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ORIGINAL PAPER

The Role of Parental Distress in Moderating the Influence of Child Neglect on Maladjustment

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Abstract Despite pervasive evidence of the harmful impact of neglect on children's adjustment, individual differences in adaptation persist. This study examines parental distress as a contextual factor that may moderate the relation between neglect and child adjustment, while considering the specificity of the relation between neglect and internalizing versus externalizing problems. In a sample of 66 children (33 with a documented child protective services history of neglect prior to age six), neglect predicted internalizing, and to a lesser extent externalizing, problems as rated by teachers at age seven. Parental distress moderated the relation between neglect and internalizing, but not externalizing, problems. Specifically, higher levels of neglect predicted more internalizing problems only among children of distressed parents. These findings indicate that parent-level variables are important to consider in evaluating the consequences of neglect, and point to the importance of considering contextual factors when identifying those children most at risk following neglect.

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Introduction

Early experiences in the parent–child relationship form the foundation upon which much of later development is based, and as such represent one of the most prominent influences on a child's adjustment. Thus child neglect, which often reflects the absence of a supportive parent–child relationship, stands as one of the most potentially harmful influences on a broad network of developmental outcomes. Child neglect, defined as the omission of care sufficient to meet a child's basic needs, is a particularly damaging form of maltreatment (Erickson and Egeland 2002; Erickson et al. 1989). It not only exposes the child to life threatening situations through lack of supervision and provision of physical necessities, but also interferes with the child's ability to form secure attachments and to receive emotional support (Toth et al. 1997). Neglect, through a lack of parental emotional and/or physical availability, puts children at risk for pervasive and cumulative consequences across the lifespan (Hildyard and Wolfe 2002). Yet, individual differences persist in children's adjustment following neglect, including differences regarding domains of adaptation. Therefore, it is important to identify potential moderating factors that distinguish a given child's specific experience of neglect. Parental distress—the subjective discontent felt by parents, reflecting their level of depression and stress, helps to characterize the emotional climate in the household and is a key factor to investigate as a moderator of children's adjustment following neglect.

While documented consequences of child neglect are far reaching in both early and late childhood, there remains

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heterogeneity in the specific domains of adjustment problems observed, as neglect is associated with worse academic achievement (Erickson and Egeland 2002; Kendall-Tackett and Eckenrode 1996), poorer social interaction (Chapple et al. 2005; Hildyard and Wolfe 2002), health problems (Repetti et al. 2002), and greater psychopathology (Bennett et al. 2010a; Erickson and Egeland 2002). Regarding psychopathology, neglect has been linked to both internalizing (Bennett et al. 2010a; Bolger and Patterson 2001b; Dubowitz et al. 2002) and externalizing problems (Chapple et al. 2005; Erickson and Egeland 2002). While somewhat equivocal, the preponderance of the literature suggests that neglect may be more strongly associated with internalizing problems. Hildyard and Wolfe (2002) concluded in their review that while neglected children are likely to display some externalizing problems, they are more appropriately characterized by their particularly high levels of internalizing, social, and emotional problems. Neglect is less likely than other types of maltreatment (e.g., physical and sexual abuse) to predict externalizing problems (Bousha and Twentyman 1984; Hoffman-Plotkin and Twentyman 1984; Manly et al. 2001; Shields and Cicchetti 1998), and more likely than other types of maltreatment to predict internalizing problems (Erickson et al. 1989; Manly et al. 2001). This suggests that relations found between neglect and externalizing problems may be a product of the overlap between neglect and other maltreatment types. Given the high comorbidity between internalizing and externalizing problems, especially in younger children (Anderson et al. 1987; Oland and Shaw 2005), the extent to which neglect uniquely predicts internalizing relative to externalizing problems is important to examine in considering screening and prevention efforts for children with a history of neglect.

Beyond this focus on particular domains of adjustment, variability in neglect's overall impact on development remains to be clarified as well. As such, it is important to identify factors that may moderate the relation between neglect and later adjustment. That is, certain experiences characteristic of neglect may be more hazardous than others. For example, research suggests that children of emotionally neglectful parents may fare worse than those who are physically neglected (i.e., deprived of food and/or shelter) (Dubowitz et al. 2004; Erickson and Egeland 2002; Hildyard and Wolfe 2002), are more likely to develop attachment problems (Egeland and Sroufe 1981), and compared to physically neglected children are especially likely to display internalizing problems (Dubowitz et al. 2004; Erickson and Egeland 2002). Although this research suggests that it may be the emotional or relational aspect of neglect that is at the heart of its negative impact, the presence of emotional neglect itself is often extremely difficult to establish (Glaser 2002). Therefore, rather than explicitly comparing neglect subtypes, it may be useful to assess the broader emotional context in which neglect occurs, such as the extent to which parents of neglected children are experiencing distress, that may strain the parent–child relationship.

