



The relation of emotional maltreatment to early adolescent competence: Developmental processes in a prospective study

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ABSTRACT

Objectives: This investigation examined developmental pathways between childhood emotional maltreatment and adaptational outcomes in early adolescence. This study utilized a developmental psychopathology perspective in adopting a multidimensional approach to the assessment of different forms of emotional maltreatment and later adjustment outcomes. Specifically, emotional abuse (i.e., verbal criticism, hostility) and emotional neglect (i.e., psychological unavailability) were compared using a process-level analytic approach to examine if and how different forms of emotional maltreatment would contribute to adolescent adjustment via aggression and social withdrawal in middle childhood.

Methods: The current study sample is drawn from a longitudinal, prospective study of a high-risk community sample ($N = 196$), incorporating a multi-method and multi-informant design. Multiple mediator models were tested via bootstrapping regression techniques.

Results: Bivariate correlations revealed that both emotional neglect and emotional abuse were associated with increased aggression and social withdrawal in middle childhood, and lower ratings of socioemotional competence in early adolescence. However, the mediational model, which controlled for child gender and concurrent physical and sexual maltreatment, was only significant for the contribution of emotional abuse to lower adolescent competence via social withdrawal in middle childhood. Post hoc analyses revealed that this association was only significant for boys.

Conclusions: While social withdrawal in middle childhood significantly explained the observed relation between emotional abuse and decreased competence in adolescence, this process did not emerge as salient in understanding the relation between emotional neglect and adolescent adaptation. Furthermore, these developmental processes appeared to vary by gender. The results are in need of replication and extension to other outcome domains, but represent an important contribution to the empirical study of specific forms of emotional maltreatment.

Practice implications: Emotional maltreatment is generally overlooked and unrecognized as compared to physical or sexual forms of maltreatment. This study adds to the accumulating empirical evidence that the effects of emotional maltreatment are disabling, enduring, and should be carefully assessed by clinicians. Furthermore, this assessment should specify the particular form of emotional maltreatment that has occurred, as the results of the study indicate that developmental processes and adjustment outcomes may vary according to the type of emotional maltreatment (i.e., emotional abuse, emotional neglect) that is experienced. Finally, clinicians must recognize that a single maltreatment type may vary in its impact on subsequent adjustment, as significant gender differences emerged in the current study that point to the role of individual differences that warrant further investigation.

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Introduction

Amidst compelling evidence that emotional maltreatment is associated with negative developmental outcomes in early childhood (Binggeli, Hart, Brassard, & Karlson, 2005; Egeland & Erickson, 1987; Erickson, Egeland, & Pianta, 1989; Wright, 2007), there remains a pressing need for research examining if and how childhood emotional maltreatment influences adaptation in later childhood and adolescence (e.g., Bolger, Patterson, & Kupersmidt, 1998; Hart, Binggeli, & Brassard, 1998). While studies have shown that retrospective reports of childhood emotional maltreatment are negatively associated with psychosocial functioning at later points in time (Gross & Keller, 1992; Teicher, Samson, Polcari, & McGreenery, 2006), prospective research has yet to thoroughly and empirically evaluate these associations. Moreover, little work has examined the processes by which such associations may carry across time and context.

Drawing on the integrative framework of developmental psychopathology, this investigation examined developmental pathways between childhood emotional maltreatment and adaptational outcomes in early adolescence. In addition to addressing the need for prospective studies of the long-term consequences of emotional maltreatment, this study adopted a multidimensional approach to clarify if and how different forms of emotional maltreatment may influence later adjustment. The study of emotional maltreatment has been hindered by a lack of conceptual and operational clarity as to what constitutes emotional maltreatment (Cicchetti & Nurcombe, 1991; Iwaniec, 1995; Trickett et al., this volume). The category of emotional maltreatment typically subsumes an array of parenting behaviors that range from neglectful/unresponsive/uninvolved to hostile/critical/controlling (Hart et al., 1998). Together, these behaviors convey a message that the child is “worthless, flawed, unloved, unwanted, endangered, or of value only in meeting another’s needs” (APSAC, 1995, p. 2). Yet different subtypes of emotional maltreatment are likely to have unique effects on development, though this hypothesis remains to be tested empirically.

