BRIEF REPORT

Relation Between Parenting Stress and Psychopathic Traits Among Children[†]

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Parenting stress was examined as a correlate of psychopathic traits, specifically narcissism, callous/unemotional traits, and impulsivity, among school-aged children while controlling for the variance explained by aggressive behavior. Participants included 212 children ranging from 6 to 12 years of age ($M = 8.3$ years) who were admitted to an acute child psychiatric inpatient unit for treatment. Parents completed standardized measures of aggression (Child Behavior Checklist; CBCL), psychopathic traits (Antisocial Process Screening Device; APSD), and parenting stress (Parenting Stress Index; PSI) at the time of the child's admission. Multiple regression analyses revealed that high levels of the PSI dimension attachment difficulties were associated with high levels of narcissism and callous/unemotional traits among the children while statistically controlling for aggression. The PSI dimension role restriction was also found to be negatively related to narcissism. These findings suggest that specific aspects of parenting stress may be related to child psychopathic traits and might aid with conceptualizing and developing treatment approaches for childhood behavior problems. Copyright © 2008 John Wiley & Sons, Ltd.

Psychopathic traits are viewed as long-standing patterns of behavior characterized by callous/unemotional responses, a lack of empathy for others, insensitivity to punishment or negative consequences, and a reward-dominant learning style (Hare,

1982; Hare, Hart, & Harpur, 1991). Although largely studied with adults (see, e.g., Cooke, Michie, Hart, & Clark, 2004; Hare et al., 1991; Harpur, Hare, & Hakstian, 1989; Lilienfeld, 1998), research suggests a strong link between psychopathic-like traits exhibited during adolescence and serious antisocial behavior later in adulthood (Gretton, Hare, & Catchpole, 2004). Consequently, there has been a growing body of research over the past decade examining possible correlates and predictors of psychopathic-like traits early in development. These studies suggest that both biological and environmental factors are linked to psychopathic-like traits in youths (Frick, Bodin, & Barry, 2000). In other words, psychopathic traits are hypothesized to be the product of an interaction between dispositional and psychosocial risk factors. This suggestion is consistent with Sameroff's (1995) transactional model for childhood behavior problems, which proposes that children who are predisposed to behavior problems heighten parents' distress, and in turn the parents' elevated stress level exacerbates childhood behavior problems. Correlational studies reveal, for example, a positive relation between children's externalizing behavior problems and parents' distress levels (Bigras, LaFreniere, & Dumas, 1996). Observations of parent–child interactions further confirm that distressed parents exhibit less consistent and effective parenting skills, which results in children exhibiting more frequent and severe behavior problems (Patterson, 1988).

Although the transactional model has been applied to such externalizing behavior problems as childhood aggression (see, e.g., Patterson, 1986), it has not yet been examined in the context of psychopathic-like traits in childhood. Hence, the purpose of the present study was to examine the relation between parental stress and psychopathic-like traits in young children ranging from 6 to 12 years of age. It is important to note that the cross-sectional design of the present study precluded a true test of a causal relation. However, this is the first study known to date that has attempted to examine specific parenting stress variables in relation to psychopathic-like traits early in children's development. The findings could prove useful, therefore, for pursuing longitudinal studies examining specific process variables for predicting psychopathic-like traits. Given the strong association between psychopathy and serious chronic behavior problems, examining risk factors early in development may provide implications for prevention. Likewise, it would be useful from a theoretical perspective to identify specific sources of parental stress that might increase the risk for psychopathic-like traits early in development. Hence, dimensions of parenting stress including competence, isolation, attachment difficulties, health issues, role restriction, depression, and lack of spousal support were examined in relation to psychopathic-like traits in children while statistically controlling for aggressive behavior. A child psychiatric inpatient sample was selected to evaluate these relations because the baserates for these traits are more appreciable in a high-risk sample than in the general population.

METHOD

Participants and Procedures

Parents of children ($N = 212$) admitted to an acute child psychiatric inpatient unit were invited to participate in the study after obtaining approval from the Institutional

Review Board. Upon the child's admission, parents were administered a standard battery of paper-and-pencil questionnaires to assess childhood behavior problems and parenting behavior as part of their clinical service. Parents provided written consent for their clinical data to be included in the present study. The children ranged from 6 to 12 years of age ($M = 8.30$, SD $= 2.40$); 70% were male. Just over half of the children (59%) were African American; 39% were Caucasian, and the remaining 2% were from "other" racial/ethnic groups. The children were referred for such problems as physical aggression toward peers and/or adults (64%), depressive symptoms and/or self-destructive behavior (15%), or disruptive behavior problems (21%; e.g. hyperactivity). Children referred for autism spectrum disorders or psychoses were not included in the study. This was the first psychiatric admission for the participants. The children's mean reading score on the *Wechsler Individual Achievement Test*, 2nd Edition, was 90 (SD $= 16.15$). Most of the children were in regular classes in school (67%); 30% were in special education classes, 2% were in gifted programs, and 1% of the children were home-schooled.