Parental distress, characterized by depressive symptoms and elevated stress, is common among neglectful parents and is likely to have parent–child relationship implications. Numerous studies have identified parental depressive symptoms as highly comorbid with neglectful parenting (Berry et al. 2003; Connell-Carrick 2003; Ethier et al. 1995), even after controlling for the effects of poverty (Carter and Myers 2007). Stress, and in particular parenting stress (Ethier et al. 1995), is also a widespread feature of neglectful families, as neglectful parents are more likely to experience violent marital partners, substance abuse, social isolation, and poverty (Berry et al. 2003; Carter and Myers 2007; Connell-Carrick 2003; Kelley 1998; Lacharite et al. 1996). While not all experiences of child neglect occur among parents who experience substantial distress (as defined specifically by depressive symptoms and parenting stress), the *most* detrimental experiences of neglect may occur in the combined context of both of these risk factors. Therefore, we examined parental distress as a key feature that, when prevalent in neglectful households or experienced following a history of neglect, may exacerbate neglect's negative impact on child adjustment. While both neglect and parental distress are likely to exert smaller independent negative effects on adjustment, our interactive model proposes that they exert an additional synergistic effect, whereby those children with exposure to both neglect and parental distress are at amplified risk for experiencing elevated adjustment problems. Thus we discuss two complementary potential interpretations of this model: (1) that neglect is most harmful to children who also experience high levels of parental distress, and (2) that parental distress is most harmful to children who also experience high levels of neglect.

Parental distress can be best assessed by measuring both parental depression and stress directly related to the parenting role. Examining parental distress in this unified manner provides improved prediction of child adjustment, and has been addressed in models reflecting the transactional effects of both depression and stress on development (Bayer et al. 2006; Ethier et al. 1995). Depression and parenting stress have been combined in prior research as indicators of latent parental distress constructs (Wei et al. 2003), as a single scale (Lovibond and Lovibond 1993), in factor analysis (Crowley and Kazdin 1998), and as in the present study as a composite variable (Fernandez and Eyberg 2009; Miceli et al. 2000). Moreover, their unified assessment has been found to predict outcomes better than either construct individually (Werba et al. 2006).

Particularly when examining child neglect and the overall emotional climate of the household, it is important to consider that the combined effects of these constructs may help to determine the effects of neglect on children.

Parental distress, by impacting parental unavailability or unresponsiveness, can be a key factor in undermining the quality of care a parent can provide (Tein et al. 2000). Parental distress has been repeatedly linked to maladaptive parenting behaviors and reduced quality of parent–child interaction (Crnic et al. 2005; Crnic and Greenberg 1990; Stein et al. 1991), less nurturant parenting (Anthony et al. 2005), lower levels of maternal sensitivity (Trapolini et al. 2008), and less responsiveness (Cox et al. 1987). In sum, there is a strong link between parental distress and deficits in the quality of emotionally responsive caregiving. Not all experiences of child neglect are characterized by substantial emotional caregiving deficits [i.e., in some cases neglect reflects an omission of physical care (e.g., food, shelter), rather than emotional care]. Thus, we speculate that when high parental distress is present in families with a history of neglect, emotional and relational disruption may also have occurred. Although we cannot explicitly assess these caregiving deficits in the present study, we propose that a history of neglect that is also characterized by later parental distress is more likely to negatively impact child adjustment than one absent of this specific threat to emotionally responsive caregiving.

The second possible interpretation of our interactive model is that the direct effects of parental distress on child adjustment are most detrimental when neglect has occurred. Numerous studies have shown a link between both parental depression, including subclinical symptoms, and parenting stress with child psychopathology (Anhalt et al. 2007; Anthony et al. 2005; Gelfand and Teti 1990; Malcarne et al. 2000; Sawyer et al. 1998). Several models describing the effects of parental distress on child adjustment highlight factors that are especially salient in neglectful families. Parental distress models often focus on poor parenting (Deater-Deckard 1998), insecure attachment (Elgar et al. 2004), and a shared reaction to a negative home environment (Anthony et al. 2005). Each of these models involves mitigating factors that are prevalent in neglectful families, suggesting that parental distress may be more likely to lead to child maladjustment when combined with a history of neglect, and that parental distress without neglect may not be as likely to lead to child maladjustment.