Prevalence rates of emotional maltreatment are difficult to ascertain because they capture a wide range of parenting behaviors, and there is little to no consensus across studies as to what phenomena should be included. Moreover, emotional maltreatment often co-occurs with other forms of maltreatment, including physical and sexual abuse (Hart et al., 1998), though it may also occur independently (Crittenden, Claussen, & Sugarman, 1994). Prominent comorbidity rates have prompted some researchers to argue that emotional maltreatment is the core factor underlying the deleterious effects of child maltreatment broadly (Hart et al., 1998; Navarre, 1987). Indeed, several studies suggest that emotional maltreatment contributes to later maladjustment above and beyond the influence of concurrent maltreatment experiences (e.g., Herrenkohl, Herrenkohl, Egolf, & Wu, 1991; Solomon & Serres, 1999).

In an effort to refine extant definitions of emotional maltreatment, and perhaps to justify greater specification of a typology of emotional maltreatment, this investigation examined two forms of child emotional maltreatment, early childhood experiences of omission in the form of emotionally neglectful/unresponsive/uninvolved parenting (i.e., psychological unavailability) and of commission involving hostile/critical/controlling parenting (i.e., hostility). No studies to our knowledge have compared the relative contribution of each form of emotional maltreatment to subsequent adaptation. Instead, previous studies have either focused on a single type of emotional maltreatment, or have collapsed multiple forms of emotional maltreatment into one category.

Although there is abundant evidence for the deleterious effects of emotional maltreatment, efforts to understand the specific effects of different forms of childhood emotional maltreatment are needed, particularly with respect to adaptive outcomes in later childhood and adolescence. In early childhood, emotional maltreatment has been associated with insecure/anxious attachment (Egeland & Sroufe, 1981). In middle childhood, Lefkowitz, Eron, Walder, and Hoffman (1977) found that histories of emotional maltreatment were associated with elevated levels of aggression in a large, nationally representative sample. Similarly, emotional maltreatment has been associated with both aggression and withdrawal in middle childhood (Crittenden et al., 1994). In adolescence, consistent relations between childhood emotional maltreatment and internalizing psychopathology have been identified (Gibb et al., 2001; McGee, Wolfe, & Wilson, 1997). Emotional maltreatment has been associated with multiple indicators of low self-esteem in adolescence, such as feelings of anhedonia and pessimism regarding the future (Ney, Fung, & Wickett, 1994). At the level of developmental process, recent work by Kim and Cicchetti (2006) suggests that emotional maltreatment is associated with slower increases in self-esteem across the elementary school years, as compared to children without histories of emotional maltreatment, when controlling for other experiences of maltreatment. Together, these studies point to significant relations between child emotional maltreatment and a variety of pathological outcomes. Yet, by and large, the extant literature has failed to examine if and how different forms of emotional maltreatment may contribute to different outcomes and/or to the same outcome via unique processes.

The present investigation builds on the current literature by examining if and how distinct forms of emotional maltreatment in early childhood may contribute to adaptive functioning in middle childhood and early adolescence. Preliminary evidence from early childhood suggests that acts of emotional commission (e.g., critical, hostile, controlling parenting) may have distinct developmental effects relative to those of emotional omission (e.g., neglectful, unresponsive, uninvolved parenting). For example, Egeland, Sroufe, and Erikson (1983) reported that emotional abuse in toddlerhood led to increased anger, poor impulse control, and hyperactivity at preschool ages, whereas emotional neglect led to low self-esteem, noncompliance, and dependence on teachers in preschool. Extending into middle childhood and adolescence, several studies suggest that emotional abuse in early childhood (i.e., verbal threats and hostility) contributes to increased anger and aggressiveness, as well as to lower self-esteem and higher levels of psychopathology in middle childhood (Herrenkohl et al., 1991; Johnson et al., 2001; Teicher et al., 2006; Vissing, Straus, Gelles, & Harrop, 1991). Although less common, studies of emotionally

unresponsive and neglectful caregiving suggest positive associations with later internalizing and externalizing symptoms (Sturge-Apple, Davies, & Cummings, 2006).