Most of the respondents (83%) were mothers; 8% were fathers and the remaining respondents were other family members (e.g., grandparent, aunt/uncle) who had legal custody of the child. Most of the parents were married (47%); 28% were divorced, 23% were never married, and 2% were widowed. Children who were in the custody of the state ($n = 17$) or whose parents scored high on a lie scale on the parenting stress measure ($n = 27$) were excluded from analyses.

Measures

Child Psychopathic Traits

Child psychopathic traits were assessed using the caregiver report of the Antisocial Process Screening Device (APSD; Frick et al., 2000). This measure was chosen instead of other measures of psychopathy, such as the Psychopathy Checklist—Youth Version (Forth, Kosson, & Hare, 2003), because the APSD is the only measure of psychopathic-like traits known for young children ranging from 6 to 13 years of age. The APSD is a 20-item rating scale on which caregivers indicate on a three-point rating scale (0 $=$ not at all true, 1 $=$ sometimes true, 2 $=$ definitely true) how true each item is for their child. Ratings are summed to yield a total score and three subscale scores—callous/unemotional ("Is concerned about the feelings of others," reverse scored), narcissism ("Brags excessively about his/her abilities, accomplishments, or possessions"), and impulsivity ("Acts without thinking"). The total and subscale scores can be converted to T-scores with a mean score of 50 and standard deviation of 10. The APSD has adequate inter-rater reliability, $r = .61$ (Blair, 1997, 1999) and .73 (Fisher & Blair, 1998). Construct validity is supported by correlations between the APSD total and subscale scores and externalizing DSM-IV symptoms as measured by the Children's Symptom Inventory-4 (CSI-4; Gadow & Sprafkin, 1994), $r = .44–.69$, $p < .001$ (Frick & Hare, 2001). Internal consistency was acceptable for the present sample, α for the total scale $= .85$; α for the callous/unemotional subscale $= .70$; α for the narcissism subscale $= .76$; α for the impulsivity subscale $= .67$, and was consistent with alpha coefficients for parents completing ratings for a normative sample (Frick & Hare, 2001; α for the total

scale = .86; α for the callous/unemotional subscale = .70; α for the narcissism subscale = .76; α for the impulsivity subscale = .68).

Childhood Aggression

Childhood aggression was assessed using the caregiver report of the aggression subscale of the Child Behavior Checklist for ages 6–18 (CBCL/6–18; Achenbach & Rescorla, 2001). The aggression subscale is comprised of 18 items that are rated using a three-point scale (0 = not true, 1 = somewhat true, 2 = very true). A *T*-score was computed for the scale and used for analyses. The aggression subscale has high test–retest reliability across 1 week, $r = .90$, 12 months, $r = .82$, and 24 months, $r = .81$. Cross-informant agreement has been found to be moderately high when using mothers and fathers as informants, $r = .82$ (Achenbach & Rescorla, 2001). Internal consistency is also high for the subscale, Cronbach's $\alpha = .94$ (Achenbach & Rescorla, 2001), and was acceptably high for the present sample, $\alpha = .89$. Construct validity was supported by correlations between the aggression subscale and similar scales of other measures including the Oppositional Defiant Disorder Scale of the DSM-IV Checklist, $r = .64$, the Oppositional Scale of the Conners Rating Scales, $r = .79$ for parent report and .81 for teacher report, and the Aggression Scale of the Behavior Assessment System for Children, $r = .61–.85$ (Achenbach & Rescorla, 2001).

Parenting Stress

Parenting stress was assessed using the caregiver report of the Parenting Stress Index (PSI; Abidin, 1995). The PSI is a 120-item questionnaire used to assess domains of parenting stress including competence, isolation, attachment, health, role restriction, depression, and spousal support subscales. Caregivers responded to items using a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). Items were summed to yield subscale scores. The individual subscales have been found to be internally consistent, Cronbach's $\alpha = .70–.84$ (Abidin, 1995; Hauenstein, Marvin, Snyder, & Clarke, 1989). Internal consistency was slightly lower but acceptable for the present sample, $\alpha = .65–.72$. Test–retest reliability for the scales range from .69 to .91 across 3 weeks to 1 year (Abidin, 1995). Test of discriminative validity revealed that stressed abusive mothers scored significantly higher on all the PSI scales compared with non-abusive parents (Mash, Johnston, & Kovitz, 1983).

