

Distinguishing Maltreating Versus Nonmaltreating At-Risk Families: Implications for Foster Care and Early Childhood Education Interventions

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ABSTRACT

Discriminant function (DF) analysis was used to distinguish 92 ethnically and socioeconomically diverse maltreating versus nonmaltreating families on indicators of socioeconomic status (SES) and parenting stress. Families included those with substantiated reports of child maltreatment ($n = 23$), plus Head Start families ($n = 36$), and child care families ($n = 33$) without reports of maltreatment. The significant SES distinguishers were poverty and parental education and employment. The significant parenting stress distinguishers were parental self-reports of a dysfunctional parent-child relationship and difficult child temperament. Maltreating and Head Start families were similar in terms of poverty, but only the maltreating families had clinical levels of parenting stress. Implications for family therapy and early childhood education interventions are discussed.

Child maltreatment is a social problem with which practitioners, policy makers, advocates, and researchers have grappled for decades. In 2000, approximately 5 million children were referred to child protective services agencies for suspected maltreatment (U.S. Department of Health and Human Services, 2005). One of the most well-researched family demographic variables associated with maltreatment is poverty. For the past 2 decades, researchers have found that children from low-income families and low-income neighborhoods are more likely to be victims of child maltreatment (Coulton, Korbin, & Chow, 1995; Garbarino & Kostelny, 1992; Garbarino & Sherman, 1980; Pelton, 1978; Waldfoegel, 2000). Even after controlling for other factors, poverty-stricken families are more likely to have substantiated cases of child maltreatment than are nonpoor families (Lee & George, 1999).

However, not all parents who live in poverty maltreat their children, and not all families with substantiated cases of maltreatment live in economic deprivation. Waldfoegel's (2000) explanation for the strong and repeated correlation between low socioeconomic status (SES) and substantiated cases of child maltreatment is that the stress associated with living in poverty may lead to harsh parenting practices. More research needs to be conducted examining how psychosocial factors, such as parenting stress, are related to child maltreatment (see DiLauro, 2004) because Martin, Peterson, and Glisson (1998) have found that psychosocial factors are often overlooked by case workers in child protective agencies.

Given that low SES status and parenting stress are so heavily intertwined, it is important to understand how the degree and severity of SES and psychosocial risk factors, such as parenting stress, relate to incidences of child maltreatment. The purpose of this study was to investigate which features of parenting stress and SES status significantly differentiate maltreating from nonmaltreating families.

Literature Review

In the child maltreatment literature, researchers have traditionally examined parenting stress in two distinct ways. Crnic and Greenberg

(1990) conceptualize parenting stress as the frequency of daily hassles encountered in life—which could be considered general stress. On the other hand, Abidin (1992) conceptualizes parenting stress as the emotional strain felt with the parenting role. In the present study, we chose to conceptualize stress as distinct from the general stress associated with daily hassles because we were interested in the stress associated specifically with the role of parenting.

Parenting stress has long been linked to child maltreatment (e.g., Black et al., 2001; DiLauro, 2004; Huebner, 2002; Sprang, Clark, & Bass, 2005). However, a certain level of stress associated with the parenting role is normative (see Abidin, 1992). Thus, a range of stress levels may be experienced by all parents regardless of their risk for maltreatment. Researchers suggest that mothers who report *high* levels of parenting stress are more likely to abuse and/or neglect their children (Mash & Johnston, 1990; Rodriguez & Green, 1997). Abusive parents tend to be characterized as having increased symptoms of stress specifically related to parenting (Haskett, Smith Scott, Grant, Ward, & Robinson, 2003). Furthermore, different types of parental stress have distinguished between parents who physically abuse versus neglect their children. For instance, parents who were neglectful were more likely to have high scores on aspects of parenting stress, such as lack of confidence with the parenting role and/or lack of emotional attachment to their child, than were parents who physically abused their child (DiLauro, 2004). Additionally, parents who were exposed to multiple interpersonal stressors, like domestic violence, were more likely to abuse their children than were groups of nonabusing parents (DiLauro, 2004). Overall, parenting stress has been strongly and consistently associated with negative outcomes for children (Creasy & Jarvis, 1994; Crnic & Low, 2002) because stressed parents are more likely to engage in harsh parenting practices (Webster-Stratton, 1990).

