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# Child Neglect: Outcomes in High-Risk Urban Preschoolers

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**ABSTRACT.** *Background.* Limited longitudinal research has been conducted on the impact of neglect on children's health and well-being. There is a need to consider the impact of specific subtypes of neglect on children's functioning. In addition, there is interest in examining the cumulative effect of experiencing >1 subtype of neglect.

*Objective.* To examine the individual and cumulative relationships among physical, psychological, and environmental neglect and children's behavior and development at age 3, and the impact on changes in children's behavior and development between ages 3 and 5.

*Methods.* One hundred thirty-six children and their primary caregivers participating in a prospective longitudinal study of children's development and maltreatment were assessed when the children were aged 3 and 5 years. The children were recruited from primary care clinics because of failure to thrive, risk for human immunodeficiency virus, or as a comparison group. Evaluations were conducted in laboratory and home settings using observations, maternal self-report, and standardized testing of the children. Scores on physical, psychological, and environmental neglect were combined into a Cumulative Neglect Index. Regression analyses were run to examine the association of specific subtypes of neglect and of cumulative neglect with children's functioning at age 3, controlling for group, sociodemographic risk, and maternal depression. The analyses were repeated examining the impact on child outcomes at age 5, controlling for the above 3 variables as well as the children's cognitive development and behavior at age 3.

*Results.* Of the subtypes of neglect at age 3, only psychological neglect was significantly associated with increased internalizing and externalizing behavior problems at age 3; the Cumulative Neglect Index was associated with internalizing problems. None of the neglect subtypes or cumulative neglect were predictive of changes in children's behavior and development between ages 3 and 5. Cognitive development of the entire sample was impaired at age 5, averaging 0.85 standard deviations below the norm, and their average externalizing behavior score was significantly problematic with an average of 0.60 standard deviations above the norm.

*Conclusions.* In the context of poverty where many preschool children have poor cognitive development and increased behavior problems, psychological neglect is

significantly related to reported behavior problems. Children who experienced multiple types of neglect had increased internalizing problems. Neglect did not explain changes in children's behavior or development between ages 3 and 5. There is a need for pediatricians to identify and address child neglect, particularly psychological neglect, as early as possible. Pediatricians should also screen for maternal depression. *Pediatrics* 2002;109:1100-1107; *child neglect, behavior, development, poverty.*

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ABBREVIATIONS. CPS, child protective services; AFDC, Aid to Families With Dependent Children; FTT, failure to thrive; HIV, human immunodeficiency virus; SD, standard deviation; HOME, Home Observation for Measurement of the Environment; CWBS, Child Well Being Scales; CBCL, Child Behavior Checklist.

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Neglect is the most frequently identified form of child maltreatment, and increasing attention has been drawn to its associated morbidity and mortality.<sup>1-3</sup> Our knowledge of neglect, however, is limited by several factors. First, imprecise definitions of neglect hamper our ability to make appropriate inferences about its nature and consequences.<sup>4</sup> For example, many studies define neglect based on information from child protective services (CPS). This CPS label reveals little about what constituted the neglect, its severity, chronicity, or frequency. There is the additional problem of bias in the identification, reporting, screening, and substantiation processes, contributing to the disproportionately high rates of low-income and minority children in the child welfare system.<sup>5</sup> Studies based on substantiated CPS cases are usually focused on the most severe forms of neglect; less severe experiences are rarely reported, investigated, or substantiated.<sup>6</sup> Varying definitions across studies make it difficult to compare findings. In addition, neglect is a heterogeneous phenomenon (eg, abandonment, lack of attention to health care needs, and inadequate food). Although the consequences of neglect may vary depending on the subtype of neglect, few studies have examined the specific consequences of the 3 primary subtypes of neglect (physical, psychological, and environmental).<sup>7,8</sup> Relatively little longitudinal research has been conducted on neglect; most of the information available on neglect has been generated from correlational data gathered at the time the neglect was identified.<sup>1</sup> The few extant longitudinal studies have used relatively small samples (eg, Elmer [N = 17]<sup>9</sup> and Egeland et al [N = 24]<sup>10</sup>). Few studies have disentangled neglect from physical abuse, making it difficult to discern any unique effects.<sup>11,12</sup> Fi-

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nally, few studies have adequately controlled for potential confounding by such variables as maternal education, depression, and poverty,<sup>13</sup> impeding our ability to discern the effects specifically attributable to neglect. Consequently, our current knowledge of the outcomes of child neglect needs to be interpreted cautiously.