In summary, existing research and theory suggest that the negative impact of either neglect or parental distress may be magnified when both risk factors have occurred. That is, children who experience neglect and parental distress are experiencing potentially the most detrimental form of child neglect. Additionally, children who experience parental distress in the context of a history of neglect are experiencing the most precarious experience of parental distress, that which is highly related to several potential pathways to child maladjustment. While many studies have examined these risk factors individually as predictors of child adjustment, to the best of our knowledge parental distress has not been examined as a moderator of the relation between neglect and child adjustment. Here we address the potential synergistic effects of these risk factors, that each risk may exacerbate the negative effects of the other on child maladjustment. In doing so, we focus on a particularly vulnerable age group. Early childhood is the developmental period in which children are at the greatest risk for neglect (U.S. Department of Health and Human Services Administration on Children Youth and Families 2010) and are most vulnerable to its negative effects, particularly to the impact of neglect on internalizing problems (Kaplow and Widom 2007; Manly et al. 2001). Finally, the present study is also strengthened by the use of teacher reports of child adjustment as the outcome measure. Teachers are important evaluators of children's adjustment, particularly since distressed parents may be biased in their reports of child functioning (Angold et al. 1987; Briggs-Gowan et al. 1996; Najman et al. 2001).

To examine differential child adjustment following neglect, we tested both the specificity of neglect as a predictor of internalizing versus externalizing problems, as well as the ability of parental distress to moderate the hypothesized relations between neglect and maladjustment through two specific hypotheses. *Hypothesis* 1: Neglect will be associated with both internalizing and externalizing problems at the bivariate level, but the relation will be strongest (i.e., display greater specificity) for internalizing problems when the covariance between the two outcomes is taken into account. *Hypothesis* 2: Parental distress will moderate the relation between neglect and adjustment such that children with a history of neglect will display more internalizing and externalizing problems when exposed to higher parental distress.

Method

Participants

Participants were 66 children (62.1 % female) and their primary caregivers, a subset of subjects from a larger longitudinal study ($N = 194$) for whom complete data was available for this report. Parental education was missing for one participant, however the majority of excluded participants ($N = 127$) were missing teacher reports of internalizing and externalizing problems. Because collection of teacher-reported outcomes occurred up to two years after collection of predictor variables, 71 participants who did not return for follow-up at age 7.5 years could not consent

to the collection of teacher data. Of the remaining 56 participants without teacher data, 55 had teachers who did not return questionnaires despite the availability of a modest incentive and repeated follow-up, while 1 parent refused to consent to teacher data collection. Participants in the present report were not significantly different from excluded participants on gender ($p = .476$), ethnicity ($p = .613$), parental education ($p = .839$), parental distress ($p = .382$) or neglect ($p = .079$).

Child gender was included as a covariate in all analyses (female = 1, male = 0). Participants were initially recruited at age four or six and were assessed at research offices at six month intervals, however all children were 6 years-old when the present study's parent data was collected, and 7.5 years-old when the teacher data was collected. Initial cohort membership was included as a covariate in all analyses (recruited at age 4 = 1, recruited at age 6 = 0). Of the caregivers, 58 were biological parents, two were adoptive parents, and six were other relatives (e.g., grandmothers), however all were the child's legal guardian. For all but three children, the neglect was perpetrated by the caregiver participating in the study. Parents' ethnicity was as follows: 75.4 % African American, 12.3 % Hispanic, 6.2 % European American, and 6.2 % Other/Mixed. The parents' median age at the time of recruitment was 34.21 years ($M = 34.92$, SD = 8.61), and only two parents were under the age of 18 when their child was born.

In order to sample a range of families both with and without histories of neglect from the same demographic groups and neighborhoods, participants were recruited with flyers posted at agencies serving low income families (e.g., publicly funded preschools and Women, Infants and Children [WIC] offices) throughout the Philadelphia, PA and New Brunswick, NJ metropolitan areas (see Bennett et al. 2010a, b for previous reports on this sample). Of the sample used in the present report, 22.7 % of parents were employed full time, and 68.2 % of families were receiving some form of public assistance. Before enrolling, parents were informed that this was a study of emotional development in children with and without child protective services (CPS) histories, and signed consents permitting review of CPS records for maltreatment allegations involving themselves and/or their children. Unsubstantiated allegations were included in the total number of allegations, as research has indicated that unsubstantiated cases are related to increased risk for poor adjustment (Gracia 1995). Six children had a history of physical abuse in addition to neglect (as this was a construct of interest in the study from which this sample is drawn). Children with a history of sexual abuse were excluded from recruitment. This study was approved by the institutional review boards of the Drexel University College of Medicine and the Robert Wood Johnson Medical School.

