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Protective and vulnerability factors for physically abused children: Effects of ethnicity and parenting context

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Abstract

Objective—Although social maladjustment appears to be common among abused children, negative outcomes are not inevitable. This investigation was designed to determine whether ethnicity and features of the parenting context predicted children's social adjustment, and whether the strength and direction of these relations differed for abused and nonabused children.

Method—Participants included 78 physically abused and 75 demographically-matched nonabused children and one of their parents. Observations of parenting were used to measure parental sensitivity, and parent self-reports of depression were obtained using the SCL-90-R. Children's peer social adjustment was measured by teacher report.

Results—Using regression analysis, we tested whether each potential protective or vulnerability factor interacted with abuse status in prediction of social adjustment. Results indicated main effects of ethnicity and sensitivity for prosocial behavior, and a main effect of sensitivity for aggression. In addition, there was a significant interaction of ethnicity and abuse status for aggression such that there was a significant difference between abused and nonabused European American children but not between abused and nonabused African American children.

Conclusions—Findings indicate that risk for aggressive behavior among abused children might be culturally-specific rather than universal. In addition, results point to beneficial effects of parental sensitivity for maltreated children.

Introduction

Physical abuse represents a substantial threat to children's social development and peer relationships. Research indicates there is a strong association between physical abuse and externalizing problems such as aggression and conduct disorders (e.g., Jaffee, Caspi, Moffitt, & Taylor, 2004). In addition, physically abused children tend to show low rates of prosocial behaviors, including failure to help peers and comfort others in distress (e.g., Klimes-Dougan & Kistner, 1990). Although social maladjustment appears to be common among abused children, recent research shows that such outcomes are not inevitable. In fact, a rapidly growing literature focused on individual differences among abused children suggests that some abused children demonstrate evidence of resilient functioning (Haskett, Nears, Sabourin Ward, & McPherson, 2006). A continued focus on individual differences in predictors and outcomes

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for abused children is important because this approach ultimately will offer valuable direction for prevention and intervention efforts. The current investigation was designed to contribute to this body of literature by examining predictors of social adjustment (i.e., aggression and prosocial behavior) for abused and nonabused children.

Within a resilience framework, protective factors are defined as variables that “moderate the effects of individual vulnerabilities or environmental hazards so that the adaptational trajectory is more positive than would be the case if these protective factors are not operational” (Masten et al., 1990, p. 426). It has been argued that factors which predict well-being among all children should not be considered “protective.” Instead, terms such as beneficial, compensatory, or promotive should be used for variables that yield benefits independent of adversity (Luthar & Zelazo, 2003). To infer that a factor is protective, interaction effects must be found, thereby indicating that the factor operates in a unique way for children who have experienced adversity.

The aim of this study was to determine whether ethnicity and features of the parenting context predicted children’s social adjustment, and whether the strength and direction of these relationships differed for abused relative to nonabused children. More specifically, we were interested in whether each factor interacted with abuse status (abused/nonabused) in the prediction of social adjustment and could therefore be considered a protective factor (or vulnerability factor, in the case of variables associated with negative outcomes). Potential moderators examined in this study included child ethnicity and features of the parenting context, including parental sensitivity and level of depression. These factors were chosen for inclusion because they represent two levels of influence on child social adjustment and there is some evidence that these factors are relevant to understanding individual differences in social adjustment of abused children, in particular.

Ethnicity

A number of investigations indicate that standards for effective parenting as well as outcomes associated with various parenting practices differ by ethnicity (e.g., Lamborn, Mounts, Steinberg, & Dornbusch, 1991). Of relevance to this study is the moderating influence of ethnicity in the link between physical discipline and child social adjustment. Although some studies have documented adverse outcomes associated with physical discipline for both African American and European American children (Amato & Fowler, 2002; McLoyd & Smith, 2000), many investigations suggest that physical discipline is associated with high risk for externalizing problems only for European American children (e.g., Gunnoe & Mariner, 1997). Deater-Deckard and Dodge (1997) concluded, based on a review of the literature and findings from the Child Development Project (CDP), that the relation between physical discipline and child adjustment problems was tempered by race, such that the relation was weaker for African American children. To illustrate, African American children in the CDP who received physical discipline had lower teacher-report scores on aggressive and externalizing behavior compared to European American children who received physical discipline (e.g., Deater-Deckard, Dodge, Bates, & Pettit, 1996).

