, research to date on psychopathy among females is limited compared to males especially with respect to adolescents. Findings with adults indicate that psychopathic traits in adult female samples show that females consistently score lower on measures of psychopathy than males. These findings hold true for correctional (Hare, 1991; Jackson, Rogers, Neumann, & Lambert, 2002; Salekin, Rogers, & Sewell, 1997) and treatment samples (Rutherford, Alterman, Cacciola, & McKay, 1996). These studies of psychopathy in adult females were conducted using the Psychopathy Checklist–Revised (PCL-R; Hare, 1991), a structured assessment tool that scores psychopathy based on a file review and semistructured interview, although many studies are carried out based on scoring of the file review only (e.g., Campbell, Porter, & Santor, 2004; Gretton, Hare, & Catchpole, 2004; O’Neill, Lidz, & Heilbrun, 2001). Other research using the PCL-R with adult females found PCL-R Factor 1, reflecting affective and interpersonal traits, was predictive of recidivism in a sample of 78 adult female inmates (Salekin, Rogers, Ustad, & Sewell, 1998).

There is evidence that psychopathy may express itself differently by gender and be associated with other mental disorders. In a study of 103 female offenders using the PCL-R, Salekin et al. (1997) found significant differences in the factor structure for women versus men, with items related to impulsivity, lack of empathy, and interpersonal deception loading together for females. Hamburger, Lilienfeld, and Hogben (1996) noted that the relationship of psychopathy and histrionic personality was moderated by gender with a stronger association of histrionic personality traits to traits of psychopathy found among female than male undergraduates. More recently, Chabrol and Leichsenring (2006), in a nonclinical sample of 243 adolescents, found that certain borderline personality traits, such as identity diffusion and use of primitive defense mechanisms were significantly correlated with the psychopathic traits of callousness and impulsivity, as assessed by the French version of the Levenson Self-Report Psychopathy Scale (Levenson, Kiehl, & Fitzpatrick, 1995).

Although most studies of psychopathic traits among adolescents have been carried out among predominately male samples, there are findings worth noting about girls. Three studies involving adolescent females using PCL-based measures found they had lower scores than males (Gretton, 1998; Rowe, 1997; Stanford, Ebner, Patton, & Williams, 1994). However, two of these studies reported statistically nonsignificant findings (Gretton, 1998; Rowe, 1997). More recent research using the Psychopathy Checklist–Youth Version (PCL-YV; Forth, Kosson, & Hare, 2002) has found that there are no differences in the number of girls

who score high on this measure compared to boys (Campbell et al., 2004; Salekin, Neumann, Leistico, DiCicco, & Duros, 2004). Although using perhaps a different definition of psychopathy, Robins (1966) found that girls were less likely to meet diagnostic criteria for psychopathic personality than boys when they become adults. However, comorbid conditions, such as substance abuse/dependence and *DSM* cluster B personality disorders occur at higher rates in youth with high psychopathy scores irrespective of gender (Salekin et al., 2004).

One of the barriers to psychopathy research using the PCL and one of its variants (The Psychopathy Checklist Screening Version [PCL-SV]; Hart, Cox, & Hare, 1999; PCL-YV) centers on administrative limitations. The measures take up to 3 hr to administer, require a high level of interviewer training, and require access to sensitive legal and psychiatric case file information. Efforts have been made to develop easily administered self-report instruments assessing psychopathy (Frick & Hare, 2002; Lilienfeld & Andrews, 1996) and to “locate” the psychopathic personality within existing personality inventories or nosological frameworks (Miller & Lynam, 2003; Miller, Lynam, Widiger, & Leukefeld, 2001; Widiger & Lynam, 1998). Other brief self-report measures, such as the Antisocial Process Screening Device (APSD; Frick & Hare, 2002) and the Murrie and Cornell Psychopathy scale (MC-P) have been used with adolescents, but again, mostly with males (e.g., Caputo, Frick, & Brodsky, 1999; Lee, Vincent, Hart, & Corrado, 2003; Loney, Frick, Clements, Ellis, & Kerlin, 2003; Murrie & Cornell, 2002; Murrie et al., 2004; Spain, Douglas, Polythress, & Epstein, 2004).

