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Psychopathic Traits and Their Association with Adjustment Problems in Girls

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Abstract

Rationale—Psychopathic traits, and specifically callous-unemotional (CU) traits, are associated with a variety of adverse outcomes in adolescence and adulthood. The majority of research in this area has focused on men and boys, though there is some evidence that psychopathy is expressed differently in girls and women.

Objectives—The purpose of this study was to test if the relationships of callous-unemotional (CU) traits with adjustment differed between girls and boys at risk for antisocial behavior.

Methods—Children whose biological father had past or current alcohol or drug problems were recruited for this research. A total of 234 children (116 boys, 118 girls; ages 10–12) were rated by their parent or guardian on CU traits and overall adjustment.

Results—Boys were generally rated higher on measures of CU traits; however, these traits were more prominently related to adjustment problems among girls.

Conclusions—These results suggest that expression of psychopathic traits may have more negative effects on adjustment for girls than boys. One possible mechanism by which CU traits could be impacting adjustment in girls is by impairing interpersonal relationships.

Keywords

Children; Psychopathy; Antisocial Personality; Childhood Adjustment

Psychopathic traits and behaviors are associated with a variety of adverse outcomes. In children and adolescents, psychopathy ratings derived from interviews, self-report assessments, and actuarial data have been shown to correlate with a number of socially undesirable behaviors. Adolescents with higher levels of psychopathy show more juvenile delinquency and criminality (Piatigorsky & Hinshaw, 2004; Salekin, Leistico, Neumann, DiCicco, & Duros, 2004), as well as increased recidivism (Edens, Campbell, & Weir, 2007 2007), aggression (Edens, Skeem, Cruise, & Cauffman, 2001), and externalizing problems (Salekin et al., 2004). Psychopathy ratings have also been shown to predict institutional infractions and long-term violence potential in adults (Hare & Hervé, 1999; Lyon & Ogloff, 2000).

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Although psychopathy has been consistently associated with problem behaviors, much of this research has focused on men. Psychopathy is typically recognized as more prevalent among men (Salekin, Rogers, Ustad, & Sewell, 1998); base rates range from 15% to 30% among men and 9% to 23% among women (Vitale, Smith, Brinkley, & Newman, 2002). However, this gender difference may be, at least partially, an artifact of methods used to diagnose psychopathy, as well-known psychopathy assessment tools (e.g., Psychopathic Personality Inventory [PPI; Lilienfeld & Andrews, 1996]; the revised Psychopathy Checklist [PCL-R; Hare, 1985]) were developed and normed using male samples. It has been suggested that the strategy of applying male models of psychopathy to explain behaviors in women is problematic. For instance, Conduct Disorder diagnostic criteria has been shown to miss antisocial behavior in many antisocial girls (Zoccolillo, Tremblay, & Vitaro, 1996 1996) and the Psychopathy Checklist (Hare, 2003) scores have lower means and identify a lower prevalence of psychopathy in incarcerated women than in incarcerated men (Salekin et al., 1998; Salekin, Rogers, & Sewell, 1997; Vitale, & Newman, 2001). This indicates possible differences in the relationship between psychopathic traits and antisocial behaviors by gender: women whose behavior includes the types of antisocial acts that are associated with psychopathy in men do not receive the same ratings on measures designed to assess psychopathy.

Research on psychopathy in women is becoming increasingly important, as women have the fastest growing rates of criminal involvement and engagement in the legal system (FBI, 2011). However, understanding of psychopathic traits in women is limited by the focus on men in the majority of research relating to psychopathy and antisocial behavior. The few studies that have examined gender differences in this area suggest that gender role socialization and biological gender differences might result in psychopathic traits being expressed differently by gender (Cale & Lilienfeld, 2002; Hamburger, 1996; Logan, 2004). In general, women are less likely than men to participate in behaviors that are often considered the hallmarks of psychopathy: violent acts, harming animals, setting fires, and destroying property (Goldstein, Power, McCusker, & Mundt, 1996). Instead, psychopathy in women has been shown to relate to nonviolent antisocial behavior, such as relational aggression (e.g., Crick, 1995) and financial irresponsibility (Goldstein et al., 1996). Women who commit antisocial acts are also more likely than men to target individuals in their social network, such as family, friends, or acquaintances (Robbins, Monaghan, & Silver, 2003), and they are more likely be abusive and neglectful of children than are men with antisocial tendencies (Goldstein et al., 1996).