These findings might not be relevant to understanding the moderating role of race in the link between *abuse* and outcomes, however, because physical discipline and physical abuse might be qualitatively different experiences for children. In fact, the findings of Deater-Deckard, et al. (1996) only applied to children who had experienced physical discipline that did not qualify as abusive; among those children who experienced abusive parenting, there were no differential outcomes based on child ethnicity. The authors concluded that outcomes of physical discipline, but not outcomes associated with abuse, differed by ethnicity. Deater-Deckard and Dodge (1997) reiterated that conclusion in their subsequent review of the literature and they argued that there were “universal” negative effects of abuse that were not moderated by ethnicity. Also using data from the CDP, Lansford, et al., (2006) found only main effects of race on trajectories

of externalizing problems among physically abused children; specifically, African American children were at greater risk for externalizing problems than were European American children, but there was no interaction of abuse status and race. The present study was designed to extend the few extant studies of the role of ethnicity in the link between abuse and child social behavior.

Parental sensitivity

Parents who are warm and responsive tend to have children who show empathy and cooperation (Whiteside-Mansell, Bradley, Tresch Owen, Randolph, & Cauce, 2003; Zhou et al., 2002), are viewed as more popular by peers (Putallaz, 1987), and engage in less externalizing behavior compared to children of parents low in warmth and positive interactions with their children (Booth et al., 1994). In addition to these direct links between sensitivity and child social adjustment, research shows parental sensitivity interacts with physical discipline in predicting child and adolescent adjustment (Deater-Deckard, Ivy, & Petrill, 2006). For example, McLoyd and Smith (2002) found that spanking predicted an increase in behavior problems over time for children whose parents displayed low levels of emotional support, but did not predict an increase when spanking occurred in the context of high emotional support.

Although many abusive parents demonstrate low parental responsivity and positive behavior in interactions with their children (e.g., Kavanagh, Youngblade, Reid, & Fagot, 1988), there is substantial variation among abusive parents in warmth and sensitivity, and a few studies of resilient functioning among maltreated children provide support for the buffering role of sensitivity. To illustrate, data from the Lehigh Longitudinal Study indicated that high functioning maltreated children had mothers who were more affectionate and supportive and less hostile and controlling than were the mothers of less well adjusted maltreated children (Herrenkohl et al., 1994; Herrenkohl et al., 1995). In a retrospective study of women abused in childhood, Wind and Silvern (1994) found that women's perceptions of supportive parenting received in childhood were related to current reports of self-esteem and depression. It was anticipated that this study would add to knowledge of the buffering role of parental sensitivity for abused children.

Parental depression

Decades of research indicate that elevated levels of parental depression are associated with a host of negative child outcomes, including externalizing behaviors and internalizing problems (Beauchaine, Webster-Stratton, & Reid, 2005; Jacob & Johnson, 1997; Langrock, Compas, & Keller, 2002). Research shows many, but certainly not all, abusive parents experience elevated levels of depression (Chaffin, Kelleher, & Hollenberg, 1996; Zuravin, 1989). Furthermore, there is evidence that the level of depression experienced by abusive parents is associated with the severity of parent-to-child violence they display (Mammen, Kolko, & Pilkonis, 2002). There is an interesting distinction between impulsive and instrumental acts of abusive discipline (Dietrich, Berkowitz, Kadushin, & McGloin, 1990). It has been argued that depression might be associated with impulsive acts of abuse (Mammen et al., 2002), and impulsive acts are known to be more strongly associated with child behavior problems (Straus & Mouradian, 1998). Thus, it is reasonable to expect that depression could amplify the impact of abusive parenting, such that children of parents who are both physically abusive and experience high levels of depression (and therefore likely use impulsive discipline) will demonstrate significantly worse social adjustment than children of abusive but nondepressed parents. In support of this argument, studies designed to compare parenting of abusive and depressed parents suggested that there could be additive effects of depression and abuse. To illustrate, Susman and colleagues (Susman, Trickett, Iannotti, Hollenbeck, & Zahn-Waxler, 1985) found that there was overlap in parenting practices of depressed and abusive parents but that depression and abusive parenting likely represented distinct risks to children's adjustment.

