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Infancy Parenting and Externalizing Psychopathology from Childhood through Adulthood: Developmental Trends

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Abstract

Developmental models and previous findings suggest that early parenting is more strongly associated with externalizing problems in early childhood than in adolescence. In this brief report, we addressed the question of whether the association of poor quality infancy parenting and externalizing problems “rebounds” in adulthood. Poor quality infancy parenting was associated with externalizing problems at kindergarten and first grade (mother report), as well as at 23 and 26 years (self-report). Infancy parenting was not significantly associated with either mothers' or youths' reports of externalizing problems at 16 years. These findings are consistent with the notion that poor quality infancy parenting is a risk factor for externalizing problems in developmental periods for which externalizing behavior is most deviant.

Keywords

Parenting; externalizing; longitudinal; adult follow-up; developmental psychopathology

Poor quality early parenting is among the most consistent risk factors for externalizing problems. Yet, the association may not hold at all ages studied. Accumulating evidence suggests that early parenting is more weakly associated with adolescent, as compared to preadolescent, externalizing behavior (e.g., Aguilar, Sroufe, Egeland, & Carlson, 2000; Moffitt & Caspi, 2001).

Here we consider two salient possibilities that could explain why the association changes with age. The first will be referred to as the *development period* explanation (e.g., Patterson, Reid, & Dishion, 1992; Moffitt, 1993). Adolescence is marked by a normative increase in externalizing behavior, whereby many teenagers who were not problematic as young children temporarily come to exhibit at least somewhat higher levels of externalizing behavior as teens, both in the present sample (e.g., Aguilar et al., 2000) and in others (Moffitt, Caspi, Harrington, & Milne, 2002). For these individuals, normative developmental influences and more proximal negative forces such as deviant peers are thought to exert greater influence than early risk factors such as poor quality parenting; a smaller group of teens whose problems began in early childhood are also subject to these same influences. In contrast, externalizing behavior is normatively low in the period

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between late preschool age and adolescence (e.g., Milner & Clarke-Stewart, 2008). Externalizing problems may be more tightly associated with early environmental risk factors in this period, and they appear to be particularly persistent (e.g., Broidy et al., 2003).

A second possibility for why the association of early parenting and externalizing problems decreases in adolescence is that risk and outcome are separated by a longer interval; the *decaying relation* explanation. Development is organized hierarchically, whereby adaptation at one point in time is dependent on both previous adaptation and current factors (Sroufe, Egeland, Carlson, & Collins, 2005). Successful adaptation in one phase serves as a resource for future challenges. However, adaptive advantage or disadvantage can be changed by subsequent experience. From this view, any effect that early parenting might have can be altered by subsequent experience. For example, negative interceding factors may push a child to exhibit more psychopathology than would be expected based on his/her experience with a caregiver. The more time that passes, the greater the child's opportunity to be influenced by interceding factors. Hence, the relation between early parenting and externalizing problems might decrease with age.

One test that could shed insight into which of the above explanations is correct would be to see if the poor quality infancy parenting-externalizing relation rebounds in adulthood. If the association of infancy parenting and externalizing problems decreases in adolescence then strengthens in adulthood, the developmental period explanation would seem more plausible. That is, poor quality infancy parenting would be a stronger risk factor in periods when externalizing behavior is most normatively low: preadolescence and adulthood. If the association of early poor quality parenting and externalizing problems dips during adolescence and does not rebound in adulthood, the decaying relation explanation would be just as viable an explanation. Empirical findings with prediction from *infancy* parenting to adult externalizing problems are nonexistent, thus the above matter remains an open question.

For this brief report, we utilized data from a prospective investigation to evaluate the relative merits of the above hypotheses. Poor quality infancy parenting – operationalized by high negative regard, low positive regard, and low sensitivity – was studied in relation to externalizing problems from kindergarten to 26 years. Parenting was observed prior to the developmental viability of externalizing problems, thus ruling out the possibility that parenting-externalizing associations would be due to externalizing problems influencing parenting.