Moreover, preliminary evidence points to specific and unique effects of emotional neglect versus other forms of maltreatment. For example, Kotch and colleagues (2008) found that aggression in later childhood was predicted by neglect (in both physical and emotional forms), but not by other forms of maltreatment (Kotch et al., 2008).

Given these suggestive findings, studies examining the effects of emotional abuse versus neglect in the same sample are needed. Moreover, beyond the elucidation of unique effects, process-level analyses are required to further explore *how* distinct forms of emotional maltreatment may contribute to divergent outcomes and, more importantly, *how* distinct forms of emotional maltreatment may contribute to convergent outcomes via unique processes (i.e., equifinality; Cicchetti & Rogosch, 1996).

The current investigation examined the specific contributions of parental psychological unavailability and hostility to adaptive outcomes in early adolescence. Adaptive outcomes were identified in accordance with a developmental psychopathology approach, which evaluates adaptive functioning with respect to the quality of the individual's negotiation of age-salient challenges (Rutter & Sroufe, 2000). The selection of outcomes was also informed by the theoretical proposition that emotional maltreatment is primarily damaging to the self and to the self's view of the world (Hart et al., 1998). To that end, the development of emotional health and self-esteem as well as functioning in the social milieu of peers were deemed especially relevant early adolescent outcomes, and were used to capture early adolescent adjustment. Beyond discrete relations with global adjustment, however, this investigation adopted a process-level analytic approach to examine if and how different forms of emotional maltreatment contribute to adolescent adjustment via aggression and social withdrawal in middle childhood, by specifying developmental pathways that could be examined with longitudinal mediational analyses. These pathways were informed by an organizational perspective on development, which highlights the deleterious impact of maltreatment on the negotiation of age-salient developmental issues that, in turn, is likely to initiate pathways toward adaptational vulnerabilities at later points in time (Egeland, Yates, Appleyard, & van Dulmen, 2002). Due to a lack of research that examines multiple forms of emotional maltreatment, comparisons between emotional abuse and emotional neglect were considered exploratory.

Method

Participants

The participants for this study were drawn from the Minnesota Longitudinal Study of Parents and Children, a prospective, longitudinal study which began in 1975 (see Egeland & Brunnuell, 1979). At this time, 267 women of low socioeconomic status who were in the third trimester of their first pregnancy were recruited through a public health clinic where they were receiving prenatal care. Data for the current study are drawn from assessments completed when the focal children ranged from 24 months to sixth grade. The sample consisted of participants who provided valid data at the 24-month assessment ($N = 196$), given that the preponderance of sample attrition occurred prior to the 24-month assessment. All participants provided informed consent (and for child participants, informed assent with the permission and consent of caregivers) and all procedures throughout the entire study period were approved by the University of Minnesota's Institutional Review Board.

Mothers' ages at the time of birth ranged from 12 to 34 years (mean = 20.6). Sixty percent ($n = 118$) of the mothers were unmarried and 35% ($n = 72$) had not completed high school, thus reflecting the high-risk nature of the sample. In terms of race/ethnicity, the mothers were primarily Caucasian (82%, $n = 160$), as well as African American (12%, $n = 24$) and Latino, Asian, or Native American (6%, $n = 12$). The current sample of children consists of 109 males and 87 females, and is similarly distributed in terms of race/ethnicity: 65% Caucasian ($n = 127$), 12% African American ($n = 23$), 3% Latino, Asian, or Native American ($n = 5$), and 17% mixed race/ethnicity ($n = 34$). Fathers' race/ethnicity was not available for 7 children in the current sample.

Child emotional maltreatment

Emotional maltreatment was identified via multiple observations of mothers' interactions with their children at several time points in early childhood. Observational data were drawn from home observations at 3, 6, and 9 months (i.e., feeding and play interactions) and structured mother-child interactions in the laboratory at 12, 18, 24, and 42 months. At 12 and 18 months, the dyads engaged in tasks requiring that the mothers set limits for their children, and at 24 and 42 months the dyads participated in problem-solving tasks that required maternal support and scaffolding. Further details on the behavioral tasks and coding procedures have been published elsewhere (Egeland et al., 1983). Other forms of maltreatment were also assessed in this study sample, including physical and sexual abuse. All families in which sexual or physical abuse was identified were under the care of a public health nurse or child protective services during the time of the study (Egeland et al., 1983).