Current study

The purpose of this investigation was to examine the degree to which child ethnicity and parenting context would predict social behavior of physically abused children and whether those factors were differentially related to social adjustment for abused and nonabused children. Based on prior research, we expected to find main effects of ethnicity and parental sensitivity and depression. Given limited and sometimes conflicting prior research on these factors as “protective” for abused children, analyses related to moderation were considered exploratory.

In order to examine social adjustment more broadly than has been typical in prior research, we examined prosocial behavior as well as aggressive behavior of abused and nonabused children. There is a long history of focus on externalizing problems of abused children, but evidence also indicates they are at risk for low prosocial behavior. Because there are poor outcomes associated with low rates of prosocial behavior (Eisenberg & Fabes, 1998), it is important to consider this dimension of social behavior as well as externalizing problems. We retained the two dimensions of social adjustment as separate variables rather than forming a composite of social adjustment because an aggregate variable could obscure differential moderators for aggression and prosocial behavior and limit information relevant to treatment and policy recommendations (Romano, Trembly, Boulerice, & Swisher, 2005).

As noted by Deater-Deckard et al. (2006), most prior examinations of sensitivity as a protective factor have been limited by shared method variance because sensitivity and child outcomes were both measured by parent report. The same limitation also applies to research on parental depression as a moderator of the link between parenting and child outcomes (Burt, Van Dulmen, Carlivati, Egeland, Sroufe, Forman, Appleyard, & Carlson, 2005). In the current study sensitivity was assessed by independent observers of parents during interactions with their children, parental depression was measured via self-report, and child social adjustment was measured by teacher report.

Method

Participants

Participants were 153 parents (M age = 33 years; 85% female) and their children (M age = 7.2 years; 50% female) selected from a group of 209 parent/child dyads in a larger study (approved by the university Institutional Review Board) designed to examine the impact of parenting and child social information processing on children’s social adjustment. Participants from the larger data set were included in the current study if there was available data on all study variables. The final sample included 78 children with a substantiated report of physical abuse and their abusive parent, and 75 comparison children and their parent, matched to the abuse sample on parent and child gender, age, and race; parent marital status and educational attainment; and family socioeconomic status (Hollingshead, 1975). Groups were closely matched (see Table 1), but a larger percentage of comparison parents had completed college ($p < .10$).

Procedures

Abusive parents were recruited directly from child protective services; a letter inviting participation was mailed to parents of children deemed eligible based on a substantiated report of physical abuse. Comparison parents were recruited by distribution of flyers posted in neighborhoods where abusive participants resided. Comparison parents were screened for child abusive behavior through (a) a psychosocial phone interview that included questions about contact with child protection agencies, (b) administration of a modified Conflict Tactics Scale (Kaufman, Jones, Stieglitz, Vitulano, & Mannarino, 1994), and (c) review of the county child protective services register. Prospective comparison parents with a history of abuse based on

any of those procedures were not enrolled ($n = 3$). Families who met research criteria for the larger study (child between the ages of 5 and 10 and resided with parents, family members spoke English; no history of sexual abuse of the child and no untreated substance abuse by parent) were scheduled for a data collection session in which self-report and interview data were collected and parent/child dyads were observed during structured play. Parents provided informed consent prior to data collection and received \$75 for participation. Six months following family data collection, a child behavior questionnaire was administered to the child's teacher.