### OUTCOMES OF NEGLECT

Several studies have found that neglect has more dire consequences for children than other forms of maltreatment.<sup>14–16</sup>

#### Cognitive Development

In one of the few longitudinal studies, a small sample of physically neglected preschoolers showed less impulse control and creativity and worse academic performance, compared with nonmaltreated controls.<sup>17</sup> Several other investigators have shown that preschoolers who experience maltreatment, especially severe neglect, are at risk for poor language comprehension<sup>18–21</sup> and lower IQ scores.<sup>3,21</sup> Aber et al<sup>22</sup> compared maltreated children (71% neglect) with matched samples of nonmaltreated children of families receiving Aid to Families With Dependent Children (AFDC; the major public assistance program for poor families preceding Temporary Assistance to Needy Families) and a third group of middle-class families. The maltreated children were the least “ready to learn,” with the AFDC families in an intermediate position.

#### Behavior

Some observers note that neglected children are more passive and withdrawn during play with their mothers, compared with nonneglected children,<sup>23</sup> and teachers describe neglected children as both withdrawn and aggressive.<sup>14</sup> However, behavior problems among neglected preschoolers may not be apparent until elementary school years.<sup>22</sup> In general, neglect does seem to be associated with behavior problems, although methodological problems such as potential confounding impede the conclusiveness of most studies.

### POVERTY AND NEGLECT

Many studies have documented the strong link between poverty and children’s impaired functioning.<sup>24–26</sup> Of all the known risk factors to children’s health and well-being, poverty remains of paramount importance. For example, Werner, Bierman, and French<sup>27</sup> followed a cohort of Hawaiian children and found that social class was the strongest predictor of the children’s health and social development at age 10.

In addition to the direct impact of poverty on children’s health and development, poverty has been strongly associated with child abuse and neglect; “the neglecting families were the poorest of the poor.”<sup>28,29</sup> Data from the Third National Incidence Study of Child Abuse and Neglect found that neglect was identified 44 times more frequently in families with annual incomes under \$15 000 compared with those earning over \$30 000 (27.2 compared with 0.6

per 1000 children).<sup>13</sup> Children living in poverty seem to be at high risk for not having their needs met.

### MATERNAL DEPRESSION AND NEGLECT

Several studies have demonstrated the adverse effects of maternal depression on children’s behavior and development.<sup>30,31</sup> There is also a strong link between maternal depression and child neglect. Children of depressed mothers are at risk for not having their basic needs met and experiencing neglect.<sup>32–34</sup>

### REFINING OUR UNDERSTANDING OF NEGLECT

In the present study, we have tried to avoid many of the shortcomings of existing studies. We have used objective observations to identify specific types of neglect among high-risk children recruited from pediatric clinics rather than a CPS label. Recognizing the heterogeneity within neglect, we examined whether specific subtypes of neglect were associated with specific outcomes in the children. We were guided by a conceptual definition of neglect which focused on basic needs of children that are not met, rather than on parental omissions in care.<sup>35</sup> In addition to measures of physical and psychological care, we have considered a dangerous, violent neighborhood to be a third form of neglect, by not providing families the support and security they need to ensure the safety and well-being of their children. Although environmental neglect differs from the current child welfare framework, it fits well with the link drawn by Garbarino and Korbin and their colleagues between neighborhood factors and family and individual functioning.<sup>36–40</sup>

We also examined the cumulative impact of multiple types of neglect on children’s functioning. The hypothesis that experiencing more subtypes of neglect would be associated with increasingly impaired functioning is based on both theoretical and empirical evidence that the cumulative effect of multiple stressors can lead to behavior problems and inferior cognitive performance.<sup>41–44</sup> We hypothesized that: 1) children who experience specific subtypes of neglect at age 3 (psychological, physical, or environmental) would have specific behavior and developmental problems at age 3; 2) the cumulative impact of psychological, physical, and environmental neglect would undermine children’s behavior and development more than the experience of a single subtype of neglect; 3) specific subtypes of neglect would explain changes in children’s behavior and development between 3 and 5; and 4) cumulative neglect would also explain changes in children’s behavior and development over time. Poverty and maternal depression were statistically controlled to eliminate potential confounding.