Studies measuring the utility of psychopathy ratings in the prediction of future antisocial behavior have indicated weaker relationships among women than among men. Psychopathy (as measured by the PCL-R) has been shown to reliably predict violent recidivism better in men than in women (Grann, Långström, Tengström, & Kullgren, 1999; Hare, Clark, Grann, & Thornton, 2000; Salekin et al., 1998). Similarly, ratings of youth psychopathy (as measured by the Psychopathy Checklist: Youth version, [PCL:YV; Forth, Kosson, & Hare, 2003]) have limited ability to predict future offenses in incarcerated adolescent girls (Odgers, Moretti, & Reppucci, 2005; Vincent, Odgers, McCormick, & Corrado, 2008).

Core components of psychopathy include Callous-Unemotional (CU) traits: lack of remorse, poor empathy, and superficial and restricted affect. These traits indicate a deficient emotional experience and impaired interpersonal functioning. Among children and adolescents, CU traits are associated with more severe and aggressive antisocial behavior (Frick & White, 2008; Frick, Stickle, Dandreaux, Farrell, & Kimonis, 2005; Rowe, Maughan, Moran, Ford, Briskman, & Goodman, 2010). Additionally, longitudinal research shows CU traits, measured in childhood and early adolescence, can predict future psychopathy (Burke, Loeber, & Lahey, 2007; Lynam, Caspi, Moffitt, Loeber, &

Stouthamer-Loeber, 2007) and antisocial behavior (Dadds, Fraser, Frost, & Hawes, 2005), and may in fact be more predictive of delinquency in girls than in boys (Frick, Cornell, Barry, Bodin, & Dane, 2003).

The purpose of the present study was to address the gaps in the literature regarding gender comparisons in the relationships between callous-unemotional traits and adjustment. In this study, CU traits were measured using the Inventory of Callous-Unemotional Traits (Frick & Morris, 2004) and emotional and behavioral adjustment and functioning were assessed using the Childhood Behavior Checklist (Achenbach, 2001). Participants were children and parents enrolling in a large longitudinal project focused on adolescent development. Children whose father met lifetime criteria for a substance use disorder were targeted for enrollment in this research because these individuals are at increased risk for aggressiveness and antisocial behaviors (Sher, Grekin, & Williams, 2004; Sher & Trull, 1994; Tarter, Kirisci, Mezzich, Cornelius, Pajer, Vanyukov et al., 2003). Because antisocial tendencies in early life have been associated with developmental trajectories leading to impairment in a variety of areas (Silverthorn & Frick, 1999), the primary goal of this research was to examine behavioral deficits in girls and boys with higher levels of CU traits. An additional aim was to characterize gender differences in the pattern of relationships between CU traits and adjustment in order to improve identification of early indicators of psychopathy and antisocial behavior in girls, as researchers have argued that early identification of psychopathy can provide a basis for targeted interventions to reduce risk of negative outcomes (Frick, Bodin, & Barry, 2000; Salekin, Rogers, & Machin, 2001).

METHODS

Participant Recruitment and Screening

A total of 234 children (116 boys, 118 girls) from families with problems with drug and alcohol misuse were assessed on skills, behaviors, and personality traits as rated by their parent or guardian. Children were recruited primarily from radio advertisements broadcast in the greater San Antonio, Texas area.

Screening—Respondents to advertisements were invited, along with their parent or guardian, for an on-site screening appointment lasting approximately four hours. Screening procedures included informed consent, physical examination by a physician's assistant, and intelligence testing (*Wechsler Abbreviated Scale of Intelligence*™ [WASI: The Psychological Corporation, 1999]). There was also a psychiatric diagnostic evaluation of the children (Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version; *K-SADS-PL*; Kaufman, Birmaher, Brent, Rao, Flynn, Moreci et al., 1997), and an evaluation of psychiatric and substance abuse issues in first- and second-degree relatives (Family History Assessment Module; FHAM; Janca, Bucholz, Janca, & Jabos-Laster, 1991). Children answered questions about their own alcohol and illicit drug use; additionally breath tests for alcohol (AlcoTest® 7110 MKIII C device; Draeger Safety Inc., Durango, CO) and urine tests for drugs (Panel/Dip Drugs of Abuse Testing Device; Redwood Biotech, Santa Rosa, CA) were conducted.