Based on our dynamic view of psychopathology, we adopted a variable centered (i.e., focusing on associations among continuous or dimensional variables), rather than person centered approach (i.e., focusing on groups of similar individuals and differences among such groups). There may be a group of children who exhibit early onset persistent externalizing problems (Moffitt, 1993). However, over time many children move above and below thresholds for deviance, and are often aggregated or dropped from consideration in person centered analysis (e.g., Aguilar et al., 2000; Moffitt & Caspi, 2001). The variable centered approach reflected our interest in explaining dimensional variation in externalizing psychopathology in a way that would generalize to a broader range of at-risk youths.

Method

Participants

Participants were 267 mothers and their firstborn children (54.7% male) from a high-risk urban population, recruited prenatally at the onset of an ongoing longitudinal study of development. The sample, recruited from the Minneapolis Public Health Clinic in 1975-1977, has been described extensively elsewhere (Sroufe et al., 2005). Cases with missing data were included using Maximum Likelihood estimation. The number of missing cases per variable ranged from 41 (3 mos) to 103 (26 years), reflecting attrition. Because cases with 100% missing data cannot be included in a given analysis, *N* was 243 for all analyses (i.e., 24 cases were missing all infancy data)[1].

Measures

Details of procedures are reported for each measure. Descriptive data for all study variables are reported in Table 1. The correlation matrix is available from the authors.

Poor quality infancy parenting—At 3 and 6 mos, the mother-infant dyads were observed in their homes during feedings, as described in detail in Sroufe et al. (2005). After observing a feeding, raters scored positive and negative maternal regard for the infant, as well as maternal sensitivity on 9-point scales. Expression of positive and negative regard reflects the mother's displays of affection and negative affect toward the infant, respectively. Sensitivity reflects the mother's ability to respond appropriately to her baby's signals. Randomly selected dyads' interactions were rated in parallel by a second research assistant who was also present at the home visit. Interrater intra-class correlations ranged from .64 to .71.

A latent variable for poor quality infancy parenting was assessed by the common variance among all three parenting behaviors at 3 and 6 mos. The residual for 3-mo positive regard was allowed to covary with the residuals for positive regard at 6 mos and sensitivity at 3 mos. Absolute standardized factor loadings ranged from .50 to .82 (ps < .01), with negative loadings for the positive regard and sensitivity measures. Higher scores indicate worse parenting.

Externalizing problems—Externalizing problems were assessed by the Child Behavior Checklist and Youth Self Report (CBCL and YSR; Achenbach, 1991). The CBCL was completed by the mothers at kindergarten, first grade, and 16 years. The YSR was completed by their children at 16, 23, and 26 years. Latent variables for mother reported externalizing problems were assessed by the common variance at each time point among *T* scores on the CBCL Aggression, Attention Problems, and Delinquency subscales of the broadband Externalizing factor. The same strategy was adopted for the YSR scores. Standardized factor loadings ranged from .53 to .96, ps < .01.

[1]We examined confounding by attrition status by comparing the 243 included to the 24 excluded cases on 20 demographic, maternal adjustment, and infant behavior variables measured prenatally or neonatally, including measures of maternal personality and negative reactions to being pregnant, as well as variables from a neonatal neurological exam. There were no reliable differences. Full analytic detail is available from Michael F. Lorber.

Results

Regression models with robust *SE*s were computed to assess the relations of poor quality infancy parenting and externalizing problems. Tobit regression was employed for the loadings of maternal negative regard at 3 and 6 mos because they appeared to be bottom censored (see Stoolmiller, Eddy, & Reid; 2000). The most commonly used fit indices (e.g., chi-square) are not available with Tobit regression. Thus, individual parameters, rather than overall fit, were interpreted.

Poor quality infancy parenting was significantly associated with greater externalizing problems reported by the mother at kindergarten ($p < .01$) and first grade ($p < .01$), but not at 16 years. Self-reported externalizing problems were associated with infancy parenting at 23 ($p < .10$) and 26 years ($p < .05$), but not at 16 years[2]. Standardized regression coefficients are reported and plotted in Figure 1.