### METHODS

#### Participants

One hundred thirty-six children and families were recruited from 3 pediatric clinics serving low-income, urban families and were part of a larger investigation of child development and

maltreatment.<sup>4</sup> Approximately 30% were recruited from a growth and nutrition clinic and had a history of failure to thrive (FTT); 26% were recruited from a clinic that served children at high risk for human immunodeficiency virus (HIV) infection; and 44% were recruited from a general pediatric primary care clinic. Children in the 3 groups did not differ on race, age, or sociodemographic status.

The majority of families received public assistance, including Medical Assistance (85%) and AFDC (80%). Most of the mothers were in their 20s ( $M = 26.9$ , standard deviation [SD] = 5.6 years), had limited education ( $M = 11.3$ , SD = 1.5 years of schooling) and were not married (79%). Most (93%) of the children were African-American (the remaining 7% were white), 54% were male, and their average age at entry into this study was 37 months (SD = 2.3 months).

## Procedure

Mothers agreed to participate in the longitudinal study, following consent procedures approved by the Institutional Review Board at the University of Maryland, Baltimore. Laboratory and home evaluations were conducted involving the mother and child when the children were 3 and 5 years of age. Mothers were paid \$25 for their participation. The laboratory evaluation included a developmental assessment, a videotaped observation of the mother and child playing with blocks and reading a book, and a 1-hour interview where standardized questionnaires covering demographic information and child and family functioning were administered by a trained research assistant.

Research assistants visited each family's home within 2 weeks of the laboratory visit for a home evaluation. During the 45-minute home visit, they observed mother-child interaction, interviewed mothers about their children and childcare practices, and observed where the children ate, slept, and played.

## Measures

Sociodemographic risk was estimated based on the following criteria when the children were age 3: mother had less than a high school education (46%), unmarried (78%), under 18 years when the child was born (7%), receipt of public assistance (AFDC and/or Medical Assistance; 89%). Most (82%) mothers had 2 or more of these 4 criteria. The scores were summed to create a sociodemographic risk factor.

Maternal depression was measured at baseline using an adapted version of the depression module of the Diagnostic Interview Schedule, 3rd edition, a highly structured diagnostic interview that is based on the *Diagnostic and Statistical Manual of Mental Disorders*, designed for administration by trained lay interviewers. Information is gathered regarding the presence and timing of symptoms; a total score was obtained by summing the number of boxes the respondent "fails" for each of the 8 boxes within the depression module. Twenty-six percent of mothers responded positively to more than 2 items ( $M = 1.6$ , SD = 2.0). The reliability and validity of the Diagnostic Interview Schedule have been well-documented.<sup>45,46</sup>

## Neglect Measures

The 3 subtypes of neglect investigated in this study (environmental, physical, and psychological) were defined using both self-report and observational measures (Table 1). Measures that contributed to the neglect scales included the Home Observation for Measurement of the Environment (HOME), a mother-child video observation, the Child Well Being Scales (CWBS), and maternal report of aspects of the neighborhood on the Perceived Neighborhood Scale.

The HOME<sup>47</sup> was completed by trained research assistants after a visit to the child's home. The measure consists of 45 items organized into 6 subscales (emotional and verbal responsiveness of the mother, avoidance of restriction and punishment, organization of the physical and temporal environment, provision of appropriate play materials, maternal involvement with the child, and opportunities for variety in daily stimulation) that described the quality and child centeredness of the home environment. Interrater

**TABLE 1.** Components of the Physical, Psychological, and Environmental Neglect Scales

Physical neglect
HOME
Organization of the physical and temporal environment subscale
CWBS
Overcrowding
Household furnishings
Personal hygiene
Clothing
Household sanitation
Psychological neglect
HOME
Emotional and verbal responsiveness of the mother subscale
Avoidance of restriction and punishment subscale
Maternal involvement with the child subscale
Opportunities for variety in daily stimulation subscale
CWBS
Acceptance and affection
Parental approval
Parental expectations
Teaching stimulation
Videotaped mother-child interaction
Warmth subscale
Engagement subscale
Structure subscale
Environmental neglect
Perceived Neighborhood Scale

reliability, assessed by having 2 trained research assistants jointly code 25% of the visits, was consistently greater than 0.90.