Measures

Teacher report of child social behavior—To complete the Social Behavior Scale (SBS), teachers rated each of 39 behavioral descriptors on a 5-point scale to indicate the degree to which the item was characteristic of the child. Items form seven scales, including Prosocial Behavior, Overt Aggression, Relational Aggression, Depressed, Asocial, Excluded by Peers, and Victimized by Peers. For purposes of the current research, mean raw scores for Prosocial Behavior and Overt Aggression were utilized. Those scales are a composite of items drawn from the Children's Social Behavior Scale-Teacher Form (CSBS-T; Crick, 1996) and the Preschool Social Behavior Scale - Teacher Form (Crick, Casas, & Mosher, 1997). Items from those measures were combined to include items relevant to the age range of this sample. A factor analysis of SBS data for the full sample on which this subsample was drawn provided strong support for the scale structure and internal consistency is high for Prosocial Behavior (.86) and Overt Aggression (.91) scales.

Observation of parent sensitivity—Parent-child dyads participated in a videotaped 30-minute interaction session consisting of three 10-minute segments. The first 10-minute segment was a free play session; parents and their children were provided with a set of age-appropriate play materials. In the second segment, parents were told to ask their children to clean up the play materials, draw a picture of a person, and then sit quietly while the parent read a magazine. In the final segment parents were instructed to help their children complete two puzzles as quickly as possible, and a timer ticked loudly on the table. Trained, uninformed coders viewed the videotaped interactions and rated parents on several dimensions using the Qualitative Ratings of Parent-Child Interactions (Cox, 1997; Paley, Cox, & Kanoy, 2001). The six parenting dimensions coded were Positive Regard for the Child, Negative Regard for the Child, Sensitivity, Disengaged, Intrusiveness, and Flatness of Affect. The Sensitivity category, used in this study, reflects the parent's support or responsiveness to the child's emotional and physical needs, as demonstrated by such behaviors as adapting to the child's mood and scaffolding of tasks.

For each 10-minute segment, the coder assigned a rating that ranged from one to seven with "one" given for behavior that was not at all characteristic of the category, and "seven" given for behavior that was highly characteristic of the category. Due to a time shortage in some data collection sessions, the third session was not conducted for 21 participants; thus, a score for Sensitivity was computed by summing the ratings for Sensitivity for the first two segments of the parent-child interaction session (Cronbach's $\alpha = .78$). Interrater agreement for Sensitivity was adequate, with a kappa coefficient of .80. In terms of validity of the coding system, cluster analysis of abusive parents' scores on the parenting dimensions revealed meaningful subgroups of abusive parents using the same larger data base as the one employed here (reference omitted for masked review).

Parent depression—The Symptom Checklist 90-Revised (SCL-90-R; Derogatis, 1983) is a self-report inventory designed to assess current patterns of psychological symptoms experienced by adults. It consists of 90 symptoms that are rated on a 5-point scale to indicate

how much each symptom has bothered parents in the last 7 days. The Depression scale was used for purposes of the current study. Raw scores were converted to T-scores using adult non-patient norms. Psychometric properties of the SCL-90-R have been examined extensively. Convergent-discriminant validity studies indicate SCL-90-R scales have moderate to high correlations with corresponding MMPI scales; correlations between the analogous depression scales range from .68 to .75. The SCL-90-R also has been effective in discriminating diagnostic categories of psychopathology and measuring amelioration of relevant symptoms within the therapeutic process (see Derogatis & Lazarus, 1994).

Results

To aid in interpretation of findings, intercorrelations among all study variables are shown in Table 2. Analyses were conducted using a three-step hierarchical regression for each of the two dependent variables of interest: aggression and prosocial behavior. In the first step, child gender and SES were entered as control variables, along with ethnicity (European American = 0; African American = 1) and abuse status (Non-abused = 0; Abused = 1). Sensitivity and depression were added to the model in step 2. In the third step, interactions between abuse status and depression, abuse status and sensitivity, as well as abuse status and ethnicity were added. The results of these regression models are presented in Table 3.

For aggression, parental sensitivity was a significant and unique predictor in step 2 indicating that higher levels of sensitivity were associated with less aggression. In step 3, the main effect of sensitivity remained significant and the abuse status by ethnicity interaction was significant. Follow-up analysis of the significant interaction revealed no significant difference between abused and nonabused African American children in rates of aggression. However, abused European American children, on average, scored significantly higher than non-abused European American children. In addition, non-abused African American children were significantly higher in aggression compared to non-abused European American children. There was no ethnicity difference in aggression for the abused children.