To test whether the apparent differences in parenting-externalizing associations were statistically reliable, a series of model comparisons were computed in which the associations of infancy parenting with externalizing problems measured in adolescence compared to those measured in childhood or adulthood (e.g., kindergarten vs. 16 years) were allowed to vary freely in one case, and constrained to be equal in the other. The difference in fit in each such pair of models was evaluated statistically. Since, as described above, the typical chi-square difference test could not be used, the difference in log likelihood values associated with each model, then multiplied by two, was evaluated. This difference statistic is distributed and evaluated as chi-square. Only one parameter differed between each pair of models, so each difference involved one *df*. The difference in the association of infancy parenting with externalizing problems reported on the CBCL at 16 years was marginally weaker than based on CBCL reports at kindergarten (2*log likelihood difference = 2.93, $p < .10$) and significantly weaker than that based on CBCL reports at first grade (2*log likelihood difference = 6.14, $p < .05$). Parallel comparisons involving adolescence to adulthood comparisons of infancy parenting-externalizing associations based on YSR reports were each nonsignificant (ps > .35), with 2*log likelihood differences of .85 and .34 for 16 vs. 23 and 16 vs. 26 years, respectively.

Externalizing problems were amongst themselves significantly associated in most cases, with standardized relations ranging from approximately .42 to .78 within reporter (i.e., CBCL-CBCL and YSR-YSR associations; $M = .54$), and .17 to .40 across reporter (i.e., CBCL-YSR associations; $M = .30$).

[2]To determine whether individual aspects of infancy parenting yielded similar associations with externalizing problems as the latent parenting composite, analyses were repeated for each individual parenting measure, using the 3- and 6-month measures as two indicators of a latent parenting variable in each case, in relation to each externalizing problem measure. The general pattern of numerically greater associations of parenting with kindergarten, first grade, and 23- and 26-year-old measures of externalizing problems and weaker associations with the two 16-year-old measures of externalizing was evident. However, only one of the associations was statistically significant: the association of positive parenting and first grade externalizing. Full analytic detail is available from Michael F. Lorber.

Discussion

The relation of poor quality infancy parenting and externalizing problems began as a medium sized association in the early elementary period, dipped to a small nonsignificant association at age 16, and rebounded to a slightly reduced effect size at ages 23 and 26. These findings are more consistent with a developmental period, rather than a relation decay, explanation. That is, poor quality infancy parenting was only a relevant predictor of externalizing problems at ages for which externalizing behavior is the most deviant. Poor quality infancy parenting remained a significant risk factor for externalizing problems measured 26 years later.

Because parenting was measured before externalizing problems can be said to be present, these findings rule out the possibility that externalizing problems caused maladaptive parenting, thus explaining their association. They do not rule out the possibility that other child characteristics, such as temperament, influenced both parenting and externalizing problems. However, difficult temperament is not associated with externalizing problems in this sample (Aguilar et al., 2000; Lorber & Egeland, in press), thus making this particular child effect less likely.

One strength of the present findings was that a small, nonsignificant association of infancy parenting and adolescent externalizing problems was obtained whether externalizing problems were based on adolescent or on maternal report. This consistency in findings across reporter gives further confidence in the validity of the obtained pattern of associations. To balance, however, is the lack of reliable differences in the association of infancy parenting with adolescent vs. adulthood externalizing problems. Significant associations of infancy parenting and adulthood externalizing problems and a nonsignificant association of infancy parenting and adolescence externalizing problems were obtained. However, one cannot with confidence conclude from the present findings that the associations were in fact *stronger* for relations of infancy parenting and adult externalizing problems. This seems to be a problem of power, as the difference in associations is relatively small at approximately a .16 to .18 (see Figure 1). Replication attempts will require larger samples to definitively test whether infancy parenting is more strongly associated with adult than with adolescent externalizing problems.