Procedure

A female examiner interviewed parents to complete the parent report measures. Parents gave consent to allow teachers to complete adjustment ratings, which were mailed to teachers prior to the end of the school year in which the 7.5 year assessment occurred. Parents received $25–$40 in gift cards (depending on the time point), and teachers received a $20 honorarium upon completion of questionnaires.

Measures

Neglect

The names of all parents and children in the study were searched for in the CPS databases (the Department of Human Services for Philadelphia participants; the Division of Youth and Family Services for New Jersey participants). For those for whom a record was found, narratives of each neglect incidence were extracted each year prior to the collection of parental distress measures at age 6. The narratives of substantiated and unsubstantiated allegations were coded by a trained research assistant who reviewed all narrative information included in the CPS records to determine the presence of neglect. Reported incidents of neglect included omissions of physical necessities (e.g., lack of food, inadequate shelter) and supervisory failures (e.g., children roaming the streets at night, children left unsupervised in the home for long periods of time or with parents using drugs), as well as other types of neglect (e.g., emotional neglect, medical neglect). The coder had a master's degree in psychology and was trained by the fourth author by abstracting an initial group of 25 cases from the study. Following this training, an additional 25 cases were coded by each and any disagreements were resolved by discussion. Once agreement on 85 % of the allegations was achieved, the coder abstracted all study CPS records, referring ambiguous or difficult narratives for second opinion so that a consensus was reached in these cases. If necessary, follow-up calls to CPS were made for clarification. As a double check on CPS record outcomes, all families were also asked to self-report on experiences with child maltreatment allegations; however, no families self-reported neglect that was not already indicated in the CPS record.

Those families with no CPS records of child neglect allegations and no self-report of neglect were given a score of zero on the neglect variable. Child neglect has been conceptualized on a continuum, with the *extent/number* of neglectful reports constituting an essential determinant of its impact (Bolger and Patterson 2001a; Dubowitz et al. 1993). Therefore, the number of distinct occurrences for

each participant prior to the age 6 assessment (range: 0–6) served as our measure of neglect. This variable was sufficiently normal as to render parametric statistics appropriate (Curran et al. 1996).

Parental Distress

Parental distress was a composite variable created by standardizing and averaging parents' scores on the Beck Depression Inventory (BDI-II, Beck et al. 1996) and the Parental Distress subscale of the Parenting Stress Index-Short Form (PSI-SF, Abidin 1990). The BDI-II is a well-validated (Richter et al. 1998) 21-item measure of depressive symptoms, rated on a 0–3 severity scale ($\alpha = .915$), and was square root transformed for normality. The PSI-SF is a 36-item measure, rated on a 1–5 scale (1 = "strongly disagree", 5 = "strongly agree"), consisting of subscales assessing parental distress, difficult child, and parent–child difficult interaction. The 12-item Parental Distress subscale ($\alpha = .875$) included items such as "I feel trapped by my responsibilities as a parent". The PSI-SF has been well validated, including in similar low-SES populations, and the Parental Distress subscale has evidenced utility as a distinct construct, highly related to parent self-report of psychopathology (Reitman et al. 2002). These measures, administered when children were 6, were significantly correlated ($r = .487$, $p < .001$). Furthermore, as there were no significant differences between correlations of the BDI-II and the Parental Distress subscale with the other study variables, only the composite parental distress variable consisting of both measures was used for analyses.

Parental Education

Parents' education level was extracted from interviews conducted at the child's first assessment and coded as: 1 = less than a high school degree (25.8 %), 2 = high school degree (47.0 %), and 3 = more than a high school degree (27.3 %). Parental education is often used as a proxy for socioeconomic status (SES; Carlson et al. 2000; Lamborn et al. 1991) and is a key contributor to multi-faceted calculations of SES (Hollingshead 1975; Lillie-Blanton and Laveist 1996). Research has identified strong relations between neglect and low SES (Ondersma 2002), as well as parental distress and low SES (Barrera Jr. et al. 2002; Hope et al. 1999).