In one of few studies using a self-report measure with an adolescent female sample, Vitacco, Neumann, Ramos, and Roberts (2003) found that poor parental monitoring and inconsistent parenting significantly predicted Narcissism ( $R^2 = .14$ ) and Impulsivity ( $R^2 = .21$ ) factors from the APSD among a sample of 136 Hispanic adolescent females. Beta weights indicated that inconsistent parenting was a stronger predictor than poor monitoring. The third factor of the APSD, Callous-Unemotional traits, was not significantly predicted by the poor parenting variables. Likewise, measures of sensation seeking, anxiety, and depression were not significantly associated with Callous-Unemotional traits. However, Narcissism and Impulsivity factors were significantly positively associated with measures of sensation seeking, anxiety, and depression ( $r$ 's = between .18 and .38). None of these correlations, however, established causality. Perhaps narcissistic and impulsive youth tend to have narcissistic and impulsive parents (who are also sensation seekers, depressed, and/or anxious) which leads to poor parenting. That is, this study does not resolve the question whether or not biological factors, parenting factors, or some interaction of these or other biological and environmental causes produces the impulsive/narcissistic phenotype. It does suggest that Callous-Unemotional traits may rest in more biological factors—a finding supported by recent genetic studies of Callous-Unemotional traits in 7-year-olds (Viding, Blair, Moffitt, & Plomin, 2005). Clearly, studies with samples of adolescent females, from either correctional or community settings, are needed to begin understanding the relevance of the psychopathy construct in relation to important outcomes for delinquent girls.

## Current Focus

The purpose of the current investigation is twofold. First, we assess the relationships between psychopathy subscale scores and drug abuse, theft, and violent delinquency among

females in a state population of residential youth referred by juvenile court. Second, we test the hypothesis that psychopathy subscale scores will predict increases in measures of violence, theft, and lifetime polysubstance use while controlling for demographic and relevant risk variables. Few investigations have studied psychopathy in whole populations of residentially incarcerated youth and, to our knowledge, no studies have investigated system-wide psychopathic features in adolescent females. We believe the current study will add to the evidence base by examining the relative weight that particular psychopathy subscales possess in understanding problem behavior among female juvenile offenders.

## Method

### Study Overview and Procedures

Residential rehabilitation services of the Missouri Division of Youth Services (DYS) are provided at 27 facilities administered by five regional offices. Facilities range in size from 8 to 102 beds, with an average of 27 beds per facility. DYS is the legal guardian of all residents who are committed to its care by the state's 45 juvenile courts. The DYS population is representative of incarcerated youth nationally with regard to the average age and gender distribution of offenders, percentage delinquent versus status offenders, and number of state youth currently incarcerated per 100,000 adolescents (Sickmund, 2005).

All current female residents at a facility were recruited for study participation. The sample recruitment protocol ensured that no youths who had completed the interview at one facility, then attempted to complete or were successful in completing the interview at another facility. Interviewing was completed over a 3-month period. The present sample represents the female population of current DYS residents at the time the study was undertaken and a large, representative sample of DYS annual residents. No seasonal, administrative, legislative, or clinical issues that might have operated to reduce the representativeness of the sample were found. All interviewers completed an intensive one-day training session, and an interview editor was on-site at each facility as youth were interviewed to minimize interviewer omissions and errors. DYS residents are under 24-hr-a-day supervision; thus, interviews were conducted in large rooms that provided private areas where confidential interviews could be conducted simultaneously with between three and six youth.

This study was approved by DYS, the Washington University Human Studies Committee, federal Office of Human Research Protection, and was granted a Certificate of Confidentiality by the National Institute on Drug Abuse (NIDA). Youth received US\$10 for their participation. All youth providing written informed consent completed the survey inventory. Table 1 displays the sample characteristics.