With respect to prosocial behavior, ethnicity was a significant and unique predictor at all three steps indicating that European American children were significantly higher in prosocial behavior than their African American counterparts. Parental sensitivity also was a significant predictor of prosocial behavior, with a higher level of sensitivity related to higher scores on the measure of prosocial behavior. None of the interactions were statistically significant.

Discussion

The purpose of this investigation was to contribute to a relatively new but expanding literature on diversity in adjustment among physically maltreated children. Findings advance the understanding of social adjustment of abused children by documenting the relevance of both ethnicity and parental warmth in prediction of aggressive and prosocial behavior of these children. Abuse/comparison group differences were not central to this investigation, but it is noteworthy that between-group differences did replicate findings of prior studies. Abused children were viewed as more aggressive and less prosocial than their nonabused counterparts. Furthermore, abusive parents showed less warmth in interactions with their children and they reported higher levels of depression compared to nonabusive parents. Those findings help verify that this data base was similar to that of prior research involving abused children. Exploration of within-group differences among abused children, however, was the primary focus of this study.

Ethnicity as vulnerability factor

In terms of prosocial behavior, there was no interaction of ethnicity and abuse status. African American children obtained lower teacher-report ratings of prosocial behavior than European American children, and that pattern held regardless of abuse status. However, a significant interaction of ethnicity and abuse status did emerge in prediction of aggressive behavior. Specifically, abused and nonabused African American children were viewed by their teachers as displaying similar levels of aggression, but abused and nonabused European American children were viewed quite differently by their teachers. European American children who had experienced abuse were rated as significantly more aggressive than those who had not experienced abuse. In addition, nonabused African American children engaged in more aggression than did nonabused European American children, but there was no race difference in aggression for the abused children. This finding points to a more substantial impact of abuse on European American children than on African American children, at least in terms of teacher-reported aggressive behavior with peers. Although the mean aggression score for abused European American children was not high ($M = 1.79$, $SD = 1.02$ on a 5-point scale), early abuse might initiate a trajectory toward increasing levels of aggression for European American children over time. Of course, longitudinal research will be required to test this premise.

The role of ethnicity in moderating the link between abuse and child aggression is consistent with studies that indicate European American children who experience corporal punishment are at greater risk for externalizing problems than are African American children whose parents use physical discipline. The current findings expand prior research by indicating that European American ethnicity also appears to be a vulnerability factor for physically abused children. This study is one of few investigations designed to examine the moderating role of ethnicity in prediction of social adjustment of abused children. An exception is the series of studies based on the Child Development Project (CDP). As reported in the introduction, two of those investigations (Deater-Deckard, Dodge, Bates, & Pettit, 1996; Weiss, Dodge, Bates, & Pettit, 1992) found no differential outcomes based on race for abused and nonabused young children in the CDP sample. Lansford, Dodge, Pettit, Crozier, and Kaplow (2002) conducted a 12-year prospective study of adolescent outcomes for the CDP sample and concluded that main effects of abuse status on social and academic functioning generally were not moderated by ethnicity because interactions of race and abuse status were found for very few of the many outcomes measured. Explanations for the discrepancies between our findings and the majority of published studies using the CDP sample will require further study, but it is noteworthy that the current study focused on aggressive behavior specifically while the majority of studies based on the CDP utilized a broad indicator of externalizing problems; the global measure might have obscured interactions of ethnicity and abuse status for aggression, specifically. It should also be mentioned that some of the studies based on the CDP sample included a relatively small sample of abused African American children (e.g., $n = 15$ in Lansford et al., 2002).

An unpublished report based on the CDP sample (Deater-Deckard, Dodge, Bates, & Pettit, 1996) indicated that children who had experienced a high level of harsh discipline were rated higher in externalizing problems, but the finding only held for European American children. The opposite effect was found for African American children. Our findings, combined with the unpublished study based on the CDP data set suggest that there might be differential effects of abuse based on ethnicity of the child. If the current findings are replicated in future investigations, it could be concluded that the effects of physical discipline *and* the effects of physical abuse on children's aggressive behavior are similarly dependent on ethnicity of the child. In conclusion, at least some of the effects of physical maltreatment might be culturally-specific, as they appear to be for other dimensions of parenting.