Internalizing and Externalizing Problems

The Teacher Report Form (TRF; Achenbach and Rescorla 2001) was used to assess internalizing and externalizing problems at age 7.5. The TRF is a widely-used, well-validated, 112-item measure assessing child behavior problems on several dimensions, including internalizing and externalizing problems. The items are rated as not true (0), somewhat or sometimes true (1), or very true or often true (2).

Results

Bivariate Relations

Neglect was associated with greater internalizing, externalizing, and total problems as rated by teachers (Table 1). As expected, internalizing and externalizing problems were associated with neglect at similar levels in the bivariate analyses. Parental distress was also associated with greater internalizing, externalizing, and total problems. Parental education was negatively related to parental distress but not to internalizing or externalizing problems.

Specificity of Neglect in Predicting Internalizing Versus Externalizing Problems

Specificity analyses were conducted by computing partial correlations between neglect and internalizing and externalizing

Table 1 Descriptive statistics and bivariate correlations between study variables

	1	2	3	4	Mean	SD
Predictors						
1. Neglect	–				1.258	1.648
2. Parental distress	.277*	–			−.009[a]	.874
3. Parental education	−.169	−.196*	–		2.015	.734
Outcomes: teacher report						
4. TRF internalizing	.338**	.291*	.144	–	48.800[b]	10.255
5. TRF externalizing	.275*	.264*	−.038	.622***	56.523	11.587

[a] .009 represents the mean of the composite variable created from the z scored BDI and PSI-PD scores. The mean raw BDI score was 9.682 (SD = 10.669) and the mean raw PSI-PD score was 28.350 (SD = 8.386)

[b] Means and standard deviations for TRF scores reflect t-scores, while raw scores were used in analyses

*** $p < .001$, ** $p < .01$, * $p < .05$

problems, each controlling for the other type of problems, as well as for the other covariates in the model (i.e., child gender, child recruitment cohort, and parental education). These analyses indicated that when controlling for externalizing problems, the correlation between neglect and child internalizing problems remained significant ($r = .272, p = .032$). However, the partial correlation between neglect and child externalizing problems became non-significant when controlling for child internalizing problems ($r = .025, p = .848$). Consistent with hypothesis one, neglect predicted both internalizing and externalizing problems in the initial bivariate analysis, but specificity emerged only for an association between neglect and internalizing problems when taking into account the covariance between the two outcomes.

Parental Distress as a Moderator of Internalizing Problems

Hierarchical linear regressions were conducted to examine the extent to which parental distress moderated the relation between neglect and outcomes (internalizing and externalizing problems). Child gender, child recruitment cohort, parental education, and concurrent internalizing or externalizing problems (depending on the model) were included as covariates in the first step of each model. Neglect and parental distress were entered in the second step, and their interaction term in the final step. For internalizing problems, the final model was significant, explaining 54.2 % of the variance (Table 2). Neglect was only weakly predictive of greater internalizing problems. There was a main effect for parental education in an unexpected direction, such that higher levels of parental education predicted increased child internalizing problems in the final model. As expected, concurrent externalizing problems were also associated with greater internalizing problems.

In evaluating our hypothesis, parental distress significantly moderated the relation between neglect and child internalizing problems ($\beta = .226$, $p = 034$). The interaction term of neglect and parental distress significantly added to the prediction of internalizing problems ($p = .034$). Figure 1 graphically displays the continuous interaction at the example levels of one *SD* above and below the mean of parental distress. The relation between neglect and internalizing problems was strongest when parental distress was highest (simple slope for high parental distress

Table 2 Hierarchical regression analyses predicting teacher-reported behavior problems