Consistent with procedures we have used previously,<sup>48</sup> 2 factors were derived from a factor analysis of the HOME subscales: 1) a psychological factor including the subscales emotional and verbal responsiveness of the mother, avoidance of restriction and punishment, maternal involvement with the child, and opportunities for variety in daily stimulation; and 2) a physical factor including organization of the physical environment and provision of appropriate play materials subscales.

Maternal nurturance was coded from videotapes of mothers playing with their children. A coding schema was used to rate the interaction between mother and child over a 10-minute observation period.<sup>49</sup> The videotapes were coded by raters who were trained until percent agreement exceeded 90%. Reliability was maintained through weekly reviews. Nurturance was operationalized by 3 factors describing parental behavior: warmth, structure, and engagement (Cronbach  $\alpha = 0.81$ , 0.87, and 0.83, respectively). The 3 factors were highly correlated and were averaged to form a single construct representing parental nurturance with a high internal consistency (Cronbach  $\alpha = 0.82$ ).

The CWBS<sup>50</sup> are commonly used as a measure of neglect. Research assistants rated 14 scales after the home visit, including furnishings, overcrowding, sanitation, utilities, safety, clothing, hygiene, supervision, childcare, acceptance, approval, expectations, discipline, and stimulation. Seriousness scores ranging from 0 to 100 were used, as recommended by the authors. The interrater reliability was greater than 0.90.

Psychological and physical factors were also derived from a factor analysis of the CWBS.<sup>48</sup> Five items loaded on the physical factor—overcrowding, household furnishings, personal hygiene, clothing, and household sanitation (Cronbach  $\alpha = 0.69$ ). Four items loaded on the psychological factor—acceptance and affection, parental approval, parental expectations, and teaching stimulation (Cronbach  $\alpha = 0.79$ ).

The Perceived Neighborhood Scale examined 17 positive and 11 negative characteristics of the neighborhood. The Perceived Neighborhood Scale has been shown to have excellent reliability and validity.<sup>51,52</sup> Mothers rated each statement based on their perception of their neighborhood using a 5-point scale (1 = strongly agree, 2 = agree, 3 = not sure, 4 = disagree, 5 = strongly disagree). A Negative Neighborhood subscale was developed by summing the responses to the 11 items that describe negative characteristics such as open drug abuse; fear of being raped, robbed, mugged, or murdered; and property damage. Scores were

<sup>4</sup>Longitudinal Studies on Child Abuse and Neglect (LONGSCAN) constitute a consortium of 5 studies examining the antecedents and sequelae of child maltreatment.

reverse-coded so that higher scores indicated a more negative environment. The internal consistency of this measure was high (Cronbach  $\alpha = 0.93$ ).

Environmental neglect was operationalized as living in a neighborhood characterized by crime, lack of civility, and few resources for children and families. A z score was computed using the sample mean and standard deviation of the Negative Neighborhood subscale.

Physical neglect was conceptualized as children's physical needs (eg, a safe home environment, food, and clothing) not being adequately met. The home environment was measured through both the HOME and the CWBS; the physical factors were reverse-coded so that higher scores on both measures indicated more neglect. Scores were standardized into z scores using the sample mean and standard deviation and then combined to create the Physical Neglect scale.

Psychological neglect was conceptualized as low levels of maternal warmth and nurturance.<sup>53,54</sup> The psychological factors of the HOME and CWBS as well as the maternal nurturance score, from the videotaped observation, were combined to create a Psychological Neglect scale. z Scores were created using the sample mean and SD. Scores were reverse-coded so that higher scores indicated more neglect. The correlations among the 3 types of neglect ranged from  $r = 0.11$  to  $0.33$ . It should be noted that the approach used considers each of the 3 subtypes of neglect on a continuum, where high scores reflect relatively inadequate care (ie, neglect) and low scores relatively good care. This represents the way the phenomenon of neglect exists in reality, rather than the usual dichotomy of "neglect versus no neglect."

The Cumulative Neglect Index was developed as follows. If the neglect subtype score was lower than 1.5 SD below the mean, the child was considered to be experiencing that form of neglect. Because only 1 child experienced all 3 neglect subtypes, 3 categories were developed to examine the cumulative impact of neglect: no neglect (61%), 1 type only (28%), 2 or more types (11%).

### Child Measures

Cognitive development was assessed at 3 and 5 using the Stanford-Binet, 4th edition.<sup>55</sup> This measure was developed and normed with nationally representative samples of children aged 2 to 18 years and has a mean of 100 and a standard deviation of 16.