### Measures

*Psychopathic traits.* The 56-item Psychopathic Personality Inventory (Lilienfeld & Andrews, 1996) Short-Form (PPI-SF) was used in conjunction with the 20-item APSD (Frick & Hare, 2002) to gather information on psychopathic traits. The PPI-SF is based

**Table 1**  
**Characteristics of 94 Female Juveniles Incarcerated in State**  
**of Missouri Division of Youth Services Facilities**

	<i>N</i> (%)	<i>M</i> ( <i>SD</i> )
Ethnicity		
White	66 (70.2)	
Non-White	28 (29.8)	
Age		15.4 (1.1)
Grade Level		9.20 (1.2)
Region		
Urban	39 (41.5)	
Suburban	12 (12.8)	
Small town	37 (39.4)	
Rural or country area	6 (6.4)	
Family receipt of public assistance		
Yes	36 (38.3)	
No	56 (59.6)	
Time in custody (months)		6.6 (8.6)
PPI-SF score		135.5 (12.7)
APSD score		19.0 (5.5)

Note: PPI-SF = Psychopathic Personality Inventory Short-Form; APSD = Antisocial Process Screening Device.

directly on the 187-item PPI which has shown good reliability and usefulness as a self-report measure assessing psychopathic personality. The PPI and PPI-SF are highly correlated ( $r = .90$ ) and possess a Likert-type response format ranging from: 1 = *false*, 2 = *mostly false*, 3 = *mostly true*, and 4 = *true*. Unlike the APSD which is derived from the PCL, the PPI-SF is considered a “pure” personality inventory of psychopathy because it contains no items directly assessing antisocial behaviors. Originally designed with eight subscales theoretically-related to psychopathy, recent psychometric analyses of the PPI (Benning, Patrick, Hicks, Blonigen, & Krueger, 2003) suggest that it is composed of a two-factor structure consisting of a behavioral inhibition factor and an affective-interpersonal factor. No previous data exists on the PPI-SF. The total score internal consistency reliability in the current study was 0.61. The caregiver and self-report versions of the APSD have been used in more than 10 studies and are thought to be a useful screening measure of psychopathic traits. APSD items are scored on an ordinal scale, ranging from 0 (*not at all true*) to 2 (*definitely true*). Support for a 3-factor model consisting of impulsivity, callous-unemotional traits, and narcissism factors has been found (Vitacco, Rogers, & Neumann, 2003). The total APSD reliability in the study population was 0.85. Table 2 provides exemplar items drawn from each subscale of the psychopathy measures used.

*Drug abuse.* A multi-item polysubstance use matrix was used to determine past year drug use severity ( $\alpha = .88$ , range, 0–126). This composite index is derived from a comprehensive questionnaire that assessed 14 types of substance use including substances, such as alcohol, cocaine, ecstasy, heroin, marijuana, and many others.

**Table 2**  
**Psychopathy Subscales and Exemplar Items**

	Representative Item
APSD	
Impulsivity	“You act without thinking of the consequences.”
Narcissism	“You brag a lot about your abilities, accomplishments, or possessions.”
Callous-unemotional	“You feel bad or guilty when you do something wrong.” (reverse scored)
PPI-SF	
Fearlessness	“I might enjoy flying across the Atlantic in a hot-air balloon.”
Blame externalization	“People whom I have trusted have often ended up ‘double-crossing’ me.”
Stress immunity	“I am easily flustered in pressured situations.” (reverse scored)
Coldheartedness	“It bothers me greatly when I see someone crying.” (reverse scored)
Impulsive nonconformity	“I’ve always considered myself to be something of a rebel.”
Social potency	“I find it easy to go up to someone I’ve never met and introduce myself.”
Carefree nonplanfulness	“I am an ambitious person.” (reverse scored)
Machiavellian egocentricity	“Frankly, I believe I am more important than most people.”

Note: APSD = Antisocial Process Screening Device; PPI-SF = Psychopathic Personality Inventory Short-Form.