	TRF internalizing					TRF externalizing				
	b	SE	β	*p*	ΔR^2	*b*	SE	β	*p*	ΔR^2
Step 1.					.423***					.433***
Gender	.366	1.209	.030	.763		−3.795	2.725	−.136	.169	
Recruitment cohort	.893	1.445	.061	.539		−3.149	3.292	−.093	.342	
Parental education	1.333	.787	.166	.095		−2.151	1.823	−.116	.242	
Internalizing/externalizing problems[a]	.278	.043	.642	<.001		1.458	.226	.632	<.001	
Step 2.					.073*					.002
Gender	.888	1.165	.073	.449		−3.609	2.823	−.129	.206	
Recruitment cohort	.159	1.403	.011	.910		−3.421	3.403	−.101	.319	
Parental education	2.299	.846	.286	.009		−1.652	2.183	−.089	.452	
Internalizing/externalizing problems	.235	.044	.543	<.001		1.408	.260	.610	<.001	
Neglect	.665	.361	.185	.071		.128	.909	.016	.888	
Parental distress	1.440	.765	.213	.065		.747	1.920	.048	.699	
Step 3.					.038*					.014
Gender	.736	1.132	.061	.518		−3.395	2.817	−.122	.233	
Recruitment cohort	−.361	1.382	−.024	.795		−2.599	3.455	−.076	.455	
Parental education	2.572	.830	.319	.003		−2.255	2.229	−.121	.316	
Internalizing/externalizing problems	.235	.042	.542	<.001		1.481	.266	.642	<.001	
Neglect	.608	.352	.170	.089		.135	.905	.016	.882	
Parental distress	.890	.784	.132	.261		1.368	1.982	.088	.493	
Neglect × parental distress interaction	.747	.344	.226	.034		−1.082	.888	−.142	.228	
Total model R^2, F			.534, 9.503***					.448, 6.737***		

[a] The regression predicting internalizing problems controlled for concurrent externalizing problems, while the regression predicting externalizing problems controlled for concurrent internalizing problems

*** $p < .001$, ** $p < .01$, * $p < .05$

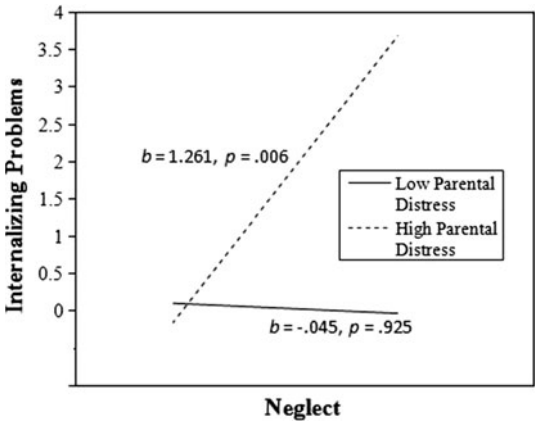

Fig. 1 Interaction between neglect and parental distress predicting internalizing problems

[+1SD] = 1.261, $p = .006$). Conversely, when parental distress was lower there was a negligible relation between neglect and internalizing problems (simple slope for low parental distress [−1SD] = −.045, $p = .925$). Hypothesis two was therefore supported for teacher ratings of child internalizing problems.

Parental Distress as a Moderator of Externalizing Problems

For externalizing problems, the hierarchical regression model was repeated, controlling for child gender, child recruitment cohort, parental education, and child internalizing problems. The model was significant, but explained less variance (44.8 %) than the model for internalizing problems (see Table 2). The only significant main effect was that of concurrent internalizing problems. Furthermore, parental distress did not moderate the relation between neglect and child externalizing problems. Hypothesis two was therefore not supported for externalizing problems.

Discussion

The results of the present study determined that neglect in early childhood predicted later teacher-reported adjustment problems in bivariate analyses. Furthermore, evidence of specificity was found, as neglect predicted only internalizing problems once the covariance between internalizing and externalizing problems was taken into account, supporting our hypothesis. By partialling apart these two highly related outcomes, these results help to bring some clarity to the literature investigating particular sequelae of child neglect (Erickson and Egeland 2002; Manly et al. 2001). Our finding of specificity is consistent with the emerging consensus among researchers that neglect more strongly impacts internalizing than externalizing problems (Hildyard and Wolfe 2002). This was also expected given the direct connection observed in prior research between neglect and disrupted parent child relationships, poor social relationships, and later internalizing problems (Hildyard and Wolfe 2002; Oland and Shaw 2005; Toth et al. 1997).

Our second hypothesis, examining parental distress as a moderator of neglect, was supported for internalizing, but not externalizing, problems. The relation between neglect and later internalizing problems was moderated by parental distress, such that the risk of maladjustment following neglect was magnified in the presence of higher parental distress. Neglected children whose parents reported higher levels of distress were more likely to display later internalizing problems as reported by teachers. In contrast, neglected children whose parents were less distressed were not. There are several potential explanations for this key finding. One possibility is that parental distress in the context of neglect is associated with parental unavailability. As emotional neglect has frequently demonstrated more detrimental effects on adjustment than physical neglect (Dubowitz et al. 2004; Erickson and Egeland 2002; Hildyard and Wolfe 2002), our findings raise the possibility that the experience of early neglect combined with later parental distress may reflect a disruption in the ongoing emotional environment of the family, and by extension the parent child relationship. Direct testing of this hypothesis, and of putative links between parental distress, parental unavailability, and emotional neglect specifically, should be undertaken in future research. The parental unavailability explanation has important implications for identifying children at risk for maladjustment in the context of neglect, especially when it is difficult to obtain documented reports of ongoing emotional neglect. The identification of family factors such as parental distress may allow providers to better identify and triage those families for whom neglect has the greatest disruptive potential for the parent child relationship and the child's adjustment. Neglectful parents who are not distressed may also be better able to implement necessary changes in parenting or household resources as mandated by providers with less intensive or more efficiently targeted support.