Children's behavior was measured by the Child Behavior Checklist (CBCL)<sup>56</sup> completed by the mother. The CBCL for 2- to 3-year-olds is a 99-item measure where caregivers report on the frequency of each problem over the past 6 months (0 = never, 1 = occasionally, 2 = frequently)<sup>57</sup> The CBCL for 4- to 18-year-old children includes 113 items and mothers report on the frequency of each behavior problem over the past 6 months (0 = not true, 1 = sometimes true, 2 = very true). For both age groups, scores were summed to yield externalizing (eg, aggression) and internalizing (eg, withdrawn) problem behavior scores. Raw scores were used in the analyses to increase variability, as recommended by Achenbach.<sup>56</sup>

### Analyses

Multiple regression analyses, controlling for group status (FTT, HIV risk, Primary Care Comparison), maternal depression, and sociodemographic risk were used to examine the relationships among specific subtypes of neglect and children's cognitive development and behavior at age 3. Analyses were conducted for each of the 3 child outcomes. The analyses were repeated, using the Cumulative Neglect Index as a categorical variable.

To examine the impact of neglect at age 3 on changes in children's behavior and development between ages 3 and 5, an additional set of multiple regression analyses were conducted, controlling for the above variables as well as children's internalizing and externalizing behavior and cognitive development scores at age 3. The analyses were repeated to examine whether there was a cumulative effect of neglect on changes in children's behavior and development between 3 and 5.

## RESULTS

### Neglect and Children's Behavior and Cognitive Development at Age 3

To answer the first hypothesis, we examined the association of neglect measured at age 3 with children's cognitive development and behavior at age 3. Maternal depression was associated with increased internalizing ( $B = 0.37$ ;  $P = .000$ ) and externalizing ( $B = 0.39$ ;  $P = .000$ ) behavior problems (Table 2). After controlling for maternal depression, group (FTT, HIV-risk, or primary care), and sociodemographic risk, psychological neglect was associated with increased internalizing ( $B = 0.27$ ;  $P = .002$ ) and externalizing ( $B = 0.23$ ;  $P = .006$ ) behavior problems. There was no association between psychological neglect and cognitive development. The physical and environmental neglect scales were not related to children's behavior and development. The Cumulative Neglect Index was associated with increased internalizing behavior problems ( $B = 0.20$ ;  $P = .02$ ), but not with externalizing behavior problems or cognitive development (Table 2).

### Neglect and Children's Functioning at Age 5

To examine whether neglect at age 3 was associated with changes in children's behavior and development between ages 3 and 5, multiple regression analyses were conducted assessing how each neglect subtype measured at age 3 predicted changes in cognitive development and behavior between ages 3

**TABLE 2.** Standardized Regression Coefficients Examining the Relationship Between Neglect and Behavior and Development of 3-Year-Old Children†

	CBCL Externalizing		CBCL Internalizing		Stanford-Binet	
	B	R <sup>2</sup>	B	R <sup>2</sup>	B	R <sup>2</sup>
Step 1		0.16***		0.18***		0.04
History of FTT	-0.02		0.09		-0.08	
HIV risk	-0.06		-0.06		0.01	
Sociodemographic risk	0.03		0.16		-0.03	
Maternal depression	0.39***		0.37***		-0.18	
Step 2		0.20***		0.25***		0.07
Psychological neglect	0.23**		0.27**		0.15	
Physical neglect	0.07		0.02		0.04	
Environmental neglect	0.02		0.07		0.06	
Step 2a		0.16***		0.21***		0.04
Cumulative neglect	0.06		0.20*		-0.02	

$P < .05$ , \*\*  $P < .01$ , \*\*\*  $P < .001$ .

† After entering the control variables in Step 1, the independent variables shown in Step 2 were entered. A separate model was then tested, entering the independent variable of Step 2a after entering the same control variables (Step 1) as in the first model.

and 5. When maternal depression, group, sociodemographic status were statistically controlled, none of the 3 subtypes of neglect explained changes in children's functioning from age 3 to 5. Regarding the fourth hypothesis, the Cumulative Neglect Index measured at age 3 also did not predict changes in children's cognitive development and behavior between ages 3 and 5, beyond the impact of maternal depression (Table 3).