Emotional neglect (ages 3–42 months). Ratings of emotional neglect were drawn from a review of all available observational data, and coded by trained raters based on observations of mother-child interactions in the home during the 3, 6 and 9-month interviews, and in the laboratory during the 12, 18, 24 and 42-month interviews. Mothers who were identified as emotionally neglectful were emotionally distant and unresponsive to the child's bids for comfort and help. These mothers

Table 1
Descriptive statistics and *t*-test comparisons by gender (*N* = 196; 109 males, 87 females).

	Full Sample		Males		Females		<i>t</i>	d.f.
	<i>M</i>	S.D.	<i>M</i>	S.D.	<i>M</i>	S.D.		
MC aggression	57.59	7.63	58.12	8.14	56.98	6.99	1.01	180
MC social withdrawal	56.35	6.91	57.27	7.23	55.29	6.39	1.94 [†]	180
EA competence	−0.00	0.94	−0.25	0.10	0.29	0.09	−3.99 ^{**}	173

Note: MC = middle childhood, EA = early adolescence.

[†] *p* = .05.

^{**} *p* < .01.

appeared to be detached and uninvolved with their children, interacting with them only when necessary. Identifications of emotional neglect were based on continuous ratings that were dichotomized such that the most consistently severe cases were identified as emotionally neglecting (see Egeland et al., 1983).

Emotional abuse (ages 12–42 months). Emotional abuse was rated by observers during the 12 and 42 month observational assessments. Mothers who were identified as emotionally abusive were observed to be verbally hostile with their children, often making critical or sarcastic comments as their children completed the tasks. Ratings of emotional abuse were made using 7-point scales that were averaged across assessments and dichotomized such that mothers with scores one standard deviation above the sample mean were identified as emotionally abusive.

Middle childhood outcomes/mediators

Middle childhood outcomes were assessed using teacher ratings in order to limit the response bias that may have occurred by obtaining ratings of child behavior from caregivers who may be abusive or neglectful. The Teacher Report Form (TRF) of the Child Behavior Checklist (Achenbach & Edelbrock, 1986) is a measure designed to assess children's problem behavior and adaptive functioning. This instrument has been standardized on normative samples and used extensively with clinical and research samples. Ratings of interpersonal aggression in middle childhood were obtained via the Aggression narrow-band subscale of the TRF, and ratings of social withdrawal in middle childhood were drawn from the social withdrawal narrow-band subscale. Narrow-band scales were selected in lieu of the broad-band internalizing and externalizing scores in order to obtain more specificity in outcomes of interest, and to align the current research questions with previous research findings. TRF assessments were completed at grades 1 and 3, and standardized subscale scores (i.e., *T* scores, *M* = 50, S.D. = 15) were averaged across assessments.

Early adolescent adjustment

A measure of early adolescent competence was derived from teacher reports of the adolescent's self-esteem and peer competence. Ratings of self-esteem and peer competence in early adolescence were completed by 6th grade teachers, who ranked their students in terms of emotional health and peer interactions using a measure developed for the MLSPC. Teachers were instructed to rank each student in their classroom, from lowest to highest, on each of these variables. The two ranking scores were highly correlated ($r = .77, p < .01$) and were composited by standardizing each ranking as a *z*-score before averaging across the two variables.

Results

Descriptive analyses

Prevalence. Of the 196 participants in this sample (87 females, 109 males), 26 children (9 females, 17 males) were identified as having experienced emotional neglect and 44 children (19 females, 25 males) were identified as having experienced emotional abuse. In terms of overlap, 8 participants were identified as having experienced both emotional abuse and emotional neglect.

Concurrent maltreatment. Co-occurrence among types of maltreatment were evaluated using chi square analyses. Child physical abuse was more likely to co-occur with both emotional abuse [$\chi^2(1, 172) = 4.82, p < .05$] and emotional neglect [$\chi^2(1, 172) = 35.26, p < .05$]. In contrast, sexual abuse was no more likely to co-occur with either form of emotional maltreatment.