Furthermore, our results suggest that parental distress itself may be less harmful in the absence of neglect. From an attachment perspective, it may be that parental unavailability, which is common among distressed parents (Cox et al. 1987; Trapolini et al. 2008), becomes more problematic for a child when their needs for security, support and a secure attachment figure have not been met (e.g., as in the context of a history of neglect). Additionally, it may be that parental distress in our sample, measured at a later time point than the initial history of neglect, acts as one marker of chronic maladjustment in the family. Perhaps it is those children exposed to years of emotionally

unavailable parenting that experience the greatest maladjustment.

Alternatively, neglect may activate an inherent vulnerability in children already prone to internalizing problems, exacerbating the direct risk of parental distress on child outcomes. For example, one prominent theory of the transmission of distress from parents to children involves a direct genetic link (Sullivan et al. 2000). As studies have shown that this direct link is not the most important factor in the transmission of distress from parent to child (Costa et al. 2006; Lovejoy et al. 2000), it is more likely that parental psychopathology contributes broadly to a child's susceptibility to internalizing problems (Pezawas et al. 2005), which may then be triggered by life stressors such as neglect. Unfortunately, we cannot explicitly test this diathesis-stress hypothesis with our data, but it represents one potential interpretation of our findings that should be explored further in future work.

This interaction effect points to a synergistic effect of neglect and parental distress such that the presence of one amplifies the potential negative effects of the other, or that the risk of one is only activated in the presence of the other. Previous research supports the idea that parental distress is more likely to lead to maladjustment through certain pathways, many of which are uniquely salient in the context of neglect. Much of the research on the transmission of parental distress to child distress has focused on poor parenting or parenting attitudes (Anthony et al. 2005; Crnic et al. 2005; Deater-Deckard 1998; Papp et al. 2005), and this pathway is especially relevant for neglectful families. Further, the difficulty of forming secure attachments to distressed or psychologically ill parents (Gelfand and Teti 1990) may lead to children's later adjustment problems (Elgar et al. 2004; Lovejoy et al. 2000). This pathway may again be particularly relevant in neglectful families where children often display higher rates of insecure attachments (Toth et al. 1997). Lastly, Lovejoy and colleagues (2000) demonstrate that the relation between distress and parenting is stronger for economically disadvantaged mothers, the demographic of many caregivers in our sample. Child maladjustment in response to parental distress may, in part, result from a shared reaction by child and parent to a negative home environment (Anthony et al. 2005; Deater-Deckard 1998). In the case of neglect, for example, if the child is responding to the parent's distress over financial issues s/he might not be as distressed by these neglectful factors if the parent were not also distressed by them. Given that the transmission of distress may be particularly likely in contexts of neglect, and that neglect may be especially harmful in contexts of distress, our results suggest that children who experience both types of adversity are at increased risk for later maladjustment, specifically in the domain of internalizing problems, above and beyond the additive risks of either factor alone.

One important qualification of these findings is that they only pertain to the emergence of internalizing problems. That is, while children with a history of neglect whose parents are distressed may be particularly vulnerable to internalizing problems, neglect among children whose parents are not particularly distressed may be harmful in other domains (e.g., social relationships, academics, health). Our conclusion is not that neglect may sometimes be harmless, but rather that the domain of maladjustment, and the pathway by which it occurs, will vary depending on features of the neglectful experience and the co-existing family climate.

Future research should seek to further identify the moderators of neglect in other adjustment domains with the goal of more effectively targeting intervention efforts to particular types of neglectful experiences and potential maladaptive patterns of adjustment. In addition, the pathways by which parental distress exerts these effects should be investigated in a model more sensitive to time-varying features of both the neglectful and distressed parent environments. While this study focused on early childhood as an extremely salient developmental period in which these types of adversity are both prevalent and pernicious, it is important to continue this line of research into later childhood and adolescence to determine if these effects endure.