Research indicates that declines in family economic resources are associated with increased levels of parental stress (McDowell, Saylor, & Taylor, 1995). Numerous studies demonstrate higher levels of parenting stress for low-income families (Cain & Combs-Orme, 2005; Chang,

Fine, Ispa, Thornburg, Sharp, & Wolfenstein, 2004; DiLauro, 2004; Jackson, 2000; Raikes & Thompson, 2005; Roggman, Moe, Hart, & Forthun, 1994). Higher rates of parenting stress have also been found among unemployed mothers (Jackson, 2000). Because of the increased stress of living in a poverty-stricken environment, these parents are also more at risk for mental health issues, such as depression, anxiety, and substance abuse (Black, Heyman, & Smith Slep, 2001; Pears & Capaldi, 2001), which may further impede their ability to care for their children (Dyk, 2004). Such findings have led scholars to declare that understanding parenting stress among low-income families is of tremendous importance (see Raikes & Thompson, 2005).

The number of studies demonstrating associations between parenting stress and maltreatment has led some to claim that the next step to understanding the role of parental stress in maltreatment is to examine the contribution of *both* stress and SES as it relates to maltreatment (Ethier, Couture, & Lacharite, 2004). Haskett and colleagues (2003) stated that the role of stress in risky parenting practices may be best understood contextually because stress, when analyzed alone, was a significant predictor of maltreatment; however, when stress was combined with other predictor variables, such as SES, it did not contribute to the prediction model, indicating that other family-level factors, like SES, may be equally important.

Purpose

The purpose of this descriptive study was to examine whether indicators of SES and parenting stress could distinguish maltreating from nonmaltreating families. In this study, a group of families with substantiated cases of child maltreatment were compared to two groups of families without reported cases of child maltreatment. The maltreating group consisted of families who were involved with a local child protective services agency. The two nonmaltreating groups consisted of Head Start families and families from community child care centers. The rationale for examining these three preexisting groups of families is to compile subsamples of families that span a continuum of SES and stress, ranging from middle-class families to families living in poverty, and parents with normative stress levels to clinical stress levels.

Other researchers have examined parental stress, poverty, and/or maltreatment among the types of families included in our sample. For instance, studies have been conducted to understand parental stress with maltreating families (DiLauro, 2004) and Head Start families (Hadadian & Merbler, 1996; Haskett, Ahern, Ward, & Allaire, 2006; Hutcheson & Black, 1996; Reitman, Currier, & Stickle, 2002). To date, no known empirical study has specifically examined parenting stress or maltreatment in relation to enrollment in community child care centers. However, a recent state-level policy initiative, Strengthening Families (www.strengtheningfamilies.net), has the intended goal of partnering with child care centers and other early childhood education programs to prevent child abuse and neglect. Through the Strengthening Families Initiative, state policy makers and early childhood educators are provided information and training on policies and resources available within their state's early childhood education and child welfare sectors that can be used to protect children from maltreatment. In the present study, we intentionally included parents with children enrolled in community child care centers because we wanted to represent two aspects of early childhood education, Head Start and child care.

This investigation was designed to determine which risk variables (viz., SES or parenting stress) are stronger distinguishers among these three groups of maltreating versus nonmaltreating families. It was

hypothesized that maltreating parents would be distinct from nonmaltreating child care parents in terms of SES indicators (e.g., poverty status, employment, and maternal education), but the maltreating parents were not expected to be different from the nonmaltreating Head Start families on such SES indicators. In addition, because of the confound between poverty and parenting stress, it was hypothesized that the maltreating parents and nonmaltreating Head Start parents would be different from nonmaltreating child care parents on dimensions of the Parenting Stress Index (PSI/SF; Abidin, 1995).