Descriptive statistics and gender differences. Descriptive statistics for the outcome variables (i.e., aggression and social withdrawal in middle childhood, and the socioemotional competence variable in early adolescence) are presented in Table 1. Means and standard deviations are presented for the entire study sample and separately by gender. Independent samples *t*-tests were conducted to explore potential gender differences in the outcome variables. As shown in Table 1, adolescent

Table 2

Bivariate correlations among independent predictors and child outcomes for the total sample (N = 196).

	Emotional neglect	Emotional abuse	MC aggression	MC social withdrawal	EA competence
Emotional neglect	–				
emotional abuse	.08	–			
MC aggression	.25**	.24**	–		
MC social withdrawal	.17*	.23**	.16*	–	
EA competence	–.17*	–.20*	–.25**	–.37**	–

Note: MC = middle childhood, EA = early adolescence.

* $p < .05$.

** $p < .01$.

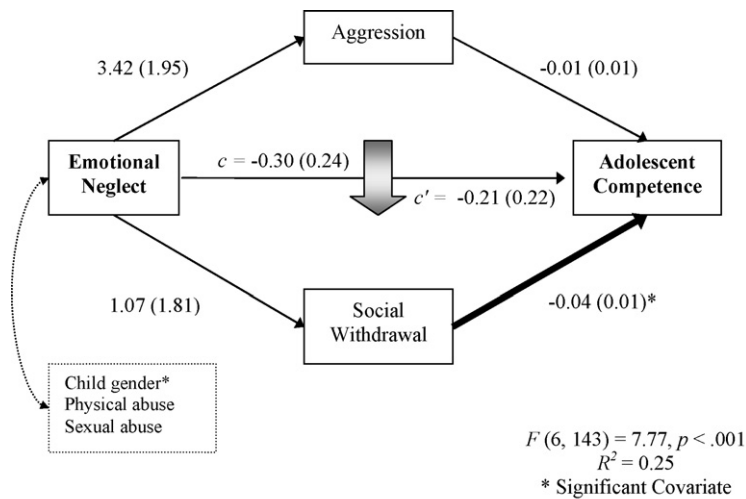
competence scores were significantly higher for females than for males [$t(173) = 3.99, p < .01$], and there was a trend toward significantly higher social withdrawal scores for males [$t(180) = 1.94, p = .05$].

Mediation analyses

Bivariate correlations revealed significant relations among the putative predictor, mediator, and outcome variables in the predicted directions that justified formal mediation analyses (see Table 2). Two mediation models were tested, with separate models run for each predictor variable (i.e., emotional abuse and emotional neglect). Significant relations between emotional maltreatment and early adolescent competence were further evaluated to examine the role of middle childhood processes (i.e., social withdrawal and aggression) as putative explanatory mechanisms.

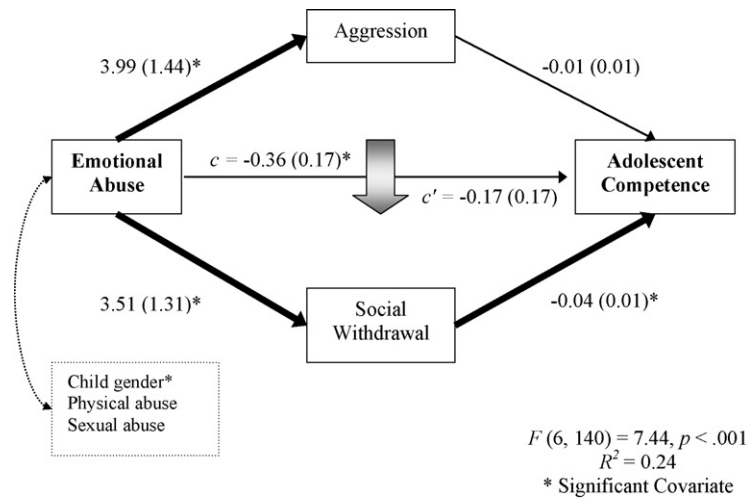
Longitudinal mediational analyses were conducted using bootstrapping techniques for testing multiple mediators, via Preacher and Hayes' (2008) SPSS macro. Bootstrapping analyses are well suited to smaller samples because the estimates are more robust to violations of normality in sample distributions. Furthermore, the macro designed by Preacher and Hayes (2008) allows for the simultaneous testing of multiple mediators (i.e., social withdrawal and aggression in middle childhood) while accounting for potential collinearity among the mediator variables. Additionally, the mediational analyses allow for the statistical control of specified covariates. In all analyses, child gender and concurrent physical abuse and sexual abuse were included as covariates.