*Violent and theft offenses.* These offense groups were derived from the Self-Report of Delinquency (SRD) modeled directly after the measure used in the National Youth Survey (Elliott, Huizinga, & Ageton, 1985; Elliott, Huizinga, & Menard, 1989) and asks respondents type and frequency of past year offending. This instrument is well established and has been in use for approximately 20 years. Reliability analyses on the violent offending scale were 0.73 and 0.84 for the theft scale. Counts of past year self-reported violent offenses and theft ranged from 0 to 35 and 0 to 52, respectively.

## Analytic Plan

After presenting descriptive statistics for the study sample, several analyses (described below) were employed to meet the study objectives. First, we examined the convergent validity for the total scores and subscale relationships between the APSD and the PPI-SF using zero-order correlations and generation of a receiver operator characteristic (ROC) graph. Second, a correlation matrix was computed for study variables with particular attention paid to psychopathy factors and the major criterion variables in the study: violent offending, theft, and drug abuse. Significant psychopathy factors and subscale variables at the bivariate level were then retained for analyses in the multivariate models. In addition to significant psychopathy variables, theft was included for the model predicting drug abuse and vice versa for theoretical reasons (i.e., stealing to buy drugs). Similarly, drug abuse was included with significant psychopathy features in predicting violence. Because the sample size is not large, we were careful to not burden the multivariate models with additional variables to maximize available statistical power. With respect to the dependent variables *violent* and *theft offending*, we used negative binomial regression executed with the generalized linear models function in SPSS 15.0. This technique was used because violent and theft offenses are count variables and represent a Poisson distribution. The employment of negative binomial

modeling allows for the overdispersed nature of count data and provides more accurate modeling estimates of these types of variables compared with standard Poisson and least squares regression (Gardner, Mulvey, & Shaw, 1995). For the interval-level variable, drug abuse, ordinary least squares (OLS) regression was appropriate. Regression diagnostics were conducted to test for multicollinearity and help ensure unbiased estimates. In addition, normality of residuals was checked to ensure OLS regression assumptions.

## Results

### Sample Characteristics

The total number of respondents to the study was 94. White females comprised 70.2% ( $n = 66$ ) of the sample population, while non-Whites (primarily African Americans) accounted for 29.8% ( $n = 28$ ). Youth reported residing in the following regions: urban ( $n = 39$ , 41.5%), suburban ( $n = 12$ , 12.8%), small town ( $n = 37$ , 39.4%), and rural or country area ( $n = 6$ , 6.4%). The number of respondents who reported their family received public assistance was 38.3% ( $n = 36$ ), with 59.6% ( $n = 56$ ) who did not receive. The mean age of the population was 15.4 years ( $SD = 1.1$ ), and the mean grade level was 9.2 ( $SD = 1.2$ ). The average time in custody was 6.6 months ( $SD = 8.6$ ). The mean scores for the psychopathy measures were 135.5 ( $SD = 12.7$ ) for the PPI-SF and 16.9 ( $SD = 5.9$ ) for the APSD. The mean score difference between Whites and non-Whites was not statistically significant in chi-square tests and the effect size difference (Cohen's  $d$ ) was negligible. In addition, chi-square tests found no significant psychopathy total score proportional differences were found with respect to family receipt of public assistance, region, grade level, or time in custody.