Method

Participants

Families were recruited via informational letters and on-site sign-ups. Respondents included an ethnically and socioeconomically diverse sample of 92 primary caregivers of children from midsized university towns in two southern states. Eighty-five of the respondents were females (primarily mothers, 3 grandmothers, and 1 aunt) and 7 were males, all of whom were fathers except for 1 uncle. Sixty-three percent of the sample were African Americans ($n = 58$), 29% European Americans ($n = 27$), and 8% were either Hispanic or failed to report their race/ethnicity ($n = 7$). Sixty-one percent of the sample included families who were at or below the poverty level and 39% were above poverty. In terms of education level, 34% of the respondents had an education level of high school or less, 39% had a bachelor's degree or some college (e.g., an associate's degree or advanced training in a vocational field), and 12% had a graduate degree. The vast majority of the caregivers were employed (76%, $n = 70$) in comparison to 18% ($n = 17$) who reported being unemployed and 5 respondents who failed to report their employment status. Fewer than half of the respondents owned their homes (38%, $n = 35$), 58% ($n = 53$) rented, and the remainder did not report their ownership status for their current living arrangement ($n = 4$). The median number of children living in the home was 2 (range = 1-5), and the average age of the children was 52 months.

The participants for three groups of respondents were classified as maltreating versus nonmaltreating families. The maltreating group comprised a group of parents whose allegations of child abuse and/or neglect had been substantiated through an investigation ($n = 23$). The two nonmaltreating groups comprised a group of Head Start families ($n = 36$) with no known substantiated or reported cases of child maltreatment and a group of families from local community child care centers with no known substantiated cases or reported cases of child maltreatment ($n = 33$).

Procedure

All respondents were individually interviewed for a minimum of 60 minutes by a group of ethnically diverse researchers. Caregivers completed the informed consent, demographic questionnaire, and a variety of standardized measures, including the short form of the Parenting Stress Index (PSI/SF; Abidin, 1995). For this study, only the demographic measures related to SES and parenting stress will be discussed. Any participant who stated that they continued to need services or who scored in the clinical range on the PSI was offered referrals for further intervention services. Additionally, each family received a monetary incentive for their participation.

Socioeconomic status. Participants' responses to several demographic questions were used to provide information about the economic stability of the families. Poverty status was determined by deriving an income-to-needs ratio. An income-to-needs ratio is calculated by dividing the family's annual income by the poverty threshold for their family

size. This ratio has been widely used in other studies to assess family SES status (see Bradley & Whiteside-Mansell, 1997; Brooks-Gunn, Duncan, & Maritato, 1997; NICHD Early Child Care Research Network, 2001) and has been used as an eligibility indicator for federal and state public assistance programs. Based on this ratio, families were classified as either living in poverty or not living in poverty. Scores of 1 or less than 1 indicate families living in poverty and scores greater than 1 indicate families who were living above the poverty level. Demographic items that asked whether the parent was currently employed and his or her education level were also included.

Parental stress. Caregivers were administered the Parenting Stress Index/Short Form (PSI/SF; Abidin, 1995). The PSI/SF is a 36-item survey designed to measure stress specifically associated with parenting. The survey has three subscales, each consisting of 12 items: Parental Distress; Parent–Child Dysfunctional Interaction; and Difficult Child. The Parental Distress subscale measures a parent’s perception of him or herself as a competent caregiver as well as conflict with their romantic partner/spouse, views of social support, and life restrictions due to the parenting role. The Parent–Child Dysfunctional Interaction subscale reflects a parent’s view of expectations and interactions with their child, and the Difficult Child subscale measures the parent’s opinions of their child’s personality and compliance. The scale for the items range from 1 (strongly disagree) to 5 (strongly agree), resulting in a subscale range of 12–60 and a total score range of 36–180. Higher scores equal greater levels of parenting stress.

The PSI has been used in studies with both abusive and nonabusive parents and with parents identified as “at risk” for parenting problems (DiLauro, 2004; Huebner, 2002). Researchers have documented that the PSI short form has strong indicators of reliability and validity when used to distinguish maltreating and nonmaltreating families. For example, Haskett et al. (2006) suggest that the PSI/SF is a valid indicator of parenting stress, particularly when using a sample of abusive parents, and that these results were stable over a year. They also suggest that the PSI/SF can predict group status of a nonabusive versus abusive parent sample, with the abusive parents scoring higher on the Parent–Child Dysfunctional Interaction subscale. In another study, a high score on the Parental Distress subscale of the PSI/SF was found to be associated with low-income status, and the Parent–Child Dysfunctional Interaction subscale was associated with low income and lower education levels (Reitman, Currier, & Stickle, 2002).