One explanation for the present findings is that infancy may be a sensitive period for environmental influence. Infancy is characterized by rapid development of emotion regulatory capacity, patterns of relating to others, and internal representations of relationships; each is surmised to be important to the development of externalizing problems. Maladaptive infancy parenting may negatively impact these capacities and behaviors during a period in which they are thought to be highly sensitive to environmental input, thus setting the stage for the development of persistent externalizing psychopathology (Sroufe et al., 2005). Alternatively, it may be that poor quality infancy parenting is the first evidence of a stable, maladaptive parenting style that contributes to externalizing problems on an ongoing basis. Evidence for such a process is limited at present (e.g., Lorber & Egeland, in press; O'Leary, Slep, & Reid, 1999; Vuchinich, Bank, & Patterson, 1992), but deserving of further investigation. In either of the above cases, it is hypothesized that the

association of parenting with childhood and adulthood externalizing problems is due to the same mechanism(s) of association (e.g., modeling, relationship disturbance, and control); with attenuated strength during adolescence as a group of youths with problematic behavior driven by different etiological factors emerges and then gradually recedes.

A genetic explanation is also plausible. Preadolescent antisocial behavior has been shown to be under greater genetic influence than adolescent antisocial behavior (Taylor, Iacono, & McGue, 2000). Adult antisocial behavior also shows evidence of genetic causation (e.g., Kendler, Prescott, Myers, & Neale, 2003). Given the likelihood of gene-environment correlation, poor quality infancy parenting and externalizing problems in early childhood and adulthood may be associated because they are caused by a genetic liability shared by the parent and child (Moffitt, 2005).

Future research that replicates the present findings will be critical to accepting their validity. The findings are correlational, thus preventing certain causal inference. Genetically informative designs may help to distinguish between genetic and environmental explanations. Either way, the durability of the association in the present sample suggests that poor quality infancy parenting be taken seriously in etiological models of both preadolescent *and* adult externalizing psychopathology.

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References

Achenbach, TM. Integrative guide for the 1991 CBCL, YSR, and TRF profiles. Burlington, VT: University of Vermont, Department of Psychiatry; 1991.

Aguilar B, Sroufe LA, Egeland B, Carlson E. Distinguishing the early-onset/persistent and adolescence-onset behavior types: From birth to 16 years. Development and Psychopathology. 2000; 12:109–132. [PubMed: 10847620]

Broidy LM, Nagin DS, Tremblay RE, Bates JE, Brame B, Dodge KA, et al. Vitaro F. Developmental trajectories of childhood disruptive behaviors and adolescent delinquency: A six-site, cross-national study. Developmental Psychology. 2003; 39:222–245. [PubMed: 12661883]

Kendler KS, Prescott CA, Myers J, Neale MC. The structure of genetic and environmental risk factors for common psychiatric and substance use disorders in men and women. Archives of General Psychiatry. 2003; 60:929–937. [PubMed: 12963675]

Lorber MF, Egeland B. Parenting and temperament in infancy: Testing a mutual exacerbation hypothesis to predict conduct problems. Child Development. in press.

Miner JL, Clarke-Stewart KA. Trajectories of externalizing behavior from age 2 to age 9: Relations with gender, temperament, ethnicity, parenting, and rater. Developmental Psychology. 2008; 44:771–786. [PubMed: 18473643]

Moffitt TE. Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. Psychological Review. 1993; 100:674–701. [PubMed: 8255953]

Moffitt TE. The new look of behavioral genetics in developmental psychopathology: Gene-environment interplay in antisocial behaviors. Psychological Bulletin. 2005; 131:533–554. [PubMed: 16060801]

Moffitt TE, Caspi A. Childhood predictors differentiate life-course persistent and adolescence-limited antisocial pathways among males and females. Development and Psychopathology. 2001; 13:355–375. [PubMed: 11393651]

Moffitt TE, Caspi A, Harrington H, Milne BJ. Males on the life-course-persistent and adolescence-limited antisocial pathways: Follow-up at age 26 years. Development and Psychopathology. 2002; 14:179–207. [PubMed: 11893092]

O'Leary SG, Slep AMS, Reid MJ. A longitudinal study of mothers' overreactive discipline and toddlers' externalizing behavior. Journal of Abnormal Child Psychology. 1999; 27:331–341. [PubMed: 10582835]

Patterson, GR.; Reid, JB.; Dishion, TJ. Antisocial boys. Eugene, OR: Castalia; 1992.