Limitations and Strengths

The important findings of this study are subject to the following limitations. First, our sample size is modest, limiting our ability to analyze the data in several other potentially interesting ways (e.g., examining the model separately for each gender). Additionally, we were unable to further probe the specific reports of neglect in our sample to include information about severity, timing, and other features of the experience. For example, although subtypes of neglect (e.g., physical vs. emotional neglect) were of paramount interest for our model, we were not able to code cases for unique experiences of subtypes of neglect. This was due in part to the small sample size, but also to the preponderance of *reported* emotional neglect overlapping with other subtypes (that is, it is rare that a case will be reported to CPS only for emotional neglect, hence in our sample it would be difficult to find enough unique cases of each type). As a related limitation, despite having both documented CPS records of neglect as well as the potential for self-report of neglect allegations, there is no way to know for certain whether any unreported neglect occurred in the families coded as not having a history of neglectful parenting.

Second, we were not able to assess parental distress prior to or at the time of initial incidences of child neglect. Hence we are unable to determine whether parental distress preceded or was concurrent with the onset of neglect. Additionally, we had no means of obtaining baseline reports of behavior problems prior to the children's experiencing neglect and parental reports of distress. Given the possible bidirectional nature of child neglect, parental distress, and child behavior problems (e.g., Gartstein and Sheeber 2004) it would have been helpful to have earlier measures of both parental distress and child adjustment to tease apart the directionality of these effects. This would have required a prospective longitudinal study of a large cohort prior to any identification of neglect.

Finally, one potential important interpretation of these findings is that parental distress may to some degree reflect the potential for parental unavailability or disruptions in the parent child relationship. However, we lack the ability to explicitly test these links in the present study, and therefore this interpretation remains a working hypothesis for future work.

Despite these limitations, the study makes important contributions to the literature on specificity of neglect to child behavior problems and to growing data on individual differences in the adverse experience of neglect. As such, the study has a number of strengths. First, the use of teacher report is invaluable in assessing child adjustment, in particular when a portion of the sample reports parental distress and might potentially be biased reporters of their children's adjustment (Angold et al. 1987; Briggs-Gowan et al. 1996; Najman et al. 2001). Teacher reports represent not only a more unbiased assessment of the child's adjustment than parent reports, but also have potentially greater predictive validity for children's future social and academic competence (Verhulst et al. 1994). In addition, this study used a prospective design in examining the relation between neglect and future adjustment. The observed relation suggests that later adjustment is affected by early risk, and is not simply a concurrent negative reaction to a difficult experience. Finally, the study is strengthened by its use of a composite for parental distress that reflects both depressive symptoms and parenting stress. Instead of focusing on just one distress indicator, this composite reflects a more comprehensive picture of the emotional climate that may be present in the home and in the parent child relationship.

Summary and Implications

The results from this study indicate that early experiences of child neglect do predict later teacher-reported adjustment, specifically in the domain of internalizing problems. However, as expected, this relation is moderated by parental distress such that only neglected children of distressed parents exhibited higher levels of future internalizing problems. The results of this study suggest that parental factors are important to consider in the neglect context, and that multiple or chronic adversity precipitating parental distress exerts a synergistic negative effect on child adjustment. Above all, these findings demonstrate the importance of contextual factors in the evaluation of families with a history of neglect, and potentially suggest a need to attend to the distinction between emotional factors (i.e., relational) and physical factors (i.e., resources).

The implications of these results for intervention are clear. First, specificity for neglect and internalizing problems suggests that children's internal experience be more vigorously attended to in intervention efforts, such that efforts are particularly focused on internalizing problems rather than child maladjustment in broad domains. Additionally, the findings suggest that reducing parental distress among a high-risk (i.e., neglectful) group of mothers may lower children's risk for developing adjustment problems. Reducing distress may help increase parental availability, for example, and thus evade the most harmful effects of neglect. Conversely, being alert to potential neglect among distressed parents may be an important prevention target for clinical providers of parents seeking to target the family system as a whole. Preventing neglectful care may in turn reduce the likelihood of parental distress leading to child internalizing problems. Future intervention studies may provide valuable information about the utility of programs centered around factors that make it particularly likely for certain neglectful parents to experience distress, or alternatively, make it likely for neglect to exacerbate the risk to children associated with parental distress. Ultimately, these findings indicate that individual differences in characteristics of neglect and resulting maladjustment persist and demand attention in future investigations and clinical applications.

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