The developmental consequences of emotional neglect. As shown in Table 2, emotional neglect in early childhood was associated with elevated aggression ($r = .25, p < .01$) and social withdrawal ($r = .17, p < .05$) in middle childhood, and with lower levels of competence in early adolescence ($r = -.17, p < .05$). However, multiple mediation analyses failed to support process-level pathways from early emotional neglect to adolescent competence via middle childhood aggression or social withdrawal (see Fig. 1).



Note. Covariates include child gender, child physical abuse, and child sexual abuse. Coefficients reflect unstandardized parameter estimates.

Fig. 1. Multiple mediation analysis predicting the impact of emotional neglect on adolescent competence via social withdrawal and aggressive behavior in middle childhood. Note: Covariates include child gender, child physical abuse, and child sexual abuse. Coefficients reflect unstandardized parameter estimates.



Note. Covariates include child gender, child physical abuse, and child sexual abuse. Coefficients reflect unstandardized parameter estimates.

Fig. 2. Multiple mediation analysis predicting the impact of emotional abuse on adolescent competence via social withdrawal and aggressive behavior in middle childhood. Note: Covariates include child gender, child physical abuse, and child sexual abuse. Coefficients reflect unstandardized parameter estimates.

The developmental consequences of emotional abuse. Emotional abuse in early childhood was associated with elevated aggression ($r = .24, p < .01$) and social withdrawal ($r = .23, p < .01$) in middle childhood, and with lower competence in early adolescence ($r = -.20, p < .01$). In the case of emotional abuse, significant mediation effects were detected (see Fig. 2). Specifically, mediation analyses demonstrated that emotional abuse contributed to decreased competence in early adolescence ($B_{\text{competence}} = -0.36, \text{SEB} = 0.17, p < .05$). However, when social withdrawal and aggression were added to the model, the direct relation between emotional abuse and adolescent competence was no longer significant ($B_{\text{competence}} = -0.17, \text{SEB} = 0.17, ns$). Although only social withdrawal emerged as a significant and unique mediator of this relation ($B_{\text{withdrawal}} = -0.14, \text{SEB} = 0.07, p < .05$), a comparison of the indirect effects suggested that the mediational paths were not significantly different from one another ($B_{\text{contrast}} = 0.08, \text{SEB} = 0.09, ns$).

As noted previously, these analyses controlled for gender, concurrent physical abuse, and concurrent sexual abuse to allow tests of moderated mediation (Baron & Kenny, 1986), or conditional indirect effects (Preacher, Rucker, & Hayes, 2007). Physical abuse ($B_{\text{physical}} = -0.28, \text{SEB} = 0.19, ns$) and sexual abuse ($B_{\text{sexual}} = -0.10, \text{SEB} = 0.29, ns$) did not emerge as significant covariates. However, gender was a significant covariate ($B_{\text{gender}} = 0.47, \text{SEB} = 0.14, p < .01$) in the mediational model described above; thus, the indirect effect of emotional abuse on adolescent competence through social withdrawal in middle childhood is moderated by child gender. Post hoc analyses further examined this conditional indirect effect by testing the model separately for males and females. Results suggest that the pathway from emotional abuse to decreased adolescent competence via increased social withdrawal in middle childhood is especially salient for males.

Discussion

The primary goal of the current study was to conduct a prospective, longitudinal investigation of adolescent adaptational outcomes of early emotional maltreatment. Although evidence is accumulating in the literature regarding the deleterious and long-lasting sequelae of emotional maltreatment (see Wright, 2007, for review), few studies have utilized longitudinal data to evaluate these assertions. Addressing this limitation, the current study revealed significant associations between early childhood emotional maltreatment and adolescent socioemotional adaptation (i.e., self-esteem and peer competence) in a high-risk community sample that has been followed since birth.