These findings certainly should not be interpreted as evidence that abusive parenting is innocuous for African American children. There are likely a host of potential negative

outcomes for these children that were not examined in the current study. In addition, we examined social behavior at a single point in time, and the impact of abuse could be dependent on the developmental period during which data were collected. Effects of abusive parenting on aggression might emerge later in development for African American children. Lansford et al., (2002) found evidence that long term effects of abusive discipline were greater for African American children than for European American children for some outcomes.

Identification of race or ethnicity in prediction of outcomes does little to enhance understanding of proximal processes that shape children's adjustment. It is important to determine *why* abuse seems to heighten risk for aggression only for European American children. One reasonable explanation for our findings lies in cultural differences in use and interpretation of physical punishment. When spanking is not culturally normative, children tend to be more negatively impacted by the discipline (Lansford et al., 2005), perhaps because they view it as a form of parental rejection (Rohner, Kean, & Cournoyer, 1991). This explanation might also be reasonable in the case of harsh physical discipline that meets the criteria for abuse, particularly if the abuse is mild or moderate in severity. In fact, Lansford et al., (2005) included discipline strategies that would be classified as abusive (i.e., "grabbing/shaking" and "beating up") in their definition of physical discipline, and they found that cultural normativeness of such strategies moderated the relation between discipline and child adjustment.

Research indicates that African American children experience physical discipline more often than do European American children (Straus & Stewart, 1999), and analysis of our own data indicated that abusive African American parents reported greater use of physical discipline on the CTS than did abusive European American parents, $p < .001$. Because the abuse experienced by African American children in this sample occurred in the context of more frequent physical discipline, it is possible that severe physical discipline (i.e., abuse) was less salient for those children. Abuse experienced by the European American children, in contrast, was perhaps less likely to occur in the context of day-to-day spanking. In that case, the abuse might have been more prominent and therefore had more significance and negative impact on the child's social development. There is some evidence that children's interpretation of their abuse experiences is indeed associated with adjustment (Kolko, Brown, & Berliner, 2002). Further research will be necessary to directly test this interpretation of the current findings. As severity of abuse increases, universal effects likely will be evidenced irrespective of cultural normativeness or children's interpretations for the experience.

An important issue to be considered in interpretation of these findings is potential racial biases in child abuse reporting tendencies and disposition of cases within the child welfare system. Research indicates there might be disproportionate representation of African American children in cases reported for investigation (Fluke, Yuan, Hedderson, & Curtis, 2003; Ibanez, Borrego, Pemberton, & Terao, 2006) and in substantiated child abuse and neglect caseloads (Ards, Myers, Malkis, Sugrue, & Zhou, 2003). These findings are not always replicated across studies, and it is not known how biases might impact characteristics of samples drawn from child protection caseloads. In light of possible racial biases in reporting and substantiation of child abuse, however, interpretation of racial and ethnic differences in child adjustment that emerge in samples recruited through child protection agencies should proceed with great caution.

Sensitivity as a protective factor

Results indicated main effects of parental sensitivity on levels of aggression as well as prosocial behavior. That is, both abused and nonabused children whose parents demonstrated a high level of warmth were rated by teachers as less aggressive and more prosocial than children whose parents were relatively lacking in warmth. Physical abuse occurs within a multifaceted parenting and family context. It follows that the quality of this broader environment would

influence the degree to which children are negatively impacted by the abusive parenting. Our findings indicate that sensitivity might buffer young children from some of the typical negative effects of harsh, abusive discipline on social adjustment. Results provide firm support for prevention and intervention approaches designed to promote positive parenting and foster warmth and sensitivity as well as improve disciplinary strategies of abusive and high risk parents (see Peterson, Gable, & Doyle, 1997). The mechanisms by which warmth is associated with better outcomes should be the focus of continued research. For example, it is possible that higher levels of warmth are associated with a closer parent-child attachment, and it is the close bond that sets the stage for positive working models of relationships and subsequent positive social adjustment.