The cognitive development of the entire sample was markedly impaired at age 5, averaging 0.85 SD below the norm. Their average externalizing behavior score was also significantly problematic with a *t* score of 56, which is an average of 0.60 SD above the norm.

## DISCUSSION

At age 3, psychological neglect was significantly associated with children's internalizing and externalizing behavior problems, after controlling for mothers' depression and sociodemographic risk related to poverty. This finding supports the often-stated concern that psychological aspects of child maltreatment may be the most damaging,<sup>58</sup> as well as earlier research on the impact of neglect on preschoolers.<sup>17,22</sup> The findings are also supportive of an earlier report from this study where the antecedents of physical and emotional neglect were found to be different.<sup>48</sup> Although there were modest correlations among the neglect subtypes, it seems that there are also significant differences.

The cross-sectional nature of these data makes it difficult to discern cause and effect. Mothers who perceived their children as more difficult may have been inclined to withdraw and pay them less attention. Neglect is generally considered to be a pattern of care, often stable over time.<sup>59,60</sup> Thus, although measured at age 3, it is probable that the neglect reflected psychological needs that were not met over a period of time. It is also important to note that the children's behavior was reported by their mothers; maternal functioning could influence their percep-

tions of their children. The association between neglect and children's behavior is thus particularly significant, given that maternal depression was controlled in the analysis. The pathway from psychological neglect to behavior problems remains to be elucidated. It is possible that some children who are missing warmth and approval feel sad (ie, internalizing), whereas others may become angry and act out (ie, externalizing).

There was no association between neglect and children's cognitive development at age 3. Several studies of older children have found neglect to be significantly related to impaired development and cognitive functioning).<sup>3,14-16,61,62</sup> It should be noted that the developmental scores of both the neglected and comparison children were well below the norm. It seems that at age 3, neglect did not account for additional impairment beyond that of the high-risk environment of most study families.

There was an association between cumulative neglect and children's internalizing behavior problems at age 3, but this was no stronger than the link between psychological neglect and behavior problems. It seems that psychological neglect may be so important that physical and environmental neglect add little incremental harm. Another factor is that only 11% of the children experienced >1 subtype of neglect, limiting the distribution on the Cumulative Neglect Index. In sum, the findings did not support other research documenting the negative impact of multiple risk factors on children's health and development.<sup>41-44</sup>

Neglect measured at age 3 did not predict changes in children's development and behavior between ages 3 and 5. There are several possible explanations. Most of the harm may have occurred by age 3, with relatively little change between ages 3 and 5. The first 3 years form a foundation for subsequent behavior and development.<sup>63</sup> Neglect during this early period seems to have been especially damaging, with little incremental harm between ages 3 and 5. Second, the very difficult circumstances facing most of the fam-

**TABLE 3.** Standardized Regression Coefficients Examining the Relationship Between Neglect and Children's Development and Behavior at Age 5†

	CBCL Externalizing		CBCL Internalizing		Stanford-Binet	
	<i>B</i>	<i>R</i> <sup>2</sup>	<i>B</i>	<i>R</i> <sup>2</sup>	<i>B</i>	<i>R</i> <sup>2</sup>
Step 1		0.18***		0.14**		0.09*
History of FTT	0.01		0.07		-0.18	
HIV risk	0.09		0.05		-0.08	
Sociodemographic risk	0.16		0.25**		-0.10	
Maternal depression	0.39***		0.27**		-0.22**	
Step 2		0.28***		0.16***		0.14**
CBCL Externalizing	0.34***					
CBCL Internalizing			0.18*			
Stanford-Binet					0.24**	
Step 3		0.30***		0.18**		0.16**
Psychological neglect	0.01		-0.08		0.01	
Physical neglect	0.09		0.09		0.04	
Environmental neglect	0.09		0.07		-0.14	
Step 3a		0.29***		0.16**		0.16**
Cumulative neglect	0.07		-0.01		-0.15	

\* *P* < .05, \*\* *P* < .01, \*\*\* *P* < .001.

† After entering the control variables in Step 1 and the age 3 baseline scores (Step 2), the independent variables shown in Step 3 were entered. A separate model was then tested, entering the independent variable of Step 3a after entering the same control and baseline variables (Steps 1 and 2) as in the first model.

ilies may have been so influential that any incremental effect of neglect would appear insignificant, a conclusion of Elmer.<sup>64</sup> Third, the neglect measured in this study is likely to be less severe than that reported to and substantiated by CPS, explaining why the present findings differ from those based on CPS samples. There is a need, however, to study neglect in community samples and to circumvent the biases associated with CPS labels.