### Relationships Between Psychopathy Measures

As shown in Table 3, the correspondence between the PPI-SF and APSD total score was moderate ( $r = .33$ ,  $p < .001$ ). Machiavellian Egocentricity subscale was correlated positively with all three APSD factors, but most strongly with narcissism ( $r = .68$ ,  $p < .01$ ). Social potency (extraversion) was not significantly associated with any APSD factors. Moderate positive correlations ( $p < .01$ ) were found for the Carefree Nonplanfulness subscale and all three APSD factors. Coldheartedness was moderately correlated with APSD callous-unemotional trait ( $r = .41$ ,  $p < .01$ ). Stress Immunity subscale of the PPI-SF was negatively correlated with all three APSD factors. To further examine the relationship between the PPI-SF and the APSD, we tested the overlap by using a ROC graph assessing the area under the curve (AUC). Specifically we used a one standard deviation above the mean cut-point on the APSD and tested the sensitivity of the PPI-SF to correctly classify girls scoring above this threshold. This cut-point was chosen because the APSD descended from the PCL-R, and this is how psychopaths are classified with this instrument. As revealed in Figure 1 the PPI-SF was moderately successful at correctly classifying the APSD psychopath with a sensitivity of 69% AUC ( $SE = 0.68$ ,  $p = .007$ ). A score of 142 or better (range = 113–174) on the PPI-SF would have been need to raise the sensitivity above 80%.

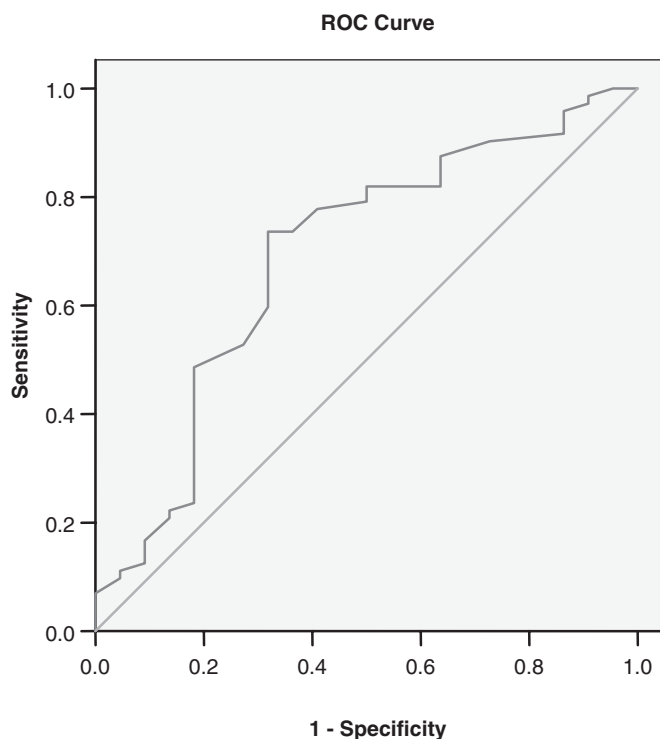
**Table 3**  
**Correlations between the Psychopathy Measure Factors and Subscales and Criterion Variables (N = 94)**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Machiavellian egocentricity	—													
2. Social potency	-.14	—												
3. Coldheartedness	-.27**	.05	—											
4. Carefree-nonplanfulness	.32**	-.07	.03	—										
5. Fearlessness	.16	.05	-.12	.05	—									
6. Blame-external	.34**	-.29**	-.39**	.08	-.10	—								
7. Impulsive-nonconformity	.32**	-.26**	-.06	.20*	.38**	.33**	—							
8. Stress immunity	-.31**	.24*	.41**	-.28**	.00	-.34**	-.06	—						
9. Impulsivity	.47**	-.15	-.16	.48**	.02	.29**	.23*	-.32**	—					
10. Narcissism	.68**	-.10	-.05	.39**	-.01	.27**	.27**	-.21*	.61**	—				
11. Callous unemotional trait	.35**	-.09	.41**	.47**	-.08	-.02	.18	-.08	.48**	.50**	—			
12. Violence	.27**	.17	-.12	.32**	.01	.15	.09	-.07	.25*	.39**	.22*	—		
13. Theft	.32**	.09	-.01	.33**	-.03	.04	.09	.02	.28**	.37**	.23*	.43**	—	
14. Drug abuse	.18	-.04	.02	.16	.04	.21*	.12	-.16	.26*	.15	.22*	.22*	.40**	—

Note: PPI-SF = Psychopathic Personality Inventory Short-Form; APSD = Antisocial Process Screening Device. PPI-SF and APSD total score correlation ( $r = .33$ ,  $p < .001$ ). Not shown due to space limitations.