The current study further extends the literature regarding the sequelae of emotional maltreatment by exploring potential differences between specific forms of emotional maltreatment. While both emotional abuse (i.e., verbal criticism, hostility) and emotional neglect (i.e., psychological unavailability, failure to reciprocate affect) are potentially harmful forms of maltreatment, the mechanisms by which they result in divergent and/or convergent negative outcomes may differ. Yet few studies have compared, or even specified, these different forms of emotional maltreatment. Thus, the current study explored relations among emotional abuse, emotional neglect, and adaptive functioning over time. Notably, relatively few of the children in the current study ($n = 8$) experienced both emotional abuse and emotional neglect, suggesting that these forms of maltreatment may indicate distinct family processes. Process-level longitudinal analyses supported this assertion revealing significant relations between emotional maltreatment and adolescent competence, but perhaps through distinct processes. While social withdrawal in middle childhood significantly explained the observed relation between emotional abuse and

decreased competence in adolescence, this process did not emerge as salient in understanding the relation between emotional neglect and poorer adolescent adaptation.

In addition to comparing two types of emotional maltreatment, the current study also sought to uncover the developmental process by which emotional abuse and neglect lead to maladaptation in adolescence by examining the mediational role of social functioning in middle childhood. In these models, the developmental relations from early childhood emotional maltreatment to social withdrawal and aggression in middle childhood and, subsequently, to early adolescent competence were tested. Separate models were analyzed for emotional abuse and emotional neglect in order to conduct exploratory comparisons, as described above. These analyses employed bootstrapping techniques that allowed for the simultaneous testing of multiple mediators (i.e., middle childhood social withdrawal and aggression) and the inclusion of covariates (i.e., gender, physical abuse, and sexual abuse) in order to control for collinearity among mediator variables and other extraneous influences (Preacher & Hayes, 2008). The results of these analyses revealed differential effects dependent on the type of emotional maltreatment that was used as the predictor variable. Results were not significant for the emotional neglect model, controlling for gender and other forms of maltreatment. For the emotional abuse model, the effects of emotional abuse on adolescent competence were mediated by social withdrawal, while controlling for the role of middle childhood aggression, gender, and concurrent physical and sexual abuse. These data point to the enduring negative impact of emotional maltreatment on adolescent functioning using a very stringent method of empirical evaluation.

The results of this study raise a number of questions that warrant further study. For example, the fact that mediational results were significant only for emotional abuse, and not emotional neglect, requires explication. One possibility may be that the differences in sample size account for lack of significant findings for emotional neglect, as there were more children identified as emotionally abused than emotionally neglected. Another explanation may be that the outcomes targeted in the current study are more salient for children who experienced emotional abuse as opposed to emotional neglect. Certainly further research is warranted to compare the sequelae of emotional abuse and emotional neglect.

By simultaneously testing multiple mediators, the analyses offer an estimate of the associations between the predictor variable and each mediator variable while controlling for the other mediator in the same model. Results of these analyses showed that, between the two middle childhood mediators that were tested, both forms of emotional maltreatment were more strongly related to social withdrawal than to aggression (see Figs. 1 and 2). Because both social withdrawal and aggression are interpersonal and relational variables, these findings may be interpreted as evidence that emotional abuse tends to turn children away from relationships with others, rather than against them. From an organizational perspective on the development of psychopathology (Cicchetti & Schneider-Rosen, 1986; Sroufe & Waters, 1977), the tendency of children to withdraw from interpersonal relationships when their history is that of emotionally abusive interactions can be seen as a way of actively coping with these experiences, and protecting the self against further emotional abuse. While this coping mechanism may serve children well for a certain period of time and in the context of certain relationships, it becomes more maladaptive and indicative of psychopathology when it extends to other contexts, such as peer relations. Thus, the development of social withdrawal, and the effects of social withdrawal on subsequent adaptation, is consistent with Sameroff's definition of psychopathology as "... achievements that result from the active strivings of each individual to reach an adaptive relation to his or her environment" (Sameroff, 2000, p. 37).

Gender was a significant covariate in the mediational analyses described above; post hoc testing revealed that the association between emotional abuse and adolescent competence was mediated by social withdrawal for males, but not for females. These findings are difficult to understand, though similar patterns have been observed in other studies using this sample (e.g., Burt et al., 2005; Sroufe & Egeland, 1991). These findings may reflect the absence of father data from these analyses, suggesting that mother-initiated emotional maltreatment may be especially salient for boys. At this point, the maltreatment literature lacks an in-depth consideration of the possibility of gender-specific adaptation to maltreatment, and this is an area in need of further review.