This study was based on a sample of families with several high-risk factors for impairing children's behavior and development: poverty, risk for HIV infection (mostly because of maternal prenatal substance abuse), and early FTT. Overall, the group evidenced a marked deficit in their cognitive development and increased externalizing behavior problems (eg, aggression, lying). Their overall cognitive development supports the findings of other studies that have documented the influence of poverty and its associated burdens on children's development.<sup>24-26</sup> For many children, living in poverty means exposure to environmental hazards (eg, lead, violence), hunger, few recreational opportunities, and inferior health and health care.<sup>65</sup>

Indeed, child neglect and poverty are substantially intertwined, although most poor families are not neglectful, and better-off families are not immune from neglect. Gelles<sup>66</sup> (p283) in his discussion of policy dilemmas related to neglect, asks, "If a child is poorly fed because the caregiver has exhausted her welfare benefits, who is responsible for the neglect—the mother or the state that established the time limit?" He adds ". . . From a policy perspective, it is clear that if poverty is a significant risk factor for neglect, policies to reduce economic disadvantage would diminish the risk and rate of neglect."

Maternal depression was significantly associated with children's internalizing (eg, depression) and externalizing (eg, aggression) behavior problems at both 3 and 5, as well as lower cognitive performance at age 5, supporting the findings of many other studies.<sup>30,31</sup> It is possible that depressed mothers were more likely to perceive and report behavior problems in their children; however, there was also an effect on children's cognitive development based on standardized testing. Here too the pathway is uncertain but it seems probable that a depressed mother is less interactive with and stimulating of her child, hampering his or her development.<sup>67</sup> In addition, children of depressed mothers are at risk for being themselves depressed, impairing their development.

A strength of this study is the use of observational measures in the home and the laboratory. Neglect is inherently difficult to measure and direct observation has certain advantages over self-report measures. A limitation is that we relied on mothers' report of both their depressive symptoms and of their children's behavior.

### IMPLICATIONS

This study offers a useful approach to conceptualizing neglect, applied to high risk families recruited from pediatric clinics. Some of the methodological shortcomings of prior research on neglect were ad-

ressed, but there is a need to examine this approach in other community settings.

Clinicians need to be especially attentive to the highest risk situations where psychological neglect may jeopardize children's development and well-being. The challenge is how to identify neglect in a busy clinic. Dubowitz et al<sup>68</sup> have provided practical guidelines for doing so. For example, brief screening questions can be included in an expanded Review of Systems, including access to health care and medications, adequacy of food supplies, possible depression, and social supports and coping. Particularly challenging is the identification of psychological neglect, primarily based on an assessment of the parent-child interaction.<sup>69</sup> For example, is the overall tone of the interaction positive? What is the nature of their affect? It is useful to note the responsivity of parent and child to each other. Do they listen to and consider each other? And, having identified neglect, there is a need to understand what is underpinning the problem. This may seem obvious, but frequently limited efforts are made to probe potential contributors to the problem. Based on this understanding, interventions tailored to the individual situation are needed to help ensure that children's basic needs are met. Innovative models of pediatric care to comprehensively address families' psychosocial needs are necessary. The link between maternal depression and children's functioning in this study is a reminder of the need to identify and address this highly prevalent problem. Pediatricians can incorporate a brief screen during health maintenance visits. Several studies have documented the validity of a few questions to identify depression.<sup>70</sup> It is important to screen routinely, because depression is often missed by pediatricians.<sup>71</sup> And, once identified, pediatricians can encourage mothers to engage in treatment.

Both clinicians and policy makers should be impressed by the ample evidence documenting the effect of poverty on children's health and development, as well as the link between poverty and child neglect. The problem of poverty may seem overwhelming, contributing to a sense of futility that progress cannot be achieved. There are, however, strategies for combating poverty.<sup>72,73</sup> Pediatricians can encourage parents in their efforts to improve their situations, help address some of their needs (eg, suggesting treatment for depression, a common concomitant of neglect), and link them to community resources. At a broader level, pediatricians can effectively advocate for policies and programs that lift more families and children out of poverty.

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