\* $p < .05$ . \*\* $p < .01$ .

**Figure 1**  
**ROC Results Assessing the Overlap between the**  
**PPI-SF and the APSD Psychopath.**



Note: ROC = receiver operator characteristic; PPI-SF = Psychopathic Personality Inventory Short-Form; APSD = Antisocial Process Screening Device. Null hypothesis = 0.5.

### **Violence, Theft, and Drug Abuse**

For violence and theft (see Tables 4 and 5), negative binomial statistical models indicated significant overall models ( $p < .05$ ). With respect to violence, PPI-SF carefree nonplanfulness (Wald  $\chi^2 = 6.41$ ,  $p = .011$ ) and APSD narcissism (Wald  $\chi^2 = 7.96$ ,  $p = .005$ ) were significant predictors. PPI-SF Machiavellian egocentricity and APSD factors, callous-unemotional and impulsivity were not significant in both models. Carefree nonplanfulness (Wald  $\chi^2 = 7.98$ ,  $p = .005$ ) and narcissism (Wald  $\chi^2 = 3.80$ ,  $p = .05$ ) were important predictors as well as drug abuse (Wald  $\chi^2 = 11.41$ ,  $p = .001$ ) for theft. Because of the small sample size, however, caution with regard to ruling out the potential explanatory value of other psychopathy factors is warranted.

As shown in Table 6, multiple regression model results predicting drug abuse ( $F = 4.60$ ,  $df = 5$ ,  $p < .001$ ) accounted for approximately 21% of explained variance. The primary driver in the model was theft ( $b = .527$ ,  $\beta = .338$ ,  $p = .002$ ). No other independent variable was significant, however, blame externalization, approached significance ( $p = .08$ ). Output for regression models appears in Tables 4, 5, and 6.

**Table 4**  
**Negative Binomial Model Predicting Violence ( $N = 94$ )**

Variable	Coefficient	SE	Wald	<i>p</i> Value
PPI-SF Machiavellian egocentricity	-.001	.002	.216	<i>ns</i>
PPI-SF carefree nonplanfulness	.006	.002	6.41	.011
APSD impulsivity	-.001	.005	.035	<i>ns</i>
APSD callous-unemotional	-.006	.004	2.17	<i>ns</i>
APSD narcissism	.008	.003	7.96	.005
Drug abuse	.001	.001	1.55	<i>ns</i>
Intercept	-.224	.046	23.06	< .001
Omnibus likelihood ratio $\chi^2$ test	13.67*			

Note: PPI-SF = Psychopathic Personality Inventory Short-Form; APSD = Antisocial Process Screening Device.  
 \* $p < .05$ .

**Table 5**  
**Negative Binomial Model Predicting Theft ( $N = 94$ )**

Variable	Coefficient	SE	Wald	<i>p</i> Value
PPI-SF Machiavellian egocentricity	.001	.001	.01	<i>ns</i>
PPI-SF carefree nonplanfulness	.003	.001	7.98	.005
APSD impulsivity	.001	.003	.02	<i>ns</i>
APSD callous-unemotional	-.003	.002	2.18	<i>ns</i>
APSD narcissism	.003	.002	3.80	.051
Drug abuse	.001	.001	11.41	.001
Intercept	-.157	.030	27.42	< .001
Omnibus likelihood ratio $\chi^2$ test	13.74*			

Note: PPI-SF = Psychopathic Personality Inventory Short-Form; APSD = Antisocial Process Screening Device.  
 \* $p < .05$ .