RESULTS

Zero order correlations revealed significant positive correlations between the individual parenting stress scales, $r = .23–.45$, $p < .05$ (see Table 1). The magnitudes of the correlations are moderate, suggesting that the individual scales are related but distinct dimensions. Likewise, the APSD subscales were moderately and positively correlated, $r = .18–.43$, $p < .05$, suggesting that these subscales are related but distinct variables. As shown in Table 1, aggression was positively related to the APSD total score and to each of the three APSD subscales, $r = .37–.69$, $p < .05$.

Table 1. Correlations, means, and standard deviations

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Child's gender	—													
2. Child's age	.13*	—												
3. CBCL aggression	.02	−.09	—											
4. APSD narcissism	−.01	.00	.65*	—										
5. APSD callous	−.02	−.07	.37*	.35*	—									
6. APSD impulsivity	−.12	.03	.42*	.43*	.18*	—								
7. APSD total score	−.05	−.03	.69*	.87*	.64*	.54*	—							
8. PSI competence	.02	−.07	.14*	.10	.02	.07	.10	—						
9. PSI isolation	.03	−.10	−.01	.09	−.08	.05	.04	.25*	—					
10. PSI attachment	.00	.06	.21*	.29*	.28*	.12	.30*	.41*	.26*	—				
11. PSI health	.03	.02	.14*	.10	−.01	.06	.09	.35*	.42*	.23*	—			
12. PSI role restriction	−.05	−.01	.09	.03	.13*	.07	.08	.36*	.31*	.40*	.39*	—		
13. PSI depression	.00	−.03	−.03	.06	−.04	−.02	−.01	.44*	.45*	.38*	.34*	.35*	—	
14. PSI spousal support	−.06	−.05	.12	.12	−.04	.14*	.08	.30*	.37*	.24*	.40*	.34*	.43*	—
Mean	—	8.30	77.62	7.30	6.38	6.80	22.03	32.16	14.00	15.48	12.92	19.72	21.41	18.30
Standard deviation	—	2.40	11.72	3.41	2.70	3.02	7.34	6.69	4.29	4.09	4.02	5.14	5.70	5.52

CBCL = Child Behavior Checklist. APSD = Antisocial Process Screening Device. PSI = Parenting Stress Index.
*$p < .05$.

Table 2. Summary of hierarchical regression analyses for variables predicting psychopathic like-traits ($N = 212$)

Predictor variable	Criterion variable											
	APSD total score			Narcissism			Callous/ unemotional			Impulsivity		
	B	SE B	β	B	SE B	β	B	SE B	β	B	SE B	β
Step 1												
CBCL aggression	.43	.03	.69[c]	.18	.02	.65[c]	.08	.01	.37[c]	.11	.02	.42[c]
Step 2												
CBCL aggression	.41	.03	.66[c]	.18	.02	.62[c]	.08	.02	.34[c]	.10	.02	.40[c]
PSI competence	−.06	.07	−.05	−.03	.03	−.06	−.05	.03	−.12	.00	.04	−.01
PSI isolation	.08	.10	.04	.06	.05	.07	−.05	.05	−.07	.04	.06	.06
PSI attachment	.39	.11	.22[c]	.18	.05	.22[b]	.15	.05	.24[b]	.04	.06	.05
PSI health	−.05	.11	−.03	−.02	.05	−.02	−.05	.05	−.07	−.03	.06	−.04
PSI role restriction	−.07	.08	−.05	−.10	.04	−.15[a]	.07	.04	.14	.00	.04	−.01
PSI depression	−.10	.08	−.08	.02	.04	.02	−.05	.04	−.10	−.05	.04	−.09
PSI spousal support	.01	.08	.01	.02	.04	.03	−.03	.04	−.07	.07	.04	.12

APSD scale: adjusted $R^2 = .48$ for Step 1; $\Delta R^2 = .02$ for Step 2 ($p > .05$). Narcissism scale: adjusted $R^2 = .42$ for Step 1 ($p < .05$); $\Delta R^2 = .03$ for Step 2 ($p > .05$). Callous/unemotional scale: adjusted $R^2 = .13$ for Step 1 ($p < .05$); $\Delta R^2 = .07$ for Step 2 ($p < .05$). Impulsivity scale: adjusted $R^2 = .18$ for Step 1 ($p < .05$); $\Delta R^2 = .00$ for Step 2 ($p > .05$).
[a]$p < .01$; [b]$p < .005$; [c]$p < .0001$.