In addition, Hutcheson and Black (1996) confirm strong psychometric properties of the PSI as an indicator of parenting stress across families from various ethnic groups, including African Americans, European Americans, and Latino Americans. The long form of the PSI has also been correlated with low-income European Americans’ attachment relationships, where low scores on the child domain were negatively associated with parent–child attachment (Hadadian & Merbler, 1996).

Results

Description of Analysis

A stepwise discriminant function (DF) analysis was conducted to determine whether economic stability and parenting stress factors would distinguish the maltreating group from the two nonmaltreating groups. The goal of DF analysis is to distinguish between groups based on a set of predictors (Tabachnick & Fidell, 1996). Such an analysis is commonly used in the mental health professions to distinguish a group of people suffering from a mental illness from a group of mentally healthy people or in special education to distinguish between children

with special needs from typical learners. DF analysis is the reciprocal version of a multivariate analysis of variance (MANOVA). In MANOVA, group membership is the independent variable and one is testing whether there are mean differences between the groups; however, in DF the question is whether group membership can be reliably determined based on a set of predictor characteristics. Unlike MANOVA, DF analysis can handle unequal sample sizes in the group membership and multicollinearity among predictor variables. Because the model can accommodate several predictors, it will allow one to determine which predictor is the most influential in distinguishing groups. Thus, the purpose of DF analysis is classification of preexisting groups on a set of predictors in order to determine the dimensions upon which the groups differ. The predictors for DF analysis should consist of indicators that are empirically or theoretically believed to differentiate the groups (as is the case with SES and parenting stress predictors in this study) and the membership should be based on preexisting groups that are known to be different. Given the assumptions of DF, this method of analysis was chosen to answer questions about the three preexisting groups.

Parental Stress and Economic Stability as Group Distinguishers

Parental employment and education, poverty status, and the three subscales for the PSI were entered into a stepwise DF one at a time based on their discriminating power. The overall initial function was significant, Wilks’ $\Lambda = .04$, $\chi^2(12) = 223.48$, $p < .001$, indicating that the predictors differentiated significantly among the three groups. In addition, after removal of the first function, the second function was still significant, Wilks’ $\Lambda = .32$, $\chi^2(5) = 81.43$, $p < .001$, which indicates there was still a strong association between the variables and the three groups, even after partialling out the effects of the first discriminant function. Calculations from the χ^2 indicate that the two functions accounted for 86% and 68%, respectively, of the variance between the groups.

Table 1 reveals which variables were the most influential in terms of their distinguishing ability. The statistics indicate that poverty status was the most influential, followed by parental education, Parent–Child Dysfunctional Interactions, Difficult Child, parental employment, and Parental Distress. Table 2 presents correlations among predictors, the discriminant functions, and the standardized weights. According to these coefficients, the predictors for Function 1 (SES) comprise a group of families who are above the poverty level, more likely to be employed, and have higher levels of education. On the contrary, the predictors in Function 2 (Stress) comprise a group of families who report high levels of dysfunctional interactions and difficult children, but low levels of general parental distress.

In terms of discriminating power, descriptive statistics in Table 3 indicate the means for the distinguishing variables by group membership. A test of equality of means indicated that all variables significantly distinguished group membership. Follow-up tests using Bonferroni pairwise comparisons ($p < .05$) indicated significant mean differences across the groups. First, Head Start and the maltreating group were

TABLE 1. Descriptive Statistics for Stepwise Discriminant Function Analysis

VARIABLES	F	Wilks’s Λ	p
Above poverty status	162.47	.19	<.001
Parental education	59.63	.38	<.001
Dysfunctional interaction	57.59	.39	<.001
Difficult child	6.29	.86	<.01
Parental employment	5.08	.88	<.01
Parenting distress	4.16	.90	<.01

TABLE 2. Correlation and Standardized Coefficients of Variables With Two Discriminant Functions