**Table 6**  
**Ordinary Least Squares (OLS) Regression Model**  
**Results Predicting Past Year Drug Abuse ( $N = 94$ )**

Variable	<i>b</i>	SE	$\beta$	<i>p</i> Value
Theft	.527	.168	.338	.002
Violence	.028	.238	.013	<i>ns</i>
PPI-SF blame externalization	.731	.416	.179	<i>ns</i> *
APSD impulsivity	.351	.928	.044	<i>ns</i>
APSD callous-unemotional	1.081	1.044	.115	<i>ns</i>
<i>F</i> (main effects)		4.59		.001
<i>R</i> <sup>2</sup>		.207		

Note: PPI-SF = Psychopathic Personality Inventory Short-Form; APSD = Antisocial Process Screening Device.  
 \* $p = .08$ .

## Discussion

We investigated the construct of *psychopathy* and examined relationships between psychopathy subscale scores and violence, theft and drug abuse among delinquent girls in a state population of residential youth referred by juvenile court. Specifically, we hypothesized that psychopathy subscale scores would predict increases in measures of violence, theft, and drug abuse net the effects of demographic and relevant predictor variables. The current study mostly supported the hypotheses. Psychopathic traits do possess validity in predicting violence and theft but not drug abuse. Specific traits such as carefree nonplanfulness and APSD narcissism, however, are more predictive than others for these outcomes. These findings suggest that interpersonal and affective facets of psychopathy are important with respect to these outcomes among antisocial adolescent females.

That many of the psychopathy factors entered in the regression models were not significant can at least be partially attributable to the sample size of 94 females. Statistical power to detect significant relationships would have benefited from a larger sample of delinquent girls. We also lacked diagnostic measures of major mental health disorders, which would have enhanced our ability to assess the effect of comorbid conditions. Furthermore, the self-report measures of psychopathy are subject to the usual criticism of self-reports and the additional criticism that these measures are highly vulnerable to dissimulation among individuals who are psychopathic. Given the sample comprised entirely of juvenile offenders and thus constitutes an “enriched sample,” an additional limitation concerns the generalizability of the findings outside of juvenile justice settings.

Future research examining psychopathic traits among adolescent females should assess the convergent validity between interpersonal facets such as narcissistic factors and anxiety and depressive disorders. We suggest this because we found at the bivariate level (not shown) that psychopathy factors, particularly narcissism, were positively correlated with internalizing symptoms such as anxiety, depression, and paranoid ideation. Ideally, longitudinal studies with larger samples of girls that assess the development of psychopathic traits in relation to measures of instrumental and reactive interpersonal violence would be of great utility. Qualitative data detailing the specific situational encounters leading to violence relative to interpersonal psychopathy facet scores would be illuminating in terms of identifying those situational factors that enhance risk as well and those that serve to buffer risk. Such information could be used to guide the focus of future treatment development efforts. For example, research has shown that males and females may not differ significantly in frequency and seriousness of violence in the community; however, they do differ on whom the violence is directed toward and the context in which the incident takes place (Newhill, Mulvey & Lidz, 1995).

With respect to drug abuse, more detailed information regarding the social contextual and peer influences on substance abuse would also be useful in understanding the expression of psychopathic traits in relation to these factors. Given that a previous study (Vitacco, Newmann, et al., 2003) revealed that poor parental monitoring and inconsistent parenting significantly predicted narcissism and impulsivity suggests an avenue for future research as well as a prevention and intervention possibility. It may be that certain parenting practices exert differential effects on girls as compared to boys (Gottfredson & Hirschi, 1990, pp. 144-149).

Although gender differences in the reported prevalence of mental health disorders show that boys are more likely to be diagnosed with externalizing disorders involving disruptive behavior, whereas girls are more likely to be diagnosed with internalizing disorders, such as anxiety and depression (e.g., Hartung & Widiger, 1998), studies in juvenile detention settings reveal that, overall, girls possess higher levels of mental health problems compared to boys (Teplin et al., 2002).