Sample Selection—Inclusion criteria were: age 10–12 years and a biological father with past or current drug or alcohol problems. Exclusionary criteria included physical or neurological conditions that would interfere with study participation, DSM-IV Axis I psychiatric disorder (other than Oppositional Defiant, Conduct, Attention-Deficit/ Hyperactivity, or Anxiety Disorder), any history of drug or alcohol use, and IQ < 70. The Institutional Review Board of The University of Texas Health Science Center at San

Antonio approved the study procedures and privacy was further protected by a Certificate of Confidentiality from the Department of Health and Human Services.

Experimental Procedure

During the experimental session, parents completed measures regarding the child's emotional and behavioral adjustment (Childhood Behavior Checklist [CBCL; Achenbach, 2001]) and the presence of callous and unemotional traits in the child (Inventory of Callous-Unemotional Traits [ICU; Frick et al., 2003]). Parent report was the focus of this study because previous reports indicate accuracy of self- versus observer report changes with development: parent/observer report of emotional and behavioral functioning appears to be more accurate than self-report for younger children but not older adolescents (Guyatt, Juniper, Griffith, Feeny, & Ferrie, 1997; Kamphaus and Frick, 2002). Only one parent or guardian participated for each child in this study.

Child Behavior Checklist—Measures of competencies and syndromes were collected from the parent or guardian who accompanied the child to testing sessions using the Child Behavior Checklist (Achenbach, 2001). Competencies reflect strengths and skills related to adaptive functioning, which were rated in domains of Activities (sports, recreation, jobs, and chores), Social (group activities and relationships) and School (performance in academic subjects). Besides competencies, ratings were provided for "syndrome scales," which are 10 general domains of problems that tend to co-occur (Achenbach & Rescorla, 2001). The competencies and syndromes were the focus of comparisons to describe the relative functional level of the sample and relationships with callous-unemotional (CU) traits.

Inventory of Callous-Unemotional Traits—The Inventory of Callous-Unemotional Traits (ICU; Frick et al., 2003) is a 24-item questionnaire designed to provide a comprehensive assessment of CU traits. The ICU has three subscales: Callousness, Uncaring, and Unemotional. Each parent or guardian responded to questions about their child's CU traits. Previous research has demonstrated that higher ratings of callous and unemotional traits are significantly related to antisocial behavior (Frick et al., 2005) and abnormal processing of emotional information (Loney, Frick, Clements, Ellis, & Kerlin, 2003; Woodworth & Waschbusch, 2008).

Analyses

The analytic strategy was first to describe the characteristics of the sample, then to examine the relationship between CBCL ratings and CU traits. General characteristics of the sample are reported, including means and standard deviations for continuous variables and percent for categorical variables. Parent ratings on the CBCL and ICU traits were evaluated in several ways. First, mean scores for each gender on both measures were compared using independent samples t-tests (Table 2). Next, the correlation (Pearson's *r,* two-tailed) between each of the CBCL scales and CU total and subscale scores was tested separately by gender, and the magnitude of differences between these correlations was evaluated using Fisher's z transformation (Table 3). All analyses were conducted using CBCL t-scores based on normative data (Assessment Data Manager, ADM™; Achenbach, 2006) and raw scores for CU traits.

RESULTS

Participant Characteristics

Ratings of 118 girls and 116 boys were collected and compared. The characteristics of these children were as follows: they were on average 11 years of age, of average IQ, predominantly Hispanic, and of average socioeconomic status (see Table 1).

There were no gender differences in scores on the ASEBA scales, but boys were rated higher than girls on total ICU score, as well as the Uncaring and Unemotional subscales (see Table 2).

Associations between CU Traits and ASEBA Scales

Overall there were moderate correlations between ICU scores and ASEBA Competencies and Syndromes scale scores in both genders across many of the scales. The best overall estimate of CU traits, Total ICU score, was significantly related to nearly all ASEBA scales in both genders (Table 3).