VARIABLES	CORRELATION COEFFICIENTS		STANDARDIZED COEFFICIENTS	
	Function 1 (SES)	Function 2 (stress)	Function 1 (SES)	Function 2 (stress)
Above poverty status	.78	.51	.76	.48
Education	.50	.13	.21	.25
Dysfunctional interaction	-.41	.48	-.63	.88
Difficult child	-.12	.19	-.17	.42
Employment	.15	.01	-.00	-.17
Parental distress	.06	-.21	.40	-1.07

TABLE 3. Means (and Standard Deviations) for Predictor Variables by Group

VARIABLES	MALTREATING GROUP	HEAD START GROUP	CHILD CARE GROUP
Above poverty status	17.0 ^B (39)	0.0 ^B	97.0 ^A (17)
Education	1.95 ^B (.74)	3.70 ^A (1.08)	3.17 ^A (1.21)
Dysfunctional interaction	67.0 ^B (41)	80.0 (41)	92.0 ^A (28)
Difficult child	35.62 ^A (1.58)	31.00 ^A (1.62)	27.39 ^B (1.21)
Employment	37.95 ^A (6.31)	23.95 ^A (6.31)	17.06 ^B (3.48)
Parental distress	22.57 ^B (5.59)	31.95 ^A (8.22)	22.64 ^B (5.38)

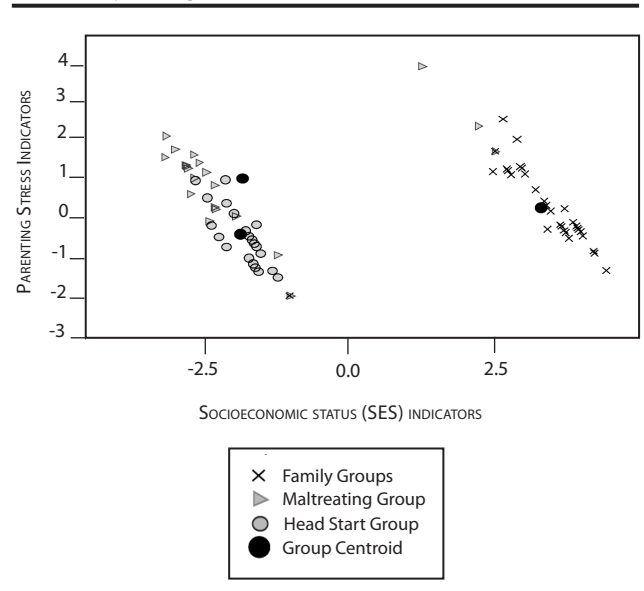
Note. Row values marked by ^A are greater than those marked by ^B. In the parental education category, a mean of 3 indicates some college education, whereas a mean of 2 equals a high school education.

less likely to be above poverty. The child care group and the Head Start group had higher levels of education than the maltreating group, but there were no significant differences between the Head Start group and the child care group. The groups were also different in terms of parent-child dysfunction, with the child care group reporting lower levels of dysfunctional interactions than the Head Start group and the maltreating group. Both the Head Start and the maltreating groups rated their children equally difficult and more difficult than ratings of the child care group. Follow-up tests indicated a significant trend ($p < .06$) between the groups in terms of parental employment: the child care group was slightly more likely to be employed than the maltreating group, but Head Start was not different from the others. Lastly, the Head Start group reported higher levels of general parental distress than the maltreating or child care group.

When distinguishing between the groups, the analysis was able to correctly classify 80% of the sample ($n = 74$ cases). In order to account for possible chance agreement, a kappa statistic was computed ($K = .70$), which indicated a strong value. In order to cross-validate the procedure, the leave-one-out technique was used and it indicated that 78% of the new cases would be correctly classified.