Depression as vulnerability factor

It was anticipated that level of parental depression would be associated with children's aggression and prosocial behavior, but findings did not support that prediction. Prior research shows the link between depression and child adjustment is stronger in cases of clinical levels of depression measured by diagnostic interview (Downey & Coyne, 1990). Use of self-report and lack of variability in depression for this sample could potentially account for the non-significant findings. Only 29 parents had elevated scores (T-score of at least 63) on the depression scale. Another viable explanation for the findings is that our approach to examining the potentially exacerbating impact of parental depression on adjustment of abused children was overly simplistic. The relation between parental depression and child behavioral adjustment is known to be highly complex as well as multiply determined. There are a host of factors that moderate the link, including children's affect regulation (Silk, Shaw, Forbes, Lane, & Kovacs, 2006), gender (Burt et al., 2005), and brain physiology (i.e., left frontal asymmetry) (Forbes, Shaw, Fox, Cohn, Silk, & Kovacs, 2006). Timing and severity of parental depression as well as the impact of depression on parenting behavior also influence the degree to which depression is associated with negative child outcomes (see Goodman & Gotlib, 1999). Thus, depression might exacerbate the effects of abuse only under certain conditions; future explorations of the role of depression in outcomes for abused children should be directed toward identifying those conditions.

Limitations of the study and directions for future research

There are several cautions in interpretation of findings related to the sample. We did not have knowledge of characteristics of the abuse experience for this sample, but because all children were residing with their parents at the time of data collection, it is probable that the sample did not include a large number of severely abused children. Generalizability of findings, therefore, might be limited to children who experience mild or moderate physical abuse. Although none of the participants had known histories of sexual abuse, we did not have reliable information about their experiences of emotional abuse or neglect. Outcomes for victims of severe abuse and/or multiple forms of abuse might be more universal and those victims might be less readily buffered by the presence of protective factors such as parental sensitivity. Generalizability of findings also might be limited to young children; other parenting behaviors such as monitoring will likely become relevant in differential outcomes among abused adolescents. The small number of fathers in the sample precluded tests of effects of parent gender and parent-child gender match and made it impossible to examine potential differences in outcomes for children in families in which abuse was perpetrated by mothers versus fathers. Parent gender will be an important factor to consider in future research. Finally, results might not replicate outside the American South, where use of physical discipline is more readily accepted and more often used than in other regions of the country (Straus & Stewart, 1999).

In terms of the research design, this study employed a cross sectional design; longitudinal analysis of ethnicity and parenting context will be important because variables that predict

adjustment at one point in time might not predict trajectories of functioning and might not be associated with long-term adjustment. The current data were correlational, and measures of child functioning were not collected prior to obtaining measures of the parenting context.

Directionality of effects, therefore, can not be determined. In addition, this research design did not allow for an examination of reciprocal influences that are certain to occur between child social behavior and the parenting context (Rothbaum & Weisz, 1994). Finally, findings must be interpreted in light of the fact that the models accounted for a small amount of variance in aggressive and prosocial behavior. Clearly there is much remaining to understand about vulnerability and protective factors for maltreated children. Future investigations would do well to incorporate a wider range of potential risk and protective factors and to examine interactions among multiple factors.

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Table 1
 Characteristics of Full Sample and Abuse and Comparison Subsamples for Demographic and Study Variables