Although there was an overall association between these two measures in all participants, the patterns of correlations between individual scales differed between girls and boys. Among boys, the strongest correlations were between CU traits and Rule-Breaking Behavior, Aggressive Behavior, and Withdrawn/Depressed. Among girls, the strongest correlations were between CU traits and Attention Problems, Aggressive Behavior, and Withdrawn/Depressed, as well as two scales indicating interpersonal problems: Social Competence and Social Problems.

In order to assess whether there were gender differences in the magnitude of the correlation coefficients obtained in the comparisons between ASEBA and ICU scales, Fisher Z transformations were applied to the correlation coefficients and the differences between the boys' and girls' Z scores were calculated and tested for significance. The correlation between the ASEBA Activities scale and the ICU Callous scale was larger among girls than among boys ($z = 2.3$, $p = .01$, one-tailed); the correlation between the ASEBA Social Problems scale and the ICU Unemotional scale was similarly larger among girls than among boys ($z = 2.25$, $p = .01$, one-tailed). The correlations observed among girls were also larger than those observed among boys for the ASEBA Attention Problems scale and the ICU Callous scale ($z = 1.89$, $p = .03$, one-tailed), ICU Unemotional scale ($z = 3.03$, $p = .001$, one-tailed), and ICU Total scale ($z = 2.45$, $p = .007$, one-tailed). These results support the hypothesis that relationships between CU traits and the behaviors and abilities rated on ASEBA scales are not equivalent between boys and girls.

Additionally, several ASEBA scales correlated significantly with the Unemotional subscale of the ICU among girls, including the two scales describing interpersonal problems, but only the relationship between the Unemotional scale and Withdrawn/Depressed was significant among boys. Although the gender differences in the magnitude of these correlations, as measured using Fisher z transformations, were only significant for the Social Problems and Attention Problems scales, the finding that relatively higher Unemotional scores among girls are related to a greater number of elevations on the ASEBA scales is worth noting. Specifically, higher scores on the Unemotional scale were related to poorer competence in the areas of Activities and Social, as well as overall competence, and were related to more Anxious/Depressed, Withdrawn/Depressed, Social, and Attention problems, as well as overall problems among girls. These results suggest that less emotionality results in more diffuse impairments among girls than among boys.

DISCUSSION

This study involved a comparison of callous and unemotional (CU) traits with adjustment in boys and girls at elevated risk for antisocial behavior. Boys were generally rated higher on measures of CU traits, although these traits were related more strongly and to a wider array of adjustment problems among girls. These results suggest that expression of psychopathic traits may have more negative consequences, in terms of adjustment, for girls than boys.

These results are consistent with previous findings demonstrating a gender difference in psychopathy. The finding that men and boys score higher on measures of psychopathy and CU traits than women and girls has been consistently found in a variety of populations (Essau, Sasagawa, & Frick, 2006; Forth, Brown, Hart, & Hare, 1996; Kimonis, Frick, Skeem, Marsee, Cruise, Munoz et al., 2008; Nicholls, Ogloff, & Douglas, 2004; Stickle, Kirkpatrick, & Brush, 2009; Viding, Simmonds, Petrides, & Frederickson, 2009). One explanation for this gender difference has been that the criteria used to assess psychopathy tend to be biased toward male-typical expression of psychopathic traits (Frick & Viding, 2009). As a result, psychopathy in girls may be underreported. A lower rate of identification of psychopathy in girls is problematic because psychopathy and antisocial tendencies in girls, though typically not identified until adolescence, are associated with a similar level of overall impairment as childhood-onset psychopathy in boys, which is recognized as a more severe form of psychopathy (Frick & Loney, 1999; Loeber, 1991; Moffitt, 1993). Other research has suggested the onset of psychopathy in girls, which is usually observed during adolescence, may relate to biological (e.g., hormonal changes associated with puberty) and psychosocial (e.g., less parental monitoring and supervision; greater contact with deviant peers) changes interacting with certain predispositions (e.g., higher levels of CU traits) in some girls (Silverthorn & Frick, 1999). Though the etiology of psychopathy in girls is not well-understood, these results demonstrate that previously reported gender differences in CU traits can be observed “premobidly” in children who are at risk for antisocial behavior due to their family history of substance use disorders, but who are not yet involved in significant antisocial behavior.