Strengths and limitations

The current study possesses a number of methodological strengths, not the least of which is the prospective longitudinal design that is rare among studies of maltreatment and its sequelae. This design allows for tests of mediation that establish temporal precedence of the predictor before the mediator, and of the mediator before the outcome of interest, as has been recommended for the more rigorous study of mediation and developmental processes (Kraemer, Stice, Kazdin, Offord, & Kupfer, 2001). In addition, the current study utilizes multiple methods (i.e., observational, self-report, etc.) as well as multiple informants (i.e., researcher, teacher), which bolsters the validity of the findings. A final methodological strength of the study is the use of bootstrapping techniques to capitalize on the relatively small sample size without violating assumptions of the normal distribution as in traditional multiple regression analyses that are limited to single point estimates of the model parameters. Similarly the SPSS macro used in these analyses (Preacher & Hayes, 2008) allows for the simultaneous testing of multiple mediators while controlling for collinearity among the proposed mediators, as well as selected covariates.

The current study was especially strengthened by the specification of different forms of emotional maltreatment, thus addressing an important gap in the empirical literature on the sequelae of emotional maltreatment. Notably, both forms of emotional maltreatment were identified using observational data rather than retrospective self-report, which may yield more valid indicators that are less susceptible to social desirability or other response biases (Baumeister, Vohs, & Funder, 2007; Widom, Raphael, & DuMont, 2004). By differentiating between emotional abuse (i.e., verbal hostility, excessive criti-

cism) and emotional neglect (i.e., psychological unavailability, failure to reciprocate affect), we were able to conduct specific comparisons between these forms of emotional maltreatment in their developmental sequelae in middle childhood and early adolescence. In measuring these sequelae, another novel aspect of this study involves the assessment of salient developmental outcomes (i.e., social functioning, peer competence, self-esteem) rather than focusing solely on psychopathology outcomes, as is common in the maltreatment literature. Instead, and consistent with a developmental psychopathology perspective, we defined competence in salient domains as more than simply the absence of psychopathology (Masten & Curtis, 2000; Rutter & Sroufe, 2000).

Despite these strengths, however, the present findings must be interpreted with caution and in the context of the study's limitations. First, as discussed previously, the present findings point to an unexpected gender difference in apparent pathways between emotional maltreatment and decreased competence in adolescence. However, this finding may follow from the exclusive use of maternal data. Second, the apparent salience of emotional abuse for later adaptation relative to that of emotional neglect may follow from differences in the power to detect effects as a function of the different sample size of abuse versus neglected participants. Third, the definitions of emotional maltreatment as used in the current study do not include experiences such as witnessing interparental violence, which are often included in CPS reports of emotional maltreatment.

Future directions and clinical implications

Future research should directly address the fact that the current findings were significant for emotional abuse but not emotional neglect. First, because the current study represents an initial and exploratory comparison of the sequelae of these forms of emotional maltreatment, there is a pressing need to replicate findings in other samples. Furthermore, future research should encompass additional outcome domains, beyond social withdrawal, aggression, self-esteem and peer competence, including measures of both competence and psychopathology.

In addition, future research in this area could further capitalize on longitudinal data by tracking changes in outcomes over time, by using mixed-level modeling (e.g., Kim & Cicchetti, 2006), for example.

Finally, the results of this study point to important implications for clinicians working with maltreated individuals. First and foremost, emotional maltreatment is generally overlooked and unrecognized as compared to physical or sexual forms of maltreatment; yet, this study adds to the accumulating empirical evidence that the effects of emotional maltreatment are disabling and enduring. Thus a primary clinical indication is for the more careful assessment of emotional maltreatment, including both emotional abuse and emotional neglect. Perhaps even more so than for individuals with physical or sexual maltreatment histories, the recognition of emotional maltreatment may be challenging for the individual, as well as for the clinician who is treating the sequelae. Finally, clinicians must recognize that a single maltreatment type may lead to a common outcome via distinct processes. The results of this study suggest that the processes that operating in the wake of emotional maltreatment may be different for boys than for girls, and the processes operating following emotional abuse may differ from that following emotional neglect.

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