Canonical plots were also employed to test the validity of results. Canonical plots are visual representations of the centroids of each participant group (see Figure 1) and provide a pictorial description of the groupings. The greater the distance between the centroids, the more discrimination there is between groups. By examining the centroids, one can see how the group averages differ. For instance, on average, the majority of the maltreating families were experiencing economic hardships and stressful relationships with their children. Secondly, the Head Start families were also experiencing economic hardships, but they have normative to low levels of parenting stress. Lastly, the families in the child care group were not experiencing economic hardship, and

FIGURE 1. Canonical plot of maltreating versus nonmaltreating families on SES and parenting stress indicators.



they had normative to low levels of parenting stress. The figure also reveals information about individual families and shows that the group boundaries are permeable. For instance, some Head Start families reported stress levels that were similar to the maltreating group, and some maltreating families reported stress levels that were similar to the Head Start group. In addition, there were a few maltreating families ($n = 3$) who were high on indicators of stress even though they were similar to the child care group in terms of SES risk factors.

Discussion

The purpose of this study was to examine if SES and psychosocial factors (i.e., parenting stress) could distinguish between groups of maltreating versus nonmaltreating families. Our findings indicate that socioeconomic indicators and parenting stress are distinct among these groups of families and such findings have important implications for interventions designed to enhance the well-being of children and families. A review of the findings, in terms of SES indicators and parenting stress indicators, are discussed in turn.

Socioeconomic Indicators

Although both the Head Start and maltreating families were equally likely to be living in poverty, the maltreating families had significantly lower levels of education than the Head Start families. In fact, the Head Start sample had education levels that were similar to the levels of the parents in the child care group. Our findings are consistent with previous research indicating that maternal education is associated with positive child outcomes; researchers have shown that mothers with higher levels of education provide more nurturing and cognitively stimulating home environments for their children and report having children with fewer behavior problems (Brooks-Gunn & Markman, 2005; Jackson, 2000). Conversely, research has shown that caregivers with lower education levels are more likely to maltreat their children (Hawkins & Duncan, 1985; Zuravin & DiBlasio, 1992). These present findings, coupled with those from previous research, suggest that the education level of the parents may be a key factor associated with distinguishing risk for maltreatment in low-income families.

Other indicators of SES, such as employment, were not significantly different between the low-income Head Start and maltreating group.

Therefore, these SES findings may suggest interventions aimed at enhancing the well-being of low-income children and families should be designed to increase parental education rather than employment if the goal is to promote family and child well-being.

Our null findings for employment as a predictor of child maltreatment are contrary to other research (see Sidebotham, Heron, Golding, & the ALSPAC Study Team, 2002) and may be due to the high overall level of employment in our sample. The majority of parents in each of the three groups were employed; therefore, the range for this variable may have been truncated. Furthermore, many studies reporting an association between unemployment and child maltreatment have been conducted at the community level rather than at the family level, meaning that communities with high rates of unemployment also had high rates of child maltreatment (Gillham et al., 1998). In our study, the employment variable represented individual, family-level employment rather than the employment rate of the communities in which the groups lived.

Despite the overall strength of the SES indicators, these indicators alone could not identify all of the families who were maltreating. Three of the maltreating families were among the mostly highly stressed but had comparatively high SES indicators (i.e., above poverty status, advanced education levels, and higher rates of employment). Because these three families represent a higher income segment of the population they could easily be overlooked because much of the maltreatment literature focuses on families in poverty. Although they represent only a small percentage of our sample, these high SES families demonstrate the importance of considering SES indicators *and* parenting stress together when attempting to identify families who may be at risk for maltreatment.

Psychosocial Factors: Parenting Stress

In terms of parenting stress, both the maltreating and the Head Start families were more likely to report dysfunctional interactions with their child than the child care families. More importantly, the level of dysfunction of the maltreating group was beyond the 95th percentile (Abidin, 1995), indicating that this dysfunction was at clinical levels. Researchers have shown that higher scores on a combined factor comprising the Difficult Child and Parent-Child Dysfunction subscales significantly increases a family's odds of being in an abusive parent-child relationship (Haskett et al., 2006). Other researchers have found that maltreating parents are more likely to have dysfunctional interactions with their children. For instance, Milner and Dopke (1997) found that abusive parents are more intrusive when interacting with their children and also less attentive and affectionate. Parents who maltreat their children are more likely to view their interactions with their child as strained and/or problematic (Allesandri, 1992; DiLauro, 2004). Although the Head Start group reported high levels of dysfunctional interactions as well, their scores were not in the clinical range; therefore, their scores indicate that they are a group who is at risk for maltreatment based on how they interpret their children's behavior. Such a finding is important because it highlights the need for intervention services for parents who are living in poverty.