Hence, this variable was included as a covariate along with the PSI scales in the regression analyses predicting the child's APSD total and subscale scores. Correlations among the predictors were less than .80, indicating that these variables were not perfectly collinear. More stringent tests of multicollinearity including tolerance (.64–.96) and the variance inflation index (1.04–1.55) confirmed that multicollinearity would not be a problem (Cohen, Cohen, West, & Aiken, 2003). Means and standard deviations for the variables are also presented in Table 1.

Separate hierarchical regression analyses were conducted to predict the APSD total score and each of the three APSD subscale scores. Aggression was entered in the first step, followed by the PSI scale scores in the second step. As shown in Table 2, the parenting stress dimensions accounted for 2% of the variance in the APSD total score while statistically controlling for aggression, $\Delta R^2 = .02$, $F(7, 203) = 1.16$, $p > .05$. Inspection of individual PSI variables revealed that only the attachment scale related to the APSD total score, $\beta = .22$, $p < .0001$. The PSI variables contributed variance to the narcissism subscale, $\Delta R^2 = .03$, and the callous/unemotional subscale, $\Delta R^2 = .07$, but not to the impulsivity subscale, $\Delta R^2 = .00$. Only the ΔR^2 for the callous/unemotional subscale reached statistical significance, $F(7, 203) = 2.54$, $p < .05$. Attachment was the only significant predictor of the callous/unemotional subscale, $\beta = .24$, $p < .005$, whereas both the attachment, $\beta = .22$, $p < .005$, and the role restriction scales, $\beta = −.15$, $p < .01$, were significant predictors of the narcissism subscale. Parents who reported more attachment difficulties rated their children higher on the callous/unemotional and narcissism subscales; whereas parents who reported greater levels of role restriction rated their children as lower on the narcissism subscale. The power for testing the proportion of variance that the parenting stress variables contributed to the APSD

total and subscale scores while controlling for aggression was 52% for the APSD total score and 64% and 91% for the narcissism and callous/unemotional scales, respectively.

DISCUSSION

The current study examined whether dimensions of parenting stress were related to child psychopathic-like traits while statistically controlling for the variance explained by aggressive behavior. The findings revealed that parenting stress, overall, did not contribute a statistically significant proportion of the variance to psychopathic-like traits in school-aged children while statistically controlling for childhood aggression. However, parenting stress did relate significantly to callous/unemotional features while controlling for aggressive behavior. Inspection of specific sources of parenting stress revealed that parents who reported attachment difficulties tended to report that their child exhibited more psychopathic-like traits and specifically narcissistic and callous/unemotional features. It is important to note that the APSD subscales are related. However, the magnitudes of the correlations between the subscales revealed that they also represent distinct dimensions. Hence, findings for the individual APSD subscales might shed some light on dimension-specific patterns. The correlations that were observed between the attachment dimension of the PSI and the APSD subscales offer some directions for research and are consistent with previous research indicating that parenting stress is a predictor of childhood behavior problems (e.g. Bigras et al., 1996).

According to Abidin (1995), the attachment subscale is designed to assess emotional closeness to the child. The present findings revealed that parents who reported that they did not feel attached to or emotionally close to their children tended to rate their children as higher on narcissism and callous/unemotional traits. This finding is consistent with Bowlby's theory of attachment, which proposes that failing to form an emotional bond with one's caregiver during the early formative years of life increases a child's risk for interpersonal difficulties, including psychopathic-like behavior. Bowlby's theory is supported by observations of insecurely attached preschoolers exhibiting less empathic responses compared with children who are securely attached to their caregivers (Kestenbaum, Farber, & Sroufe, 1989). A secure attachment is generally forged by a caregiver responding promptly and adequately to a child's distress signals. The caregiver's sensitive responsivity to the child's needs serves as a model for the use and necessity of empathy in reciprocally satisfying relationships. Hence, children who fail to develop a secure attachment with their primary caregiver are not afforded the opportunity to learn how to be empathic and, therefore, are hypothesized to be at an increased risk for childhood aggression (Lyons-Ruth, Alpern, & Repacholi, 1993) as well as for criminality in young adulthood (see, e.g., Fonagy et al., 1996). Although documented as a risk factor for aggression, this is the first empirical study known to date that has found parental attachment problems to be related specifically to child psychopathic-like traits in a clinical sample of children. These findings are interpreted with the utmost caution, however, because the study's cross-sectional design precludes inferring cause and effect relations.