What are the implications of these findings for the treatment of girls, especially those with psychopathic traits, in the juvenile justice system? Although for a long time, there existed little evidence that psychopathy was treatable (Hare, 1992), recent research has disputed this claim, even showing that psychopathic adults are as likely as nonpsychopathic adults to benefit from treatment (Skeem, Monahan, & Mulvey, 2002). In this latter research, a reduction in violence was observed as the primary desirable outcome of treatment involvement; however, the question of how much the treatment of psychopathy can really reduce involvement in violent offending is an open question. The effectiveness of treatment efforts with juveniles possessing psychopathic features has also not been examined. However, research suggests that the earlier intervention is applied, the better the outcome (DeLisi, 2005). Unfortunately, because children often are not involved in the juvenile justice system until they are age 10 to 13 years, the window for the most effective early intervention may be missed (Loeber et al., 2003)

Approaching the diagnosis and treatment of any personality pathology in youth, however, requires caution. For instance, certain problem behaviors may be developmentally appropriate in early adolescence; however, in late adolescence or adulthood such behaviors would be reflected in symptom criteria for a personality disorder diagnosis (Moffitt, 1993). Adolescents differ across individuals in rates of normal growth and development, and thus, whether a behavior is developmentally appropriate may even vary across different ages within a group of adolescents. Nevertheless, among adults who meet criteria for a personality disorder symptoms of the disorder can usually be identified retrospectively beginning during the adolescent years (Cohen & Crawford, 2005). Recognizing that considerable stigma may be associated with a diagnosis of personality disorder including psychopathy (Yudofsky, 2005), Vitacco and Vincent (2006) suggested a number of recommendations for ethical practice with antisocial youth. These recommendations include avoiding labeling a youth as a “psychopath”; conducting comprehensive assessments across time that address factors beyond whether or not the youth meets a certain cut-off point for psychopathy; considering protective factors that may buffer risk, such as good social support; considering the range of environmental factors that may serve to elevate or buffer risk; and identifying treatment strategies that are specifically appropriate for targeting adolescents who evidence psychopathy and/or other traits of antisocial personality. Future clinical research efforts should aim to clarify the nature of the most effective strategies and examine whether different approaches may be needed for girls versus boys.

To some extent, the relative dearth of studies on psychopathic traits in adolescent females is a function of their numbers in juvenile justice settings compared to males. There are indications, however, that this is changing and that growing numbers of youthful females will be involved in the justice system (see DeLisi, 2002; Trulson, 2007). The concern about gender bias in diagnosing personality pathology is long standing and remains unresolved (Millon,

Grossman, Millon, Meagher, & Ramnath, 2004). It is important to study the construct of *psychopathy* among girls because it may shed light on the universality of psychopathic traits and bring to bear other extensions of gender research inquiry. The current investigation of psychopathic traits revealed the important role of interpersonal components and their association with violence, theft, and drug abuse. These findings suggest that follow-up studies with larger numbers of females and a wider range of measures would be useful. Such efforts are crucial in mitigating the individual, family, community, and legal costs exacted by individuals whose behavior is shaped by psychopathic traits.

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**Michael G. Vaughn** is assistant professor in the School of Social Work, University of Pittsburgh. He has published more than 40 papers on such topics as youth violence, juvenile psychopathy and psychopathology, biosocial dynamics and adolescent drug abuse. He is currently working on several research projects related to these areas.

**Christina E. Newhill** is associate Professor in the School of Social Work, University of Pittsburgh. She is primarily interested in personality disorders and has published widely on the topic. Her current research is on the clinical dimensions of borderline personality disorder and emotional dysregulation.

**Matt DeLisi** is coordinator of Criminal Justice Studies and associate professor in the Department of Sociology at Iowa State University. His most recent book is *Violent Offenders: Theory, Research, Public Policy, and Practice* (2008).

**Kevin M. Beaver** is an assistant professor in the College of Criminology and Criminal Justice at Florida State University. He received his doctoral degree and his master's degree in criminal justice from the University of Cincinnati. His current research focuses on examining the biosocial and genetic correlates to serious violence.

**Matthew O. Howard** is the Frank Daniels Professor in the School of Social Work at the University of North Carolina at Chapel Hill. He has published over 100 papers on such topic as adolescent inhalant abuse, antisocial personality disorder, youth violence, and juvenile psychopathy.