Sroufe, LA.; Egeland, B.; Carlson, EA.; Collins, WA. The development of the person: The Minnesota Study of Risk and Adaptation from Birth to Adulthood. New York, NY: Guilford; 2005.

Stoolmiller M, Eddy JM, Reid JB. Detecting and describing preventive intervention effects in a universal school-based randomized trial targeting delinquent and violent behavior. Journal of Consulting and Clinical Psychology. 2000; 68:296–306. [PubMed: 10780130]

Taylor J, Iacono WG, McGue M. Evidence for a genetic etiology of early-onset delinquency. Journal of Abnormal Psychology. 2000; 109:634–643. [PubMed: 11195987]

Vuchinich S, Bank L, Patterson GR. Parenting, peers, and the stability of antisocial behavior in preadolescent boys. Developmental Psychology. 1992; 28:510–521.

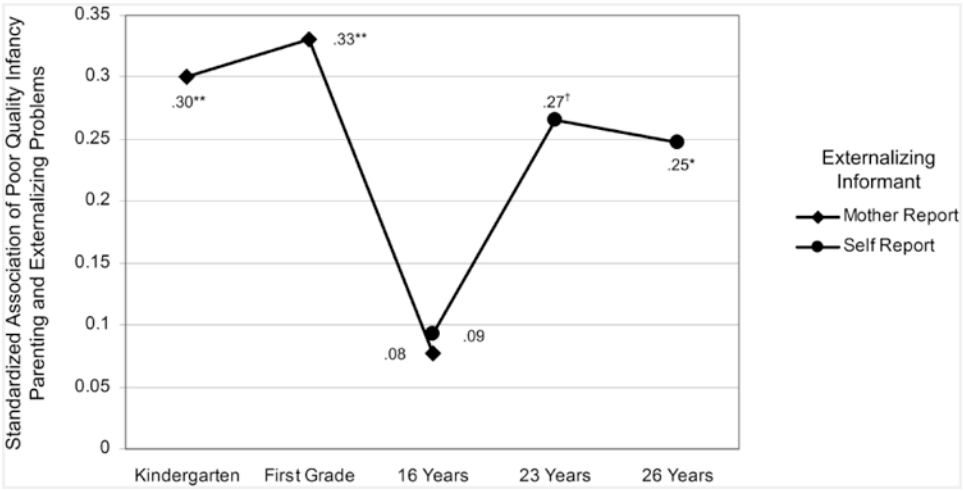

Figure 1.

Developmental trends in associations of poor quality infancy parenting and externalizing problems; †$p<.10$. *$p<.05$. **$p<.01$.

Table 1
Descriptive Data for Analyzed Variables

Construct or measure	*M*	*SD*
Infancy Parenting		
Negative regard (3 months)	1.46	0.91
Positive regard (3 months)	5.74	1.48
Sensitivity (3 months)	6.13	1.45
Negative regard (6 months)	1.72	0.99
Positive regard (6 months)	5.70	1.47
Sensitivity (6 months)	5.99	1.27
Externalizing Problems		
CBCL Attention Problems (Kindergarten)	58.85	8.07
CBCL Delinquency (Kindergarten)	58.47	7.19
CBCL Aggression (Kindergarten)	60.39	8.31
CBCL Attention Problems (Grade 1)	59.38	8.27
CBCL Delinquency (Grade 1)	58.05	7.94
CBCL Aggression (Grade 1)	59.05	8.29
CBCL Attention Problems (16 years)	55.89	7.92
CBCL Delinquency (16 years)	58.82	8.87
CBCL Aggression (16 years)	56.49	7.82
YSR Attention Problems (16 years)	57.05	7.87
YSR Delinquency (16 years)	59.78	8.32
YSR Aggression (16 years)	57.81	7.72
YSR Attention Problems (23 years)	54.21	5.72
YSR Delinquency (23 years)	55.34	6.72
YSR Aggression (23 years)	54.23	6.56
YSR Attention Problems (26 years)	54.96	5.80
YSR Delinquency (26 years)	54.84	5.64
YSR Aggression (26 years)	54.41	6.07

Note. Ages of assessment appear in parentheses; CBCL = Child Behavior Checklist; YSR = Youth Self Report.