Again, a similar pattern is found with the parental reports of child difficulty. Both the Head Start and maltreating families report that their children are difficult, but only the maltreating families have average scores that place them at the 90th percentile and in need of clinical intervention. Using the long form of the PSI, DiLauro (2004) has found that parents who abuse and neglect their children have higher scores on the Child Domain, which measures child difficulty. These parents viewed their children as more demanding and noncompliant. The fact that both low-income groups in the present study report behavior and temperament problems with their children is consistent with literature

indicating that low-income children often have more socioemotional and behavioral difficulties due to stressors associated with living in poverty (see McLoyd, 1990, 1998).

Child behavior problems are one of the most robust predictors of parenting stress for low-income mothers (Jackson, 2000). Such findings highlight the need for interventions with Head Start families that not only address issues of poverty and parenting stress but also promote child development.

The maltreating families did not report higher levels of parental distress than the child care group, and although the Head Start group reported the highest levels of parental distress, their levels were not in the clinical range. Items from this scale of the PSI/SF measure a parents' view of role restrictions, conflict with the child's other parent, lack of social support, and depression. Research shows that Head Start families experience more environmental risks than other families who are also low income (Curenton, 2005; Hofferth, 1994; Baydar, Reid, & Webster-Stratton, 2003). In this sample, all the Head Start families were in poverty, but the maltreating and child care families had a wider range of SES status. Perhaps the Head Start families' scores on parental distress are skewed by their feelings of being overwhelmed by situational factors associated with poverty. Even though the Head Start families had higher scores on this scale, their scores were not in the clinical range, indicating that their report of this type of stress is still within the normative range. Such findings may suggest Head Start is a protective factor against child maltreatment for poverty-stricken families who are highly stressed because, despite their level of stress and economic deprivation, the Head Start families were not abusing their children.

Limitations

This work contributes to the literature because it demonstrates the heterogeneity of families in terms of poverty, parenting stress, and maltreatment, but there are limitations to this work. The sampling procedure is one such limitation. Because we sampled preexisting groups, the design limits our ability to test whether the lower levels of stress reported by the Head Start or child care families were *caused* by their enrollment in these early childhood education programs. Nevertheless, such a study does indicate a *correlation* between low-income families being enrolled in Head Start programs and nonclinical levels of parent-child dysfunction and reports of difficult child temperament. Secondly, all three groups volunteered to participate in this study; therefore, families who were *presently* abusing their children may have opted out for fear of being reported to child protection services. Lastly, this study is cross-sectional, therefore, changes in stress over time and factors that contribute to that change are not known.

Implications for Intervention Practices and Policies

In general, interventions designed to reduce child maltreatment among low-income families must aim to address both proximal outcomes (i.e., improved family functioning) and distal outcomes (i.e., satisfying current, basic economic needs and longer term financial stability; for a review see Prince & Howard, 2002). *Tertiary interventions*, like in-home family therapy, are the most specific types of interventions as they are designed for those children and families who have already displayed problems with abuse and neglect. Tertiary interventions are good at addressing proximal outcomes because their goal is to improve and strengthen family relationships. *Secondary interventions*, such as early childhood education interventions, are not specifically designed to help those who have displayed problems, but rather these interventions are targeted toward families who possess demographic characteristics that render them at risk for child maltreatment. These types of interven-

tions are helpful with distal outcomes because they strive to improve children's socioemotional development, and they indirectly address issues like parental education and/or employment. Finally, the most general and broad-ranging form of intervention is *primary intervention* (or prevention) because it includes efforts aimed at enhancing the well-being of everyone in society through its focus on information awareness and policy regulations.