	Full sample (N = 153)	Abuse (n = 78)	Comparison (n = 75)	test statistic (t or χ^2)
Parent gender				.13 ns
Mothers	131 (85.6%)	66 (85%)	65 (87%)	
Fathers	22 (14.4%)	12 (15%)	10 (13%)	
Parent education				6.0 *
Less than HS	25 (16.3%)	16 (20%)	9 (12%)	
Completed HS	46 (30.1%)	27 (35%)	19 (25%)	
Some college	44 (28.8%)	21 (27%)	23 (31%)	
College degree	38 (29.2%)	14 (18%)	24 (32%)	
Marital Status				.03 ns
Married	68 (44.4%)	35 (45%)	33 (44%)	
Single	56 (36.6%)	28 (36%)	28 (37%)	
Div/Separated	29 (18.9%)	15 (19%)	14 (19%)	
Parent Mean Age (years)	33.9 (7.5)	33 (.85)	34 (.86)	.61 ns
Child gender				1.09 ns
Girls	75 (49%)	35 (45%)	40 (53%)	
Boys	78 (51%)	43 (55%)	35 (47%)	
Child Mean Age	7.2 (1.4)	7.4 (1.5)	7.0 (1.3)	2.3 ns
Family characteristics				
Race				.00 ns
African American	196 (69%)	52 (69%)	52 (69%)	
Caucasian	47 (31%)	25 (31%)	23 (31%)	
SES				2.96 ns
I	16 (10.5%)	7 (9%)	9 (12%)	
II	41 (26.8%)	20 (25%)	21 (28%)	
III	32 (20.9%)	14 (18%)	18 (24%)	
IV	27 (17.6%)	14 (18%)	13 (17%)	
V	37 (24.2%)	23 (30%)	14 (19%)	
Study Variables (<i>M</i> and <i>SD</i>)				
Depression	54.76 (9.5)	56.35 (9.4)	53.12 (9.4)	4.52 **
Sensitivity	3.72 (1.3)	3.51 (1.3)	3.98 (1.3)	4.37 **
Prosocial Behavior	3.60 (.76)	3.48 (.78)	3.72 (.72)	3.92 **
Aggression	1.70 (.78)	1.83 (.83)	1.57 (.71)	4.51 **

Note. Test statistics (*t* tests and chi square tests) shown are for comparisons of abuse and nonabuse groups.

* $p < .10$.

** $p < .05$.

Table 2

Intercorrelations for all Study Variables

	Abuse Status	Gender	SES	Ethnicity	Sensitivity	Depression	Prosocial Beh.	Aggression
Abuse Status	1							
Gender	-.100	1						
SES	.046	-.239**	1					
Ethnicity	-.009	.111	-.071	1				
Sensitivity	-.175*	.555**	-.212*	.141	1			
Depression	.171*	-.054	-.132	-.064	-.064	1		
Prosocial Behavior	-.159*	.095	-.092	.189*	.367**	.008	1	
Aggression	.170*	-.039	.044	-.097	-.199*	-.008	-.567**	1

Note. Ns vary from 153-141 due to data missing at random.

Table 3
Results of Regression Models for Aggression and Prosocial Behavior

		Aggression		Prosocial Behavior	
		B (SE)	β	B (SE)	β
Step 1	Child Gender	-.02 (.15)	-.01	.06 (.14)	.02
	SES	.004 (.05)	.01	-.02 (.05)	-.04
	Ethnicity	-.16 (.15)	-.09	.32 (.14)*	.20
	Abuse Status	.20 (.14)	.14	-.20 (.13)	-.13
R^2		.03			.06
Step 2	Child Gender	.21 (.17)	.13	-.29 (.15)	-.19
	SES	-.01 (.05)	-.02	-.004 (.05)	-.01
	Ethnicity	-.14 (.15)	-.08	.28 (.13)*	.17
	Abuse Status	.17 (.14)	.10	-.14 (.13)	-.09
	Sensitivity	-.16 (.06)*	-.26	.24 (.06)*	.42
	Depression	-.01 (.01)	-.07	.01 (.01)	.08
R^2		.07			.18
Step 3	Child Gender	.21 (.18)	.13	-.26 (.16)	-.17
	SES	-.01 (.05)	-.02	-.003 (.05)	-.01
	Ethnicity	-.56 (.22)*	-.32	.45 (.20)*	.27
	Abuse Status	-.10 (.17)	-.06	-.04 (.15)	-.03
	Sensitivity	-.19 (.08)*	-.32	.26 (.07)*	.46
	Depression	-.01 (.01)	-.11	.01 (.01)	.15
	Abuse Status $\times$ Depression	.003 (.02)	.02	-.01 (.01)	-.08
	Abuse Status $\times$ Sensitivity	.03 (.11)	.04	-.04 (.10)	-.05
	Abuse Status $\times$ Ethnicity	.80 (.30)*	.37	-.28 (.27)	-.14
	R^2	.12			.19