When the measures of CU traits and adjustment were compared, the overarching finding was that higher levels of CU traits were related to poorer adjustment in both boys and girls. Callous, Unemotional, and Uncaring aspects of psychopathy were related to less social and school competence as well as a variety of syndrome scales (e.g. attention problems, rule breaking). Although girls displayed lower levels of CU traits in general, this did not translate to better overall adjustment. Additionally, there were significant gender differences in the pattern and magnitude of the relationships between psychopathy and adjustment. The most consistent disparity was found for the relationships observed between Unemotional traits and adjustment, with girls showing more robust correlations across a wider array of adjustment problems with this subscale.

One explanation for gender differences in the pattern and strength of relationships between CU traits and adjustment in girls and boys relates to gender-linked social expectations. Psychopathy and antisocial behaviors are conceptualized as more deviant among girls than boys due to gender role expectations (Keenan & Shaw, 1997). Girls are typically more emotionally close, confiding, and prosocial in their interactions, whereas boys are usually less emotionally expressive and more physically active (Rose & Rudolph, 2006). Ratings of impairment may be influenced by deviation from gender-related expectations. In this study, parents may be more sensitive to girls displaying CU traits, given that these traits are less common among girls. As a result, they may consider girls’ CU traits as more problematic and having a more negative impact, even when the girls’ levels of CU traits are objectively lower than those reported for boys. Similarly, girls with higher levels of CU traits may encounter more interpersonal problems due to this perceived atypicality.

Difficulty in interpersonal relationships is another possible explanation for gender differences in the pattern and strength of relationships observed. CU traits have been associated with insecure attachment among boys (Pasalich, Dadds, Hawes, & Brennan, 2012), and an interaction between high CU traits and low parental warmth, a correlate of insecure attachment, has been related to particularly severe oppositional and antisocial behavior in childhood among girls (Kroneman, Hipwell, Loeber, Koot, & Pardini, 2011).

Poor attachment can negatively impact relationships with family members and peers, which can in turn affect a number of domains. Dysfunctional family relationships during childhood have been associated with mental health problems in adulthood (for review, see Weich, Patterson, Shaw, & Stewart-Brown, 2009). Problems with peer relationships in childhood are also associated with adjustment problems, such as emotional problems in girls (Rose & Rudolph, 2006) and aggression in both girls and boys (Dodge, Lansford, Burks, Bates, Pettit, Fontaine et al., 2003). These problems appear to persist into adulthood, as a history of poor peer relationships in childhood is associated with mental health problems, increased risk for substance abuse, criminal behavior, and academic problems in adults of both genders (Parker, Rubin, Erath, Wojslawowicz, & Buskirk, 2006). Given these findings and the results of the present research indicating a pattern of deficits that can impact interpersonal relationships, it is possible that poor interpersonal functioning mediates the relationships between CU traits and a variety of adjustment problems.

This research used a sample of children who have not yet demonstrated overt antisocial behaviors. This sample was chosen in order to focus on children who are at risk for antisocial behavior, but who currently have subclinical levels of CU traits. The children included in this research are at increased risk for aggressiveness and antisocial behaviors because of a family history of drug and alcohol misuse (Sher, Grekin, & Williams, 2004; Sher & Trull, 1994; Tarter, Kirisci, Mezzich, Cornelius, Pajer, Vanyukov et al., 2003). One mechanism by which parental substance use may affect children's antisocial tendencies is poor parenting skills, which has been related specifically to the development of CU traits (Frick, Kimonis, Dandreaux, & Farell, 2003; Pardini, Lochman, & Powell, 2007). This project was designed with the expectation that the results could provide information about premorbid functioning and possible early indicators of psychopathy in at-risk children. However, this can be viewed as a limitation, given that these children's CU traits were relatively low compared to children and adolescents engaged in more pronounced antisocial behaviors. Another limitation of this research is the use of correlational analyses to relate CU traits and emotional and behavioral functioning at a single time point. This allows only for analyses of the relationships between co-occurring traits rather than statements regarding causality.