Tertiary interventions. Our findings highlight that poverty-stricken families, regardless of their maltreatment status, may encounter difficulties with parenting. When families are severely stressed (as indicated by clinical scores on standardized measures), regardless of their SES, specific tertiary interventions may be needed to help improve family functioning. Once a family is identified as being at risk for the removal of the children from the home due to abuse and/or neglect, in-home family therapy may be needed. Interventions have emerged from policies requiring that "reasonable efforts" (Bagdasaryan, 2004, p. 616) be made to prevent the placement of children in foster care, and these services are often viewed as short-term yet intensive. Research indicates that in-home family therapy can effectively achieve the intended proximal outcomes of reducing families' problematic behaviors (Frazer, Nelson, & Rivard, 1997) and lessening the number of out-of-home placements of children (Henggeler, Melton, & Smith, 1992; Walton, Fraser, Lewis, Pecora, & Walton, 1993). However, research indicating the effectiveness of in-home family therapy on distal outcomes, such as parental employment and longer term family stability, is lacking.

Secondary interventions. Results from this study suggest that therapeutic interventions (tertiary interventions) for low-income, at-risk families might be strengthened by augmenting them with early childhood education interventions (secondary interventions). Although there is much work in the child maltreatment field about tertiary interventions, less is known about the combined impact of secondary and tertiary interventions on reducing rates of child abuse and neglect and foster care placements.

Integrating early childhood education interventions, such as Head Start, and family therapy interventions may have the potential to lower maltreatment because they provide parental support in the form of help with education and employment as well as information about parenting and child development (see Fantuzzo, Stevenson, Abdul Kabir, & Perry, 2007). Reynolds and Robertson (2003) found that the Chicago Child-Parent Centers (CPC) program was successful at decreasing the rate of child maltreatment throughout childhood and adolescence. They believe the CPC program was successful at decreasing child maltreatment because the program was designed to enhance parenting practices by providing social support to families and encouraging them to become actively involved in their child's education. Similarly, Fantuzzo and colleagues (2007) found that a parent education intervention with abusive and nonabusive Head Start parents reduced stress for both groups of parents.

In the present study, both the Head Start and the maltreating families were similar in terms of poverty status, but the Head Start families had nonclinical levels of parenting stress whereas as the maltreating families had clinical levels. Because we sampled preexisting groups, the design of the present study limits our ability to test whether the lower levels of stress reported by the Head Start families were a result of their enrollment in the program. Nevertheless, the present findings, coupled with those from Fantuzzo et al. (2007) and Reynolds and Robertson (2003), present an impetus for future research examining whether early education interventions prevent or reduce maltreatment and foster care entry rates.

Given the large number of families involved in the child welfare system and the demonstrated effects of high-quality early childhood inter-

ventions (viz., CPC program) on preventing maltreatment (Reynolds & Robertson, 2003), implementing a combined intervention system that integrates both tertiary (family therapy services) and secondary (early childhood education) services could be beneficial both fiscally and practically. Reynolds and Ou (2004) explain that the combined federal and state costs of child welfare services and remedial education services for children cost an estimated \$50 billion per year. This cost far exceeds the \$6.8 billion federal dollars spent in 2005 on Head Start programs (U.S. Department of Health and Human Services, n.d.) and the \$2.8 billion state dollars spent on pre-kindergarten (National Institute for Early Education Research, 2005). Through their work with an urban community-based Head Start program, Fantuzzo and colleagues (2007) and Fantuzzo, Weiss, and Coolahan (1998) demonstrate that Head Start programs are practical settings for implementing interventions designed to reduce parental stress and prevent maltreatment because they are typically located in low-income, at-risk communities. Future researchers could explore the effects of using integrated tertiary and secondary intervention services to reduce child maltreatment.

Primary interventions. Finally, the one known *primary intervention* activity that has been used to decrease child maltreatment risk is the Strengthening Families Initiative. The goals of the initiative are to increase parental resilience and social support, build relationships between early childhood education providers and child welfare workers, and align state planning around family-centered policies for young children. One of the activities supported by the initiative is training for social workers and early child educators on how to help parents decrease stress and how to promote protective factors in families. Such an initiative may ultimately protect children because of its emphasis on training, collaboration, and policy alignment. Currently, the state-level initiative is in its early stages, so presently no results are available, but more information about the Strengthening Families Initiative can be found in a report by Horton (2003).

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