Only one other parenting stress dimension—role restriction—was observed to be related to one of the APSD subscales—narcissism. The role restriction scale of the PSI measures feelings of anger and frustration due to an inability to maintain one's self-identity. According to Abidin (1995), parents who experience high levels of role restriction generally tend to exhibit inconsistent parenting and discipline skills due to their angry and ambivalent feelings. Their inconsistent positive reinforcement and discipline may preclude them from bonding with their children and subsequently increase the risk of their children developing a superficial, emotionally detached interpersonal style. As emphasized by family and social learning theorists, firm limit-setting combined with sensitive parent–child interactions are important for fostering empathy. Furthermore, observational research has revealed that mothers of securely attached children tend to use more inductive discipline and gentle physical interventions combined with warmth than mothers of insecurely attached children (Londerville & Main, 1981). The child's level of compliance and cooperative behavior has also been found to be positively related to the mother's use of inductive and sensitive discipline. Contrary to expectation, parents in the present study who scored higher on role restriction tended to rate their children as exhibiting fewer narcissistic traits. Although contrary to prediction, research has shown that inconsistent parenting and discipline are also related to low self-esteem and feelings of inferiority rather than grandiosity among children (Maccoby & Martin, 1983). Thus, role restriction may actually contribute to the development of fewer rather than more narcissistic traits, whereas attachment difficulties may be more specifically influential in the development of such psychopathic-like traits as callous/unemotional behavior and narcissistic features.

Interestingly, none of the parenting stress dimensions was found to be related to the impulsivity subscale of the APSD while statistically controlling for aggression. Perhaps the behavioral features of the impulsivity subscale are explained better by dispositional than by environmental risk factors. This is not to minimize the role of environmental factors for these symptoms. Rather, it is hypothesized that, for an inpatient population that presents with clinical levels of symptomatology, biological factors might outweigh psychosocial risk factors. Equally interesting is the lack of statistically significant relations observed between other parenting stress dimensions and child psychopathic-like traits. Perhaps the other dimensions, including competence, isolation, health problems, depression, and spousal support, do not necessarily interfere with the parent's ability to forge an emotional bond with his or her child, which is regarded as the basic building block for fostering empathy. On the other hand, given the present correlational data, it may be that parents who show attachment difficulties also exhibit inherently biased perceptions of their children's behavior. Or it could be that the attachment process is impeded by the children's predisposition toward psychopathic-like features. Clearly, longitudinal research is warranted and recommended to clarify the process underlying these observed correlations. Research investigating possible mediational paths toward psychopathic-like traits early in development in which variables such as parenting practices might be evaluated as possible mediators for the relation between parenting stress dimensions (e.g. attachment difficulties) and child psychopathic-like features while controlling for childhood aggression are recommended. Stress, for example, may increase parent irritability, which in turn may increase the likelihood that a parent will engage in coercive interactions with his or her child (see, e.g., Patterson, 1988;

Wahler & Dumas, 1989). This is just one possible pathway, as other paths including parenting stress mediating the relation between children's psychopathic-like traits and parent–child interactions or parenting practices are also viable.

Limitations and Conclusions

The exclusive use of parent-report measures may have increased the risk of biased, socially desirable responses. Including other informants such as teachers is recommended to address this issue in future research. The most serious methodological limitation, however, is the study's cross-sectional design. Any conclusions are merely speculative and clearly warrant longitudinal research that include path analytic procedures to explain the underlying process for the development of psychopathic-like traits early in development and to address hypotheses regarding the directionality and bidirectionality of effects. Finally, the inpatient sample precludes generalizing the findings beyond a clinical sample. Although useful for understanding correlates of child psychopathic-like traits among a clinical sample, further research is recommended with community samples to maximize generalizations.

Clinical implications of the present findings are limited by the correlational nature of the data. As suggested, longitudinal research examining mediational paths to child psychopathic-like traits would be helpful for unveiling the underlying processes. It is important to bear in mind, however, that psychopathic interpersonal styles are likely influenced by one's social context and genetic factors (Rutter, 1996), as well as age-related determinants (Moffitt, 1993). Hence, a more multi-dimensional conceptualization of antisocial behavior, such as the socioemotional model proposed by van Ijzendoorn (1997), is recommended to provide a more comprehensive perspective.

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