To address issues of causality in the relationship between antisocial traits and adjustment, future research should include long-term follow-up data. This will allow researchers to address questions about the development of CU traits and their relationships with adjustment. Some research (Moffitt, 2003) suggests antisocial behavior can result from several developmental pathways, one of which involves an interaction between temperament and the way a child interacts with his or her environment, such as girls' CU traits leading to relationship problems that affect their overall adjustment. Accordingly, future research may directly test whether poor interpersonal relationships mediate the relationship between CU traits and adjustment among girls. If in fact such a relationship is present, researchers and clinicians should focus on targeting girls with higher levels of CU traits to improve their interpersonal relationships and, in turn, improve overall adjustment. Given the present findings, the bar for intervention when CU traits are detected might be lower for girls than it would be among boys, as girls appear to experience impairment at lower levels of CU traits. Because of the lack of research on psychopathy among girls and women, it is especially important for researchers and clinicians to note the associations between CU traits and functional impairment that are relatively greater among girls in order to develop methods to intervene with girls who display higher levels of CU traits in childhood.

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Table 1

Descriptive information about the sample.

	Girls		Boys	
	No.	**%**	**No.**	**%**
Ethnicity				
African-American	11	9	8	7
Caucasian	13	11	11	9
Hispanic	94	80	97	84
	M	(SD)	M	(SD)
Age	11.1	(0.8)	10.9	(0.8)
WASI Score	94.0	(11.2)	94.7	(11.5)
Family SES	33.1	(12.2)	33.5	(13.4)

Table 2

Comparison of competencies and syndrome scales in girls and boys.

	Girls (n=118)		Boys (n=116)	
	M	(*SD*)	*M*	(*SD*)
ASEBA Scales				
Competencies				
Activities	50.48	(9.15)	49.43	(9.19)
Social	45.85	(10.09)	45.80	(9.56)
School	46.40	(8.36)	45.35	(9.65)
Total Competence	47.03	(9.94)	46.77	(9.85)
Syndromes				
Anxious/Depressed	55.85	(7.04)	55.84	(6.77)
Withdrawn/Depressed	55.19	(7.60)	56.03	(7.39)
Somatic Complaints	56.53	(7.50)	56.49	(7.32)
Social Problems	56.19	(6.50)	56.00	(7.22)
Thought Problems	56.09	(7.00)	55.52	(6.42)
Attention Problems	56.24	(7.64)	56.59	(6.94)
Rule-Breaking Behavior	55.03	(5.81)	55.95	(6.89)
Aggressive Behavior	55.54	(7.06)	56.17	(7.64)
Total Problems	53.41	(10.52)	53.77	(11.08)
ICU Scales				
Callous	4.86	(3.90)	5.29	(3.68)
Unemotional	4.34	(2.97)	5.13	(2.96) *
Uncaring	8.88	(4.32)	10.87	(5.11) **
Total	18.08	(8.94)	21.29	(9.45) **

Note.

* $p < .05$,

** $p < .01$

ASEBA = Achenbach System of Empirical Based Assessment, ICU = Inventory of Callous-Unemotional Traits.

Table 3

Association between competencies, syndromes, and callous-unemotional traits.

	Callous		Unemotional		Uncaring		Total	
ASEBA Scales	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**	**Boys**
Competence Scales								
Activities	−.34**	−.05	−.24*	−.17	−.22*	−.08	−.33	−.12
Social	−.29**	−.25**	−.24**	−.03	−.44**	−.28**	−.42**	−.26**
School	−.22*	−.22*	−.11	−.10	−.27**	−.38**	−.27**	−.32**
Total Competence	−.40**	−.26**	−.30**	−.12	−.44**	−.32**	−.49**	−.31**
Syndrome Scales								
Anxious/Depressed	.30**	.20*	.24**	.04	.11	.08	.27**	.13
Withdrawn/Depressed	.34**	.31**	.37**	.42**	.38**	.21*	.45**	.36**
Somatic Complaints	.11	.19*	.09	.09	.10	.21*	.13	.22*
Social Problems	.38**	.41**	.28**	−.01	.36**	.30**	.44**	.32**
Thought Problems	.31**	.28*	.09	.07	.19*	.13	.26**	.20*
Attention Problems	.50**	.29**	.32**	−.07	.42**	.32**	.53**	.26**
Rule-breaking Behavior	.44**	.53**	.15	.13	.38**	.41**	.43**	.47**
Aggressive Behavior	.43**	.51**	.11	.02	.44**	.39**	.44**	.42**
Total Problems	.47**	.47**	.23*	.14	.42**	.48**	.49**	.49**

Note.

* $p < .05$,

